

FGSL

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Chapter 1

Main Page

Interface module for use of GSL from Fortran

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Please see the [Related Pages](#) section for the information about the conventions used in the interface. Examples on how to use the interface are available in the

doc/examples

subdirectory of the source package.

Chapter 2

Introduction

1. Introductory notes:

- In Fortran code, `GSL_*` must be replaced by `FGSL_*` for each API call, abstract data type, module variables and parameters (with exception of the `M_*` mathematical constants)
- Some names were changed due to UC/LC aliasing. See the documentation chapter on special functions for details.
- Intrinsic type matching:
 - (a) `real(fgsl_double)` is used for double precision values
 - (b) `real(fgsl_float)` is used for single precision values
 - (c) `integer(fgsl_int)` for integer
 - (d) `integer(fgsl_long)` for long integer
 - (e) `integer(fgsl_size_t)` for `size_t` integer
 - (f) `complex(fgsl_double_complex)` for [gsl_complex](#)
 - (g) `character(fgsl_char)` for characters
 - (h) no value attributes and mostly no pointers in Fortran calls
 - (i) unsigned int must be converted to `integer(fgsl_long)`.
 - (j) `char *` results are converted to fixed length strings. Use `TRIM`.

2. Additional routines:

- Generic interface [fgsl_well_defined](#) for checking status of FGSL objects (which are typically opaque).
- See [api/array.finc](#) for array alignment routines.
- See [api/math.finc](#) for function object constructors.
- See [api/io.finc](#) for I/O related add-ons.

3. Structure of the documentation:

- type definitions are in the `fgsl` section of the Modules menu item
- all API routines are available via the Files menu item
- additional remarks on the various files are available via the Related Pages menu item

4. Only interfaces from the GSL manual are implemented. The C include files may contain more stuff which may only be meant for internal use, or is not officially documented.

5. Inlining of GSL routines is not possible.

6. Macros are not supported:

- macro values are replicated as parameters
- Inf/Nan need to use `IEEE_VALUE` (if available)

Chapter 3

Comments on vectors and matrices

Please go to [api/array.finc](#) for the API documentation. Since array processing is one of the strengths of Fortran, FGSL focuses on leveraging Fortran-style array processing for those GSL routines which require arguments of type `fgsl_vector*` or `fgsl_matrix*`.

Chapter 4

Comments on basis splines

Please go to [api/bspline.finc](#) for the API documentation.

Chapter 5

Comments on chebyshev approximation

Please go to [api/chebyshev.finc](https://api.chebyshev.finc) for the API documentation.

Chapter 6

Comments on complex numbers

Please go to [api/complex.finc](#) for the API documentation.

Since the Fortran standard provides extensive support for complex numbers, only those routines for which no Fortran intrinsic is available are mapped in FGSL. Instead of an argument of type `gsl_complex`, a standard Fortran `complex(fgsl_double)` is used for all mapped functions.

Chapter 7

Comments on numerical derivatives

Please go to api.deriv.finc for the API documentation.

Chapter 8

Comments on Hankel transforms

Please go to api/dht.finc for the API documentation.

Chapter 9

Comments on eigensystems

Please go to api/eigen.finc for the API documentation.

Chapter 10

Comments on error handling

Please go to [api/error.finc](#) for the API documentation.

The error handling subroutines are available from Fortran, with exception of the macros `GSL_ERROR` and `GSL_ERROR_VAL`. A user-defined error handler can be defined either in C or using a Fortran function with the `bind(c)` attribute. Here is the description of the required interface:

```
subroutine errhand(reason, file, line, errno) bind(c)
  type(c_ptr), value :: reason, file
  integer(c_int), value :: line, errno
end subroutine errhand
```

An object of type `fgsl_error_handler_t` is returned by the constructor `fgsl_error_handler_init(errhand)`, which takes a subroutine with the interface described above as its argument. The subroutine `fgsl_error(reason, file, line, errno)` works in an analogous manner as the C version. If the Fortran preprocessor is supported, it should be possible to use the macros `__FILE__` and `__LINE__` in the above call. Once not needed any more, the error handler object can be deallocated by calling the subroutine `fgsl_error_handler_free` with itself as its only argument. Note that the function `fgsl_strerror` returns a string of length `fgsl_strmax`.

Chapter 11

Comments on fast Fourier transforms

Please go to [api/fft.finc](http://api.fft.finc) for the API documentation.

Chapter 12

Comments on fitting of functions

Please go to [api/fit.finc](https://api.fit.finc) for the API documentation.

Chapter 13

Comments on histograms

Please go to api/histogram.finc for the API documentation.

Chapter 14

Comments on IEEE support

Please go to [api/ieee.finc](#) for the API documentation. interaction between the Fortran run time settings and C may lead to unreliable behaviour; for example, setting of IEEE rounding apparently does not always work correctly. Within Fortran, usage of the facilities defined in the intrinsic IEEE modules is the reliable and therefore appropriate method.

Chapter 15

Comments on numerical integration routines

Please go to [api/integration.finc](#) for the API documentation.

Chapter 16

Comments on interpolation routines

Please go to [api/interp.finc](#) for the API documentation.

Chapter 17

Comments on auxiliary I/O routines

Please go to api.io.finc for the API documentation.

Chapter 18

Comments on linear algebra routines

Please go to api/linalg.finc for the API documentation. Since GSL follows the C convention for ordering of elements, all matrices must be set up and read out transposed.

Chapter 19

Comments on elementary mathematical functions

Please go to [api/math.finc](#) for the API documentation. Note that many of the elementary functions are also available as Fortran intrinsics. The file also contains constructors for function objects.

Chapter 20

Comments on minimization routines

Please go to api/min.finc for the API documentation.

Chapter 21

Comments on miscellaneous support routines

Please go to [api/misc.finc](#) for the API documentation.

Chapter 22

Comments on monte carlo routines

Please go to [api/montecarlo.finc](#) for the API documentation. Note: in GSL 1.13, accessors were also added to GSL. They're slightly different named and have a differing interface from `fgsl_monte_*_?etparams` routines already existing in FGSL. To preserve backward compatibility, the FGSL accessors are retained.

Chapter 23

Comments on nonlinear least squares fitting

Please go to api/multifit.finc for the API documentation.

Chapter 24

Comments on multidimensional minimization

Please go to [api/multimin.finc](#) for the API documentation.

Chapter 25

Comments on multidimensional root finding

Please go to api/multiroots.finc for the API documentation.

Chapter 26

Comments on ntuples

Please go to api/ntuple.finc for the API documentation.

Chapter 27

Comments on ordinary differential equations

Please go to [api/ode.finc](#) for the API documentation. Note that the new `odeiv2` calls should be used for new code. The legacy `odeiv` calls are retained for binary compatibility.

Chapter 28

Comments on permutations, combinations and multisets

Please go to [api/permutation.finc](#) for the API documentation.

Chapter 29

Comments on polynomials

Please go to [api/poly.finc](https://api.poly.finc) for the API documentation.

Chapter 30

Comments on random numbers

Please go to api/rng.finc for the API documentation.

Chapter 31

Comments on root finding

Please go to [api/roots.finc](https://api.roots.finc) for the API documentation.

Chapter 32

Comments on simulated annealing

Please go to api/siman.finc for the API documentation.

Chapter 33

Comments on sorting

Please go to api.sort.finc for the API documentation.

Chapter 34

Comments on special functions

Please go to api/specfunc.finc for the API documentation.

Functions for which two identical names would result due to LC/UC aliasing have been assigned new names. The name mappings are given in the following table. The additional letters **c** viz **s** are used to denote cylindrical and spherical Bessel functions, respectively.

C name	Fortran name
<code>gsl_sf_bessel_J0</code>	<code>fgsl_sf_bessel_jc0</code>
<code>gsl_sf_bessel_J0_e</code>	<code>fgsl_sf_bessel_jc0_e</code>
<code>gsl_sf_bessel_J1</code>	<code>fgsl_sf_bessel_jc1</code>
<code>gsl_sf_bessel_J1_e</code>	<code>fgsl_sf_bessel_jc1_e</code>
<code>gsl_sf_bessel_Jn</code>	<code>fgsl_sf_bessel_jcn</code>
<code>gsl_sf_bessel_Jn_e</code>	<code>fgsl_sf_bessel_jcn_e</code>
<code>gsl_sf_bessel_Jn_array</code>	<code>fgsl_sf_bessel_jcn_array</code>
<code>gsl_sf_bessel_Y0</code>	<code>fgsl_sf_bessel_yc0</code>
<code>gsl_sf_bessel_Y0_e</code>	<code>fgsl_sf_bessel_yc0_e</code>
<code>gsl_sf_bessel_Y1</code>	<code>fgsl_sf_bessel_yc1</code>
<code>gsl_sf_bessel_Y1_e</code>	<code>fgsl_sf_bessel_yc1_e</code>
<code>gsl_sf_bessel_Yn</code>	<code>fgsl_sf_bessel_ycn</code>
<code>gsl_sf_bessel_Yn_e</code>	<code>fgsl_sf_bessel_ycn_e</code>
<code>gsl_sf_bessel_Yn_array</code>	<code>fgsl_sf_bessel_ycn_array</code>
<code>gsl_sf_bessel_I0</code>	<code>fgsl_sf_bessel_ic0</code>
<code>gsl_sf_bessel_I0_e</code>	<code>fgsl_sf_bessel_ic0_e</code>
<code>gsl_sf_bessel_I1</code>	<code>fgsl_sf_bessel_ic1</code>
<code>gsl_sf_bessel_I1_e</code>	<code>fgsl_sf_bessel_ic1_e</code>
<code>gsl_sf_bessel_In</code>	<code>fgsl_sf_bessel_icn</code>
<code>gsl_sf_bessel_In_e</code>	<code>fgsl_sf_bessel_icn_e</code>
<code>gsl_sf_bessel_In_array</code>	<code>fgsl_sf_bessel_icn_array</code>
<code>gsl_sf_bessel_I0_scaled</code>	<code>fgsl_sf_bessel_ic0_scaled</code>
<code>gsl_sf_bessel_I0_scaled_e</code>	<code>fgsl_sf_bessel_ic0_scaled_e</code>
<code>gsl_sf_bessel_I1_scaled</code>	<code>fgsl_sf_bessel_ic1_scaled</code>
<code>gsl_sf_bessel_I1_scaled_e</code>	<code>fgsl_sf_bessel_ic1_scaled_e</code>
<code>gsl_sf_bessel_In_scaled</code>	<code>fgsl_sf_bessel_icn_scaled</code>
<code>gsl_sf_bessel_In_scaled_e</code>	<code>fgsl_sf_bessel_icn_scaled_e</code>
<code>gsl_sf_bessel_In_scaled_array</code>	<code>fgsl_sf_bessel_icn_scaled_array</code>

gsl_sf_bessel_K0	fgsl_sf_bessel_kc0
gsl_sf_bessel_K0_e	fgsl_sf_bessel_kc0_e
gsl_sf_bessel_K1	fgsl_sf_bessel_kc1
gsl_sf_bessel_K1_e	fgsl_sf_bessel_kc1_e
gsl_sf_bessel_Kn	fgsl_sf_bessel_kcn
gsl_sf_bessel_Kn_e	fgsl_sf_bessel_kcn_e
gsl_sf_bessel_Kn_array	fgsl_sf_bessel_kcn_array
gsl_sf_bessel_K0_scaled	fgsl_sf_bessel_kc0_scaled
gsl_sf_bessel_K0_scaled_e	fgsl_sf_bessel_kc0_scaled_e
gsl_sf_bessel_K1_scaled	fgsl_sf_bessel_kc1_scaled
gsl_sf_bessel_K1_scaled_e	fgsl_sf_bessel_kc1_scaled_e
gsl_sf_bessel_Kn_scaled	fgsl_sf_bessel_kcn_scaled
gsl_sf_bessel_Kn_scaled_e	fgsl_sf_bessel_kcn_scaled_e
gsl_sf_bessel_Kn_scaled_array	fgsl_sf_bessel_kcn_scaled_array
gsl_sf_bessel_j0	fgsl_sf_bessel_js0
gsl_sf_bessel_j0_e	fgsl_sf_bessel_js0_e
gsl_sf_bessel_j1	fgsl_sf_bessel_js1
gsl_sf_bessel_j1_e	fgsl_sf_bessel_js1_e
gsl_sf_bessel_j2	fgsl_sf_bessel_js2
gsl_sf_bessel_j2_e	fgsl_sf_bessel_js2_e
gsl_sf_bessel_jl	fgsl_sf_bessel_jsl
gsl_sf_bessel_jl_e	fgsl_sf_bessel_jsl_e
gsl_sf_bessel_jl_array	fgsl_sf_bessel_jsl_array
gsl_sf_bessel_jl_stepped_array	fgsl_sf_bessel_jsl_stepped_array
gsl_sf_bessel_y0	fgsl_sf_bessel_ys0
gsl_sf_bessel_y0_e	fgsl_sf_bessel_ys0_e
gsl_sf_bessel_y1	fgsl_sf_bessel_ys1
gsl_sf_bessel_y1_e	fgsl_sf_bessel_ys1_e
gsl_sf_bessel_y2	fgsl_sf_bessel_ys2
gsl_sf_bessel_y2_e	fgsl_sf_bessel_ys2_e
gsl_sf_bessel_yl	fgsl_sf_bessel_ysl
gsl_sf_bessel_yl_e	fgsl_sf_bessel_ysl_e
gsl_sf_bessel_yl_array	fgsl_sf_bessel_ysl_array
gsl_sf_bessel_i0_scaled	fgsl_sf_bessel_is0_scaled
gsl_sf_bessel_i0_scaled_e	fgsl_sf_bessel_is0_scaled_e
gsl_sf_bessel_i1_scaled	fgsl_sf_bessel_is1_scaled
gsl_sf_bessel_i1_scaled_e	fgsl_sf_bessel_is1_scaled_e
gsl_sf_bessel_i2_scaled	fgsl_sf_bessel_is2_scaled
gsl_sf_bessel_i2_scaled_e	fgsl_sf_bessel_is2_scaled_e
gsl_sf_bessel_il_scaled	fgsl_sf_bessel_isl_scaled
gsl_sf_bessel_il_scaled_e	fgsl_sf_bessel_isl_scaled_e
gsl_sf_bessel_il_scaled_array	fgsl_sf_bessel_isl_scaled_array
gsl_sf_bessel_k0_scaled	fgsl_sf_bessel_ks0_scaled
gsl_sf_bessel_k0_scaled_e	fgsl_sf_bessel_ks0_scaled_e
gsl_sf_bessel_k1_scaled	fgsl_sf_bessel_ks1_scaled
gsl_sf_bessel_k1_scaled_e	fgsl_sf_bessel_ks1_scaled_e
gsl_sf_bessel_k2_scaled	fgsl_sf_bessel_ks2_scaled

gsl_sf_bessel_k2_scaled_e	fgsl_sf_bessel_ks2_scaled_e
gsl_sf_bessel_kl_scaled	fgsl_sf_bessel_ksl_scaled
gsl_sf_bessel_kl_scaled_e	fgsl_sf_bessel_ksl_scaled_e
gsl_sf_bessel_kl_scaled_array	fgsl_sf_bessel_ksl_scaled_array
gsl_sf_bessel_zero_J0	fgsl_sf_bessel_zero_jc0
gsl_sf_bessel_zero_J0_e	fgsl_sf_bessel_zero_jc0_e
gsl_sf_bessel_zero_J1	fgsl_sf_bessel_zero_jc1
gsl_sf_bessel_zero_J1_e	fgsl_sf_bessel_zero_jc1_e
gsl_sf_bessel_zero_Jnu	fgsl_sf_bessel_zero_jcnu
gsl_sf_bessel_zero_Jnu_e	fgsl_sf_bessel_zero_jcnu_e

Chapter 35

Comments on statistical functions

Please go to [api/statistics.finc](https://api.statistics.finc) for the API documentation.

Chapter 36

Comments on series acceleration

Please go to api/levin.finc for the API documentation.

Chapter 37

Comments on wavelet transforms

Please go to api/wavelet.finc for the API documentation.

Chapter 38

Data Type Index

38.1 Data Types List

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Chapter 39

File Index

39.1 File List

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Chapter 40

Data Type Documentation

40.1 assignment(=) Interface Reference

Public Member Functions

- [fgsl_complex_to_complex](#)
- [complex_to_fgsl_complex](#)
- [gsl_sf_to_fgsl_sf](#)
- [gsl_sfe10_to_fgsl_sfe10](#)
- [fgsl_vector_to_array](#)
- [fgsl_vector_complex_to_array](#)
- [fgsl_matrix_to_array](#)
- [fgsl_matrix_complex_to_array](#)

40.1.1 Member Function/Subroutine Documentation

40.1.1.1 [assignment\(=\)::complex_to_fgsl_complex \(\)](#)

40.1.1.2 [assignment\(=\)::fgsl_complex_to_complex \(\)](#)

40.1.1.3 [assignment\(=\)::fgsl_matrix_complex_to_array \(\)](#)

40.1.1.4 [assignment\(=\)::fgsl_matrix_to_array \(\)](#)

40.1.1.5 [assignment\(=\)::fgsl_vector_complex_to_array \(\)](#)

40.1.1.6 [assignment\(=\)::fgsl_vector_to_array \(\)](#)

40.1.1.7 [assignment\(=\)::gsl_sf_to_fgsl_sf \(\)](#)

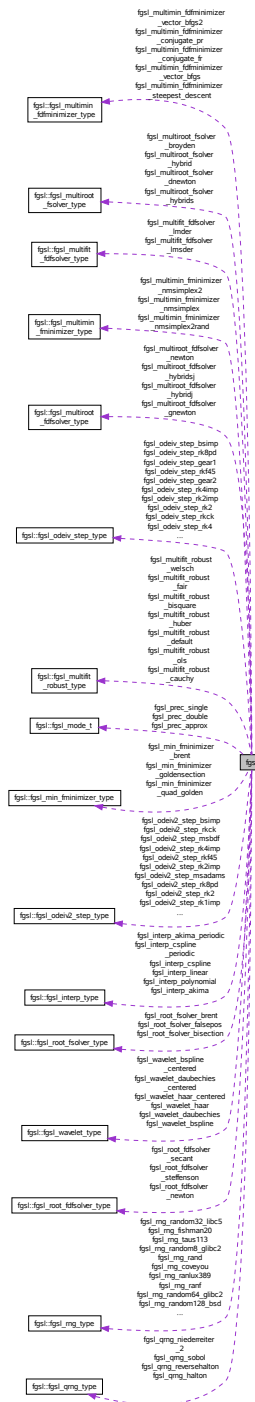
40.1.1.8 [assignment\(=\)::gsl_sfe10_to_fgsl_sfe10 \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.2 fgsl Module Reference

Collaboration diagram for fgsl:



Data Types

- type [fgsl_bspline_deriv_workspace](#)
- type [fgsl_bspline_workspace](#)
- type [fgsl_cheb_series](#)

- type `fgsl_combination`
- type `fgsl_dht`
- type `fgsl_eigen_gen_workspace`
- type `fgsl_eigen_genherm_workspace`
- type `fgsl_eigen_genhermv_workspace`
- type `fgsl_eigen_gensymm_workspace`
- type `fgsl_eigen_gensymmv_workspace`
- type `fgsl_eigen_genv_workspace`
- type `fgsl_eigen_herm_workspace`
- type `fgsl_eigen_hermv_workspace`
- type `fgsl_eigen_nonsymm_workspace`
- type `fgsl_eigen_nonsymmv_workspace`
- type `fgsl_eigen_symm_workspace`
- type `fgsl_eigen_symmv_workspace`
- type `fgsl_error_handler_t`
- type `fgsl_fft_complex_wavetable`
- type `fgsl_fft_complex_workspace`
- type `fgsl_fft_halfcomplex_wavetable`
- type `fgsl_fft_real_wavetable`
- type `fgsl_fft_real_workspace`
- type `fgsl_file`
- type `fgsl_function`
- type `fgsl_function_fdf`
- type `fgsl_histogram`
- type `fgsl_histogram2d`
- type `fgsl_histogram2d_pdf`
- type `fgsl_histogram_pdf`
- type `fgsl_integration_cquad_workspace`
- type `fgsl_integration_glfixed_table`
- type `fgsl_integration_qawo_table`
- type `fgsl_integration_qaws_table`
- type `fgsl_integration_workspace`
- type `fgsl_interp`
- type `fgsl_interp_accel`
- type `fgsl_interp_type`
- type `fgsl_matrix`
- type `fgsl_matrix_complex`
- type `fgsl_min_fminimizer`
- type `fgsl_min_fminimizer_type`
- type `fgsl_mode_t`
- type `fgsl_monte_function`
- type `fgsl_monte_miser_state`
- type `fgsl_monte_plain_state`
- type `fgsl_monte_vegas_state`
- type `fgsl_multifit_fdfsolver`
- type `fgsl_multifit_fdfsolver_type`
- type `fgsl_multifit_fsolver`
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- type `fgsl_multifit_function`
- type `fgsl_multifit_function_fdf`
- type `fgsl_multifit_linear_workspace`
- type `fgsl_multifit_robust_stats`
- type `fgsl_multifit_robust_type`
- type `fgsl_multifit_robust_workspace`
- type `fgsl_multimin_fdfminimizer`

- type [fgsl_multimin_fdfminimizer_type](#)
- type [fgsl_multimin_fminimizer](#)
- type [fgsl_multimin_fminimizer_type](#)
- type [fgsl_multimin_function](#)
- type [fgsl_multimin_function_fdf](#)
- type [fgsl_multiroot_fdfsolver](#)
- type [fgsl_multiroot_fdfsolver_type](#)
- type [fgsl_multiroot_fsolver](#)
- type [fgsl_multiroot_fsolver_type](#)
- type [fgsl_multiroot_function](#)
- type [fgsl_multiroot_function_fdf](#)
- type [fgsl_multiset](#)
- type [fgsl_ntuple](#)
- type [fgsl_ntuple_select_fn](#)
- type [fgsl_ntuple_value_fn](#)
- type [fgsl_odeiv2_control](#)
- type [fgsl_odeiv2_control_type](#)
- type [fgsl_odeiv2_driver](#)
- type [fgsl_odeiv2_evolve](#)
- type [fgsl_odeiv2_step](#)
- type [fgsl_odeiv2_step_type](#)
- type [fgsl_odeiv2_system](#)
- type [fgsl_odeiv_control](#)
- type [fgsl_odeiv_control_type](#)
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- type [fgsl_odeiv_step](#)
- type [fgsl_odeiv_step_type](#)
- type [fgsl_odeiv_system](#)
- type [fgsl_permutation](#)
- type [fgsl_poly_complex_workspace](#)
- type [fgsl_qrng](#)
- type [fgsl_qrng_type](#)
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- type [fgsl_root_fdfsolver](#)
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- type [fgsl_sum_levin_ustrunc_workspace](#)
- type [fgsl_vector](#)
- type [fgsl_vector_complex](#)
- type [fgsl_wavelet](#)
- type [fgsl_wavelet_type](#)
- type [fgsl_wavelet_workspace](#)
- type [gsl_complex](#)
- type [gsl_sf_result](#)
- type [gsl_sf_result_e10](#)

Public Attributes

- integer, parameter, public `fgsl_double` = `c_double`
- integer, parameter, public `fgsl_double_complex` = `c_double_complex`
- integer, parameter, public `fgsl_extended` = `selected_real_kind(13)`
- integer, parameter, public `fgsl_float` = `c_float`
- integer, parameter, public `fgsl_int` = `c_int`
- integer, parameter, public `fgsl_long` = `c_long`
- integer, parameter, public `fgsl_size_t` = `c_size_t`
- integer, parameter, public `fgsl_char` = `c_char`
- integer, parameter, public `fgsl_strmax` = 128
- integer, parameter, public `fgsl_pathmax` = 2048
- character(kind=`fgsl_char`, len=*),
parameter, public `fgsl_version` = `PACKAGE_VERSION`
- character(kind=`fgsl_char`, len=*),
parameter, public `fgsl_gslbase` = `GSL_VERSION`
- integer(`fgsl_int`), parameter,
public `fgsl_success` = 0
- integer(`fgsl_int`), parameter,
public `fgsl_failure` = -1
- integer(`fgsl_int`), parameter,
public `fgsl_continue` = -2
- integer(`fgsl_int`), parameter,
public `fgsl_edom` = 1
- integer(`fgsl_int`), parameter,
public `fgsl_erange` = 2
- integer(`fgsl_int`), parameter,
public `fgsl_efault` = 3
- integer(`fgsl_int`), parameter,
public `fgsl_einval` = 4
- integer(`fgsl_int`), parameter,
public `fgsl_efactor` = 6
- integer(`fgsl_int`), parameter,
public `fgsl_esanity` = 7
- integer(`fgsl_int`), parameter,
public `fgsl_enomem` = 8
- integer(`fgsl_int`), parameter,
public `fgsl_ebadfunc` = 9
- integer(`fgsl_int`), parameter,
public `fgsl_erunaway` = 10
- integer(`fgsl_int`), parameter,
public `fgsl_emaxiter` = 11
- integer(`fgsl_int`), parameter,
public `fgsl_ezerodiv` = 12
- integer(`fgsl_int`), parameter,
public `fgsl_ebadtol` = 13
- integer(`fgsl_int`), parameter,
public `fgsl_etol` = 14
- integer(`fgsl_int`), parameter,
public `fgsl_eundrflw` = 15
- integer(`fgsl_int`), parameter,
public `fgsl_eovrflw` = 16
- integer(`fgsl_int`), parameter,
public `fgsl_eloss` = 17
- integer(`fgsl_int`), parameter,
public `fgsl_eround` = 18

- integer([fgsl_int](#)), parameter,
public [fgsl_ebadlen](#) = 19
- integer([fgsl_int](#)), parameter,
public [fgsl_enotsqr](#) = 20
- integer([fgsl_int](#)), parameter,
public [fgsl_esing](#) = 21
- integer([fgsl_int](#)), parameter,
public [fgsl_ediverge](#) = 22
- integer([fgsl_int](#)), parameter,
public [fgsl_eunsup](#) = 23
- integer([fgsl_int](#)), parameter,
public [fgsl_eunimpl](#) = 24
- integer([fgsl_int](#)), parameter,
public [fgsl_ecache](#) = 25
- integer([fgsl_int](#)), parameter,
public [fgsl_etable](#) = 26
- integer([fgsl_int](#)), parameter,
public [fgsl_enoproj](#) = 27
- integer([fgsl_int](#)), parameter,
public [fgsl_enoproj](#) = 28
- integer([fgsl_int](#)), parameter,
public [fgsl_etolf](#) = 29
- integer([fgsl_int](#)), parameter,
public [fgsl_etolx](#) = 30
- integer([fgsl_int](#)), parameter,
public [fgsl_etolg](#) = 31
- integer([fgsl_int](#)), parameter,
public [fgsl_eof](#) = 32
- real([fgsl_extended](#)), parameter,
public [m_e](#) = 2.71828182845904523536028747135_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_log2e](#) = 1.44269504088896340735992468100_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_log10e](#) = 0.43429448190325182765112891892_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_sqrt2](#) = 1.41421356237309504880168872421_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_sqrt1_2](#) = 0.70710678118654752440084436210_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_sqrt3](#) = 1.73205080756887729352744634151_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_pi](#) = 3.14159265358979323846264338328_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_pi_2](#) = 1.57079632679489661923132169164_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_pi_4](#) = 0.78539816339744830961566084582_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_sqrtpi](#) = 1.77245385090551602729816748334_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_2_sqrtpi](#) = 1.12837916709551257389615890312_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_1_pi](#) = 0.31830988618379067153776752675_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_2_pi](#) = 0.63661977236758134307553505349_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_ln10](#) = 2.30258509299404568401799145468_fgsl_extended

- `real(fgsl_extended)`, parameter,
public `m_ln2` = 0.69314718055994530941723212146_fgsl_extended
- `real(fgsl_extended)`, parameter,
public `m_lnpi` = 1.14472988584940017414342735135_fgsl_extended
- `real(fgsl_extended)`, parameter,
public `m_euler` = 0.57721566490153286060651209008_fgsl_extended
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public `fgsl_const_num_fine_structure` = 7.297352533E-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_avogadro` = 6.02214199E23_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_yotta` = 1e24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_zetta` = 1e21_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_exa` = 1e18_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_peta` = 1e15_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_tera` = 1e12_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_giga` = 1e9_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_mega` = 1e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_kilo` = 1e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_milli` = 1e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_micro` = 1e-6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_nano` = 1e-9_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_num_pico` = 1e-12_fgsl_double
- `real(fgsl_double)`, parameter,
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- `real(fgsl_double)`, parameter,
public `fgsl_const_num_atto` = 1e-18_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_numzepto` = 1e-21_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_numyocto` = 1e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_speed_of_light` = 2.99792458e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_gravitational_constant` = 6.673e-11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_plancks_constant_h` = 6.62606896e-34_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_plancks_constant_hbar` = 1.05457162825e-34_fgsl_double
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public `fgsl_const_mkسا_astronomical_unit` = 1.49597870691e11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_light_year` = 9.46053620707e15_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_parsec` = 3.08567758135e16_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_grav_accel` = 9.80665e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_electron_volt` = 1.602176487e-19_fgsl_double
- `real(fgsl_double)`, parameter,
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- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_mass_muon` = 1.88353109e-28_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_mass_proton` = 1.67262158e-27_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_mass_neutron` = 1.67492716e-27_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_rydberg` = 2.17987196968e-18_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_boltzmann` = 1.3806504e-23_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_bohr_magneton` = 9.27400899e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_nuclear_magneton` = 5.05078317e-27_fgsl_double
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public `fgsl_const_mkxa_electron_magnetic_moment` = 9.28476362e-24_fgsl_double
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public `fgsl_const_mkxa_proton_magnetic_moment` = 1.410606633e-26_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_molar_gas` = 8.314472e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_standard_gas_volume` = 2.2710981e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_minute` = 6e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_hour` = 3.6e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_day` = 8.64e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_week` = 6.048e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_inch` = 2.54e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_foot` = 3.048e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_yard` = 9.144e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_mile` = 1.609344e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_nautical_mile` = 1.852e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_fathom` = 1.8288e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_mil` = 2.54e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_point` = 3.52777777778e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_texpoint` = 3.51459803515e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_micron` = 1e-6_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_angstrom` = `1e-10_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_hectare` = `1e4_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_acre` = `4.04685642241e3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_barn` = `1e-28_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_liter` = `1e-3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_us_gallon` = `3.78541178402e-3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_quart` = `9.46352946004e-4_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_pint` = `4.73176473002e-4_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_cup` = `2.36588236501e-4_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_fluid_ounce` = `2.95735295626e-5_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_tablespoon` = `1.47867647813e-5_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_tea_spoon` = `4.92892159375e-6_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_canadian_gallon` = `4.54609e-3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_uk_gallon` = `4.546092e-3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_miles_per_hour` = `4.4704e-1_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_kilometers_per_hour` = `2.77777777778e-1_fgsl_double`
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public `fgsl_const_mkxa_knot` = `5.14444444444e-1_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_pound_mass` = `4.5359237e-1_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_ounce_mass` = `2.8349523125e-2_fgsl_double`
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public `fgsl_const_mkxa_ton` = `9.0718474e2_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_metric_ton` = `1e3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_uk_ton` = `1.0160469088e3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_troy_ounce` = `3.1103475e-2_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_carat` = `2e-4_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_unified_atomic_mass` = `1.660538782e-27_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_gram_force` = `9.80665e-3_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_pound_force` = `4.44822161526e0_fgsl_double`
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_kilopound_force` = `4.44822161526e3_fgsl_double`

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_poundal` = 1.38255e-1_fgsl_double
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public `fgsl_const_mkxa_calorie` = 4.1868e0_fgsl_double
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public `fgsl_const_mkxa_btu` = 1.05505585262e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_therm` = 1.05506e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_horsepower` = 7.457e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_bar` = 1e5_fgsl_double
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public `fgsl_const_mkxa_std_atmosphere` = 1.01325e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_torr` = 1.33322368421e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_meter_of_mercury` = 1.33322368421e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_inch_of_mercury` = 3.38638815789e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_inch_of_water` = 2.490889e2_fgsl_double
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public `fgsl_const_mkxa_psi` = 6.89475729317e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_poise` = 1e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_stokes` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_faraday` = 9.64853429775e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_electron_charge` = 1.602176487e-19_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_gauss` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxastilb` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_lumen` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_lux` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_phot` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_footcandle` = 1.076e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_lambert` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_footlambert` = 1.07639104e1_fgsl_double
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public `fgsl_const_mkxa_curie` = 3.7e10_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_roentgen` = 2.58e-4_fgsl_double
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public `fgsl_const_mkxa_rad` = 1e-2_fgsl_double
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public `fgsl_const_mkxa_solar_mass` = 1.98892e30_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_bohr_radius` = 5.291772083e-11_fgsl_double
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public `fgsl_const_mkxa_newton` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_dyne` = 1e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_joule` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_erg` = 1e-7_fgsl_double
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- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_thomson_cross_section` = 6.65245893699e-29_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_vacuum_permittivity` = 8.854187817e-12_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_vacuum_permeability` = 1.25663706144e-6_fgsl_double
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public `fgsl_const_mkxa_debye` = 3.33564095198e-30_fgsl_double
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- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_gravitational_constant` = 6.673e-8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_plancks_constant_h` = 6.62606896e-27_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_plancks_constant_hbar` = 1.05457162825e-27_fgsl_double
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- `real(fgsl_double)`, parameter,
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public `fgsl_const_cgsm_parsec` = 3.08567758135e18_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_grav_accel` = 9.80665e2_fgsl_double
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public `fgsl_const_cgsm_electron_volt` = 1.602176487e-12_fgsl_double
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public `fgsl_const_cgsm_mass_electron` = 9.10938188e-28_fgsl_double
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public `fgsl_const_cgsm_mass_muon` = 1.88353109e-25_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mass_proton` = 1.67262158e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mass_neutron` = 1.67492716e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_rydberg` = 2.17987196968e-11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_boltzmann` = 1.3806504e-16_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_bohr_magneton` = 9.27400899e-21_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_nuclear_magneton` = 5.05078317e-24_fgsl_double
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public `fgsl_const_cgsm_electron_magnetic_moment` = 9.28476362e-21_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_proton_magnetic_moment` = 1.410606633e-23_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_molar_gas` = 8.314472e7_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_standard_gas_volume` = 2.2710981e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_minute` = 6e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_hour` = 3.6e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_day` = 8.64e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_week` = 6.048e5_fgsl_double
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public `fgsl_const_cgsm_inch` = 2.54e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_foot` = 3.048e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_yard` = 9.144e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mile` = 1.609344e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_nautical_mile` = 1.852e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_fathom` = 1.8288e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mil` = 2.54e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_point` = 3.52777777778e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_texpoint` = 3.51459803515e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_micron` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_angstrom` = 1e-8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_hectare` = 1e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_acre` = 4.04685642241e7_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_barn` = 1e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_liter` = 1e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_us_gallon` = 3.78541178402e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_quart` = 9.46352946004e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_pint` = 4.73176473002e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_cup` = 2.36588236501e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_fluid_ounce` = 2.95735295626e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_tablespoon` = 1.47867647813e1_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_tea_spoon` = 4.92892159375e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_canadian_gallon` = 4.54609e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_uk_gallon` = 4.546092e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_miles_per_hour` = 4.4704e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_kilometers_per_hour` = 2.77777777778e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_knot` = 5.14444444444e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_pound_mass` = 4.5359237e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_ounce_mass` = 2.8349523125e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_ton` = 9.0718474e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_metric_ton` = 1e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_uk_ton` = 1.0160469088e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_troy_ounce` = 3.1103475e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_carat` = 2e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_unified_atomic_mass` = 1.660538782e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_gram_force` = 9.80665e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_pound_force` = 4.44822161526e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_kilopound_force` = 4.44822161526e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_poundal` = 1.38255e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_calorie` = 4.1868e7_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_btu` = 1.05505585262e10_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_therm` = 1.05506e15_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_horsepower` = 7.457e9_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_bar` = 1e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_std_atmosphere` = 1.01325e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_torr` = 1.33322368421e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_meter_of_mercury` = 1.33322368421e6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_inch_of_mercury` = 3.38638815789e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_inch_of_water` = 2.490889e3_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_psi` = 6.89475729317e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_poise` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_stokes` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_faraday` = 9.64853429775e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_electron_charge` = 1.602176487e-20_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_gauss` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsmstilb` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_lumen` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_lux` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_phot` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_footcandle` = 1.076e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_lambert` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_footlambert` = 1.07639104e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_curie` = 3.7e10_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_roentgen` = 2.58e-8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_rad` = 1e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_solar_mass` = 1.98892e33_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_bohr_radius` = 5.291772083e-9_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_newton` = 1e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_dyne` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_joule` = 1e7_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_erg` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_stefan_boltzmann_constant` = 5.67040047374e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_thomson_cross_section` = 6.65245893699e-25_fgsl_double
- `type(fgsl_mode_t)`, parameter,
public `fgsl_prec_double` = `fgsl_mode_t`(0)
- `type(fgsl_mode_t)`, parameter,
public `fgsl_prec_single` = `fgsl_mode_t`(1)
- `type(fgsl_mode_t)`, parameter,
public `fgsl_prec_approx` = `fgsl_mode_t`(2)
- `type(fgsl_interp_type)`,
parameter, public `fgsl_interp_linear` = `fgsl_interp_type`(1)

- type([fgsl_interp_type](#)),
parameter, public [fgsl_interp_polynomial](#) = [fgsl_interp_type](#)(2)
- type([fgsl_interp_type](#)),
parameter, public [fgsl_interp_cspline](#) = [fgsl_interp_type](#)(3)
- type([fgsl_interp_type](#)),
parameter, public [fgsl_interp_cspline_periodic](#) = [fgsl_interp_type](#)(4)
- type([fgsl_interp_type](#)),
parameter, public [fgsl_interp_akima](#) = [fgsl_interp_type](#)(5)
- type([fgsl_interp_type](#)),
parameter, public [fgsl_interp_akima_periodic](#) = [fgsl_interp_type](#)(6)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_default](#) = [fgsl_multifit_robust_type](#)(1)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_bisquare](#) = [fgsl_multifit_robust_type](#)(2)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_cauchy](#) = [fgsl_multifit_robust_type](#)(3)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_fair](#) = [fgsl_multifit_robust_type](#)(4)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_huber](#) = [fgsl_multifit_robust_type](#)(5)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_ols](#) = [fgsl_multifit_robust_type](#)(6)
- type([fgsl_multifit_robust_type](#)),
parameter, public [fgsl_multifit_robust_welsch](#) = [fgsl_multifit_robust_type](#)(7)
- integer([c_int](#)), parameter, public [fgsl_eigen_sort_val_asc](#) = 0
- integer([c_int](#)), parameter, public [fgsl_eigen_sort_val_desc](#) = 1
- integer([c_int](#)), parameter, public [fgsl_eigen_sort_abs_asc](#) = 2
- integer([c_int](#)), parameter, public [fgsl_eigen_sort_abs_desc](#) = 3
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss15](#) = 1
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss21](#) = 2
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss31](#) = 3
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss41](#) = 4
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss51](#) = 5
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_gauss61](#) = 6
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_cosine](#) = 0
- integer([fgsl_int](#)), parameter,
public [fgsl_integ_sine](#) = 1
- type([fgsl_rng_type](#)), public [fgsl_rng_default](#) = [fgsl_rng_type](#)([c_null_ptr](#), -1)
- type([fgsl_rng_type](#)), public [fgsl_rng_borosh13](#) = [fgsl_rng_type](#)([c_null_ptr](#), 1)
- type([fgsl_rng_type](#)), public [fgsl_rng_coveyou](#) = [fgsl_rng_type](#)([c_null_ptr](#), 2)
- type([fgsl_rng_type](#)), public [fgsl_rng_cmrg](#) = [fgsl_rng_type](#)([c_null_ptr](#), 3)
- type([fgsl_rng_type](#)), public [fgsl_rng_fishman18](#) = [fgsl_rng_type](#)([c_null_ptr](#), 4)
- type([fgsl_rng_type](#)), public [fgsl_rng_fishman20](#) = [fgsl_rng_type](#)([c_null_ptr](#), 5)
- type([fgsl_rng_type](#)), public [fgsl_rng_fishman2x](#) = [fgsl_rng_type](#)([c_null_ptr](#), 6)
- type([fgsl_rng_type](#)), public [fgsl_rng_gfsr4](#) = [fgsl_rng_type](#)([c_null_ptr](#), 7)
- type([fgsl_rng_type](#)), public [fgsl_rng_knuthran](#) = [fgsl_rng_type](#)([c_null_ptr](#), 8)
- type([fgsl_rng_type](#)), public [fgsl_rng_knuthran2](#) = [fgsl_rng_type](#)([c_null_ptr](#), 9)
- type([fgsl_rng_type](#)), public [fgsl_rng_lecuyer21](#) = [fgsl_rng_type](#)([c_null_ptr](#), 10)
- type([fgsl_rng_type](#)), public [fgsl_rng_minstd](#) = [fgsl_rng_type](#)([c_null_ptr](#), 11)

- `type(fgsl_rng_type), public fgsl_rng_mrg = fgsl_rng_type(c_null_ptr, 12)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937 = fgsl_rng_type(c_null_ptr, 13)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937_1999 = fgsl_rng_type(c_null_ptr, 14)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937_1998 = fgsl_rng_type(c_null_ptr, 15)`
- `type(fgsl_rng_type), public fgsl_rng_r250 = fgsl_rng_type(c_null_ptr, 16)`
- `type(fgsl_rng_type), public fgsl_rng_ran0 = fgsl_rng_type(c_null_ptr, 17)`
- `type(fgsl_rng_type), public fgsl_rng_ran1 = fgsl_rng_type(c_null_ptr, 18)`
- `type(fgsl_rng_type), public fgsl_rng_ran2 = fgsl_rng_type(c_null_ptr, 19)`
- `type(fgsl_rng_type), public fgsl_rng_ran3 = fgsl_rng_type(c_null_ptr, 20)`
- `type(fgsl_rng_type), public fgsl_rng_rand = fgsl_rng_type(c_null_ptr, 21)`
- `type(fgsl_rng_type), public fgsl_rng_rand48 = fgsl_rng_type(c_null_ptr, 22)`
- `type(fgsl_rng_type), public fgsl_rng_random128_bsd = fgsl_rng_type(c_null_ptr, 23)`
- `type(fgsl_rng_type), public fgsl_rng_random128_glibc2 = fgsl_rng_type(c_null_ptr, 24)`
- `type(fgsl_rng_type), public fgsl_rng_random128_libc5 = fgsl_rng_type(c_null_ptr, 25)`
- `type(fgsl_rng_type), public fgsl_rng_random256_bsd = fgsl_rng_type(c_null_ptr, 26)`
- `type(fgsl_rng_type), public fgsl_rng_random256_glibc2 = fgsl_rng_type(c_null_ptr, 27)`
- `type(fgsl_rng_type), public fgsl_rng_random256_libc5 = fgsl_rng_type(c_null_ptr, 28)`
- `type(fgsl_rng_type), public fgsl_rng_random32_bsd = fgsl_rng_type(c_null_ptr, 29)`
- `type(fgsl_rng_type), public fgsl_rng_random32_glibc2 = fgsl_rng_type(c_null_ptr, 30)`
- `type(fgsl_rng_type), public fgsl_rng_random32_libc5 = fgsl_rng_type(c_null_ptr, 31)`
- `type(fgsl_rng_type), public fgsl_rng_random64_bsd = fgsl_rng_type(c_null_ptr, 32)`
- `type(fgsl_rng_type), public fgsl_rng_random64_glibc2 = fgsl_rng_type(c_null_ptr, 33)`
- `type(fgsl_rng_type), public fgsl_rng_random64_libc5 = fgsl_rng_type(c_null_ptr, 34)`
- `type(fgsl_rng_type), public fgsl_rng_random8_bsd = fgsl_rng_type(c_null_ptr, 35)`
- `type(fgsl_rng_type), public fgsl_rng_random8_glibc2 = fgsl_rng_type(c_null_ptr, 36)`
- `type(fgsl_rng_type), public fgsl_rng_random8_libc5 = fgsl_rng_type(c_null_ptr, 37)`
- `type(fgsl_rng_type), public fgsl_rng_random_bsd = fgsl_rng_type(c_null_ptr, 38)`
- `type(fgsl_rng_type), public fgsl_rng_random_glibc2 = fgsl_rng_type(c_null_ptr, 39)`
- `type(fgsl_rng_type), public fgsl_rng_random_libc5 = fgsl_rng_type(c_null_ptr, 40)`
- `type(fgsl_rng_type), public fgsl_rng_randu = fgsl_rng_type(c_null_ptr, 41)`
- `type(fgsl_rng_type), public fgsl_rng_ranf = fgsl_rng_type(c_null_ptr, 42)`
- `type(fgsl_rng_type), public fgsl_rng_ranlux = fgsl_rng_type(c_null_ptr, 43)`
- `type(fgsl_rng_type), public fgsl_rng_ranlux389 = fgsl_rng_type(c_null_ptr, 44)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxd1 = fgsl_rng_type(c_null_ptr, 45)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxd2 = fgsl_rng_type(c_null_ptr, 46)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs0 = fgsl_rng_type(c_null_ptr, 47)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs1 = fgsl_rng_type(c_null_ptr, 48)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs2 = fgsl_rng_type(c_null_ptr, 49)`
- `type(fgsl_rng_type), public fgsl_rng_ranmar = fgsl_rng_type(c_null_ptr, 50)`
- `type(fgsl_rng_type), public fgsl_rng_slatec = fgsl_rng_type(c_null_ptr, 51)`
- `type(fgsl_rng_type), public fgsl_rng_taus = fgsl_rng_type(c_null_ptr, 52)`
- `type(fgsl_rng_type), public fgsl_rng_taus2 = fgsl_rng_type(c_null_ptr, 53)`
- `type(fgsl_rng_type), public fgsl_rng_taus113 = fgsl_rng_type(c_null_ptr, 54)`
- `type(fgsl_rng_type), public fgsl_rng_transputer = fgsl_rng_type(c_null_ptr, 55)`
- `type(fgsl_rng_type), public fgsl_rng_tt800 = fgsl_rng_type(c_null_ptr, 56)`
- `type(fgsl_rng_type), public fgsl_rng_uni = fgsl_rng_type(c_null_ptr, 57)`
- `type(fgsl_rng_type), public fgsl_rng_uni32 = fgsl_rng_type(c_null_ptr, 58)`
- `type(fgsl_rng_type), public fgsl_rng_vax = fgsl_rng_type(c_null_ptr, 59)`
- `type(fgsl_rng_type), public fgsl_rng_waterman14 = fgsl_rng_type(c_null_ptr, 60)`
- `type(fgsl_rng_type), public fgsl_rng_zuf = fgsl_rng_type(c_null_ptr, 61)`
- `type(fgsl_rng_type), public fgsl_rng_knuthran2002 = fgsl_rng_type(c_null_ptr, 62)`
- `integer(fgsl_long), dimension(c,
name='fgsl_rng_default_seed'),
public bind`
- `integer(fgsl_long), public fgsl_rng_default_seed`

- `type(fgsl_qrng_type)`,
parameter, public `fgsl_qrng_niederreiter_2 = fgsl_qrng_type(1)`
- `type(fgsl_qrng_type)`,
parameter, public `fgsl_qrng_sobol = fgsl_qrng_type(2)`
- `type(fgsl_qrng_type)`,
parameter, public `fgsl_qrng_halton = fgsl_qrng_type(3)`
- `type(fgsl_qrng_type)`,
parameter, public `fgsl_qrng_reversehalton = fgsl_qrng_type(4)`
- `integer(c_int)`, parameter, public `fgsl_vegas_mode_importance = 1`
- `integer(c_int)`, parameter, public `fgsl_vegas_mode_importance_only = 0`
- `integer(c_int)`, parameter, public `fgsl_vegas_mode_stratified = -1`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk2 = fgsl_odeiv2_step_type(1)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk4 = fgsl_odeiv2_step_type(2)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rkf45 = fgsl_odeiv2_step_type(3)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rkck = fgsl_odeiv2_step_type(4)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk8pd = fgsl_odeiv2_step_type(5)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk1imp = fgsl_odeiv2_step_type(6)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk2imp = fgsl_odeiv2_step_type(7)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_rk4imp = fgsl_odeiv2_step_type(8)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_bsimp = fgsl_odeiv2_step_type(9)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_msadams = fgsl_odeiv2_step_type(10)`
- `type(fgsl_odeiv2_step_type)`,
parameter, public `fgsl_odeiv2_step_msbdf = fgsl_odeiv2_step_type(11)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk2 = fgsl_odeiv_step_type(1)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk4 = fgsl_odeiv_step_type(2)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rkf45 = fgsl_odeiv_step_type(3)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rkck = fgsl_odeiv_step_type(4)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk8pd = fgsl_odeiv_step_type(5)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk2imp = fgsl_odeiv_step_type(6)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk2simp = fgsl_odeiv_step_type(7)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_rk4imp = fgsl_odeiv_step_type(8)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_bsimp = fgsl_odeiv_step_type(9)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_gear1 = fgsl_odeiv_step_type(10)`
- `type(fgsl_odeiv_step_type)`,
parameter, public `fgsl_odeiv_step_gear2 = fgsl_odeiv_step_type(11)`
- `integer(fgsl_int)`, parameter,
public `fgsl_odeiv_hadj_inc = 1`

- integer([fgsl_int](#)), parameter,
public [fgsl_odeiv_hadj_nil](#) = 0
- integer([fgsl_int](#)), parameter,
public [fgsl_odeiv_hadj_dec](#) = -1
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_daubechies](#) = [fgsl_wavelet_type](#)(1)
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_daubechies_centered](#) = [fgsl_wavelet_type](#)(2)
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_haar](#) = [fgsl_wavelet_type](#)(3)
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_haar_centered](#) = [fgsl_wavelet_type](#)(4)
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_bspline](#) = [fgsl_wavelet_type](#)(5)
- type([fgsl_wavelet_type](#)),
parameter, public [fgsl_wavelet_bspline_centered](#) = [fgsl_wavelet_type](#)(6)
- type([fgsl_root_fsolver_type](#)),
parameter, public [fgsl_root_fsolver_bisection](#) = [fgsl_root_fsolver_type](#)(1)
- type([fgsl_root_fsolver_type](#)),
parameter, public [fgsl_root_fsolver_brent](#) = [fgsl_root_fsolver_type](#)(2)
- type([fgsl_root_fsolver_type](#)),
parameter, public [fgsl_root_fsolver_falsepos](#) = [fgsl_root_fsolver_type](#)(3)
- type([fgsl_root_fdfsolver_type](#)),
parameter, public [fgsl_root_fdfsolver_newton](#) = [fgsl_root_fdfsolver_type](#)(1)
- type([fgsl_root_fdfsolver_type](#)),
parameter, public [fgsl_root_fdfsolver_secant](#) = [fgsl_root_fdfsolver_type](#)(2)
- type([fgsl_root_fdfsolver_type](#)),
parameter, public [fgsl_root_fdfsolver_steffenson](#) = [fgsl_root_fdfsolver_type](#)(3)
- type([fgsl_min_fminimizer_type](#)),
parameter, public [fgsl_min_fminimizer_goldensection](#) = [fgsl_min_fminimizer_type](#)(1)
- type([fgsl_min_fminimizer_type](#)),
parameter, public [fgsl_min_fminimizer_brent](#) = [fgsl_min_fminimizer_type](#)(2)
- type([fgsl_min_fminimizer_type](#)),
parameter, public [fgsl_min_fminimizer_quad_golden](#) = [fgsl_min_fminimizer_type](#)(3)
- type([fgsl_multiroot_fsolver_type](#)),
parameter, public [fgsl_multiroot_fsolver_dnewton](#) = [fgsl_multiroot_fsolver_type](#)(1)
- type([fgsl_multiroot_fsolver_type](#)),
parameter, public [fgsl_multiroot_fsolver_broyden](#) = [fgsl_multiroot_fsolver_type](#)(2)
- type([fgsl_multiroot_fsolver_type](#)),
parameter, public [fgsl_multiroot_fsolver_hybrid](#) = [fgsl_multiroot_fsolver_type](#)(3)
- type([fgsl_multiroot_fsolver_type](#)),
parameter, public [fgsl_multiroot_fsolver_hybrids](#) = [fgsl_multiroot_fsolver_type](#)(4)
- type([fgsl_multiroot_fdfsolver_type](#)),
parameter, public [fgsl_multiroot_fdfsolver_newton](#) = [fgsl_multiroot_fdfsolver_type](#)(1)
- type([fgsl_multiroot_fdfsolver_type](#)),
parameter, public [fgsl_multiroot_fdfsolver_gnewton](#) = [fgsl_multiroot_fdfsolver_type](#)(2)
- type([fgsl_multiroot_fdfsolver_type](#)),
parameter, public [fgsl_multiroot_fdfsolver_hybridj](#) = [fgsl_multiroot_fdfsolver_type](#)(3)
- type([fgsl_multiroot_fdfsolver_type](#)),
parameter, public [fgsl_multiroot_fdfsolver_hybridjsj](#) = [fgsl_multiroot_fdfsolver_type](#)(4)
- type([fgsl_multimin_fminimizer_type](#)),
parameter, public [fgsl_multimin_fminimizer_nmsimplex](#) = [fgsl_multimin_fminimizer_type](#)(1)
- type([fgsl_multimin_fminimizer_type](#)),
parameter, public [fgsl_multimin_fminimizer_nmsimplex2](#) = [fgsl_multimin_fminimizer_type](#)(2)
- type([fgsl_multimin_fminimizer_type](#)),
parameter, public [fgsl_multimin_fminimizer_nmsimplex2rand](#) = [fgsl_multimin_fminimizer_type](#)(3)

- type([fgsl_multimin_fdfminimizer_type](#)),
parameter, public [fgsl_multimin_fdfminimizer_steepest_descent](#) = [fgsl_multimin_fdfminimizer_type](#)(1)
- type([fgsl_multimin_fdfminimizer_type](#)),
parameter, public [fgsl_multimin_fdfminimizer_conjugate_pr](#) = [fgsl_multimin_fdfminimizer_type](#)(2)
- type([fgsl_multimin_fdfminimizer_type](#)),
parameter, public [fgsl_multimin_fdfminimizer_conjugate_fr](#) = [fgsl_multimin_fdfminimizer_type](#)(3)
- type([fgsl_multimin_fdfminimizer_type](#)),
parameter, public [fgsl_multimin_fdfminimizer_vector_bfgs](#) = [fgsl_multimin_fdfminimizer_type](#)(4)
- type([fgsl_multimin_fdfminimizer_type](#)),
parameter, public [fgsl_multimin_fdfminimizer_vector_bfgs2](#) = [fgsl_multimin_fdfminimizer_type](#)(5)
- type([fgsl_multifit_fdfsolver_type](#)),
parameter, public [fgsl_multifit_fdfsolver_lmder](#) = [fgsl_multifit_fdfsolver_type](#)(1)
- type([fgsl_multifit_fdfsolver_type](#)),
parameter, public [fgsl_multifit_fdfsolver_lmsder](#) = [fgsl_multifit_fdfsolver_type](#)(2)

40.2.1 Member Data Documentation

- 40.2.1.1 [integer\(fgsl_long\)](#), dimension(c, name='gsl_rng_default_seed'), public [fgsl::bind](#)
- 40.2.1.2 [integer](#), parameter, public [fgsl::fgsl_char](#) = [c_char](#)
- 40.2.1.3 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_acre](#) = 4.04685642241e7 [fgsl_double](#)
- 40.2.1.4 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_angstrom](#) = 1e-8 [fgsl_double](#)
- 40.2.1.5 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_astronomical_unit](#) = 1.49597870691e13 [fgsl_double](#)
- 40.2.1.6 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_bar](#) = 1e6 [fgsl_double](#)
- 40.2.1.7 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_barn](#) = 1e-24 [fgsl_double](#)
- 40.2.1.8 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_bohr_magneton](#) = 9.27400899e-21 [fgsl_double](#)
- 40.2.1.9 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_bohr_radius](#) = 5.291772083e-9 [fgsl_double](#)
- 40.2.1.10 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_boltzmann](#) = 1.3806504e-16 [fgsl_double](#)
- 40.2.1.11 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_btu](#) = 1.05505585262e10 [fgsl_double](#)
- 40.2.1.12 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_calorie](#) = 4.1868e7 [fgsl_double](#)
- 40.2.1.13 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_canadian_gallon](#) = 4.54609e3 [fgsl_double](#)
- 40.2.1.14 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_carat](#) = 2e-1 [fgsl_double](#)
- 40.2.1.15 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_cup](#) = 2.36588236501e2 [fgsl_double](#)
- 40.2.1.16 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_curie](#) = 3.7e10 [fgsl_double](#)
- 40.2.1.17 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_day](#) = 8.64e4 [fgsl_double](#)
- 40.2.1.18 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_dyne](#) = 1e0 [fgsl_double](#)
- 40.2.1.19 [real\(fgsl_double\)](#), parameter, public [fgsl::fgsl_const_cgsm_electron_charge](#) = 1.602176487e-20 [fgsl_double](#)

- 40.2.1.20 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_electron_magnetic_moment = 9.28476362e-21_fgsl_double`
- 40.2.1.21 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_electron_volt = 1.602176487e-12_fgsl_double`
- 40.2.1.22 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_erg = 1e0_fgsl_double`
- 40.2.1.23 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_faraday = 9.64853429775e3_fgsl_double`
- 40.2.1.24 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_fathom = 1.8288e2_fgsl_double`
- 40.2.1.25 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_fluid_ounce = 2.95735295626e1_fgsl_double`
- 40.2.1.26 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_foot = 3.048e1_fgsl_double`
- 40.2.1.27 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_footcandle = 1.076e-3_fgsl_double`
- 40.2.1.28 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_footlambert = 1.07639104e-3_fgsl_double`
- 40.2.1.29 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gauss = 1e0_fgsl_double`
- 40.2.1.30 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gram_force = 9.80665e2_fgsl_double`
- 40.2.1.31 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_grav_accel = 9.80665e2_fgsl_double`
- 40.2.1.32 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gravitational_constant = 6.673e-8_fgsl_double`
- 40.2.1.33 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_hectare = 1e8_fgsl_double`
- 40.2.1.34 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_horsepower = 7.457e9_fgsl_double`
- 40.2.1.35 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_hour = 3.6e3_fgsl_double`
- 40.2.1.36 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch = 2.54e0_fgsl_double`
- 40.2.1.37 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch_of_mercury = 3.38638815789e4_fgsl_double`
- 40.2.1.38 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch_of_water = 2.490889e3_fgsl_double`
- 40.2.1.39 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_joule = 1e7_fgsl_double`
- 40.2.1.40 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_kilometers_per_hour = 2.77777777778e1_fgsl_double`
- 40.2.1.41 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_kilopound_force = 4.44822161526e8_fgsl_double`
- 40.2.1.42 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_knot = 5.14444444444e1_fgsl_double`
- 40.2.1.43 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lambert = 1e0_fgsl_double`
- 40.2.1.44 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_light_year = 9.46053620707e17_fgsl_double`
- 40.2.1.45 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_liter = 1e3_fgsl_double`
- 40.2.1.46 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lumen = 1e0_fgsl_double`
- 40.2.1.47 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lux = 1e-4_fgsl_double`

- 40.2.1.48 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_electron = 9.10938188e-28_fgsl_double`
- 40.2.1.49 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_muon = 1.88353109e-25_fgsl_double`
- 40.2.1.50 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_neutron = 1.67492716e-24_fgsl_double`
- 40.2.1.51 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_proton = 1.67262158e-24_fgsl_double`
- 40.2.1.52 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_meter_of_mercury = 1.33322368421e6_fgsl_double`
- 40.2.1.53 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_metric_ton = 1e6_fgsl_double`
- 40.2.1.54 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_micron = 1e-4_fgsl_double`
- 40.2.1.55 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mil = 2.54e-3_fgsl_double`
- 40.2.1.56 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mile = 1.609344e5_fgsl_double`
- 40.2.1.57 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_miles_per_hour = 4.4704e1_fgsl_double`
- 40.2.1.58 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_minute = 6e1_fgsl_double`
- 40.2.1.59 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_molar_gas = 8.314472e7_fgsl_double`
- 40.2.1.60 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_nautical_mile = 1.852e5_fgsl_double`
- 40.2.1.61 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_newton = 1e5_fgsl_double`
- 40.2.1.62 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_nuclear_magneton = 5.05078317e-24_fgsl_double`
- 40.2.1.63 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_ounce_mass = 2.8349523125e1_fgsl_double`
- 40.2.1.64 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_parsec = 3.08567758135e18_fgsl_double`
- 40.2.1.65 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_phot = 1e0_fgsl_double`
- 40.2.1.66 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pint = 4.73176473002e2_fgsl_double`
- 40.2.1.67 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_plancks_constant_h = 6.62606896e-27_fgsl_double`
- 40.2.1.68 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_plancks_constant_hbar = 1.05457162825e-27_fgsl_double`
- 40.2.1.69 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_point = 3.52777777778e-2_fgsl_double`
- 40.2.1.70 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_poise = 1e0_fgsl_double`
- 40.2.1.71 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pound_force = 4.44822161526e5_fgsl_double`
- 40.2.1.72 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pound_mass = 4.5359237e2_fgsl_double`
- 40.2.1.73 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_poundal = 1.38255e4_fgsl_double`
- 40.2.1.74 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_proton_magnetic_moment = 1.410606633e-23_fgsl_double`

- 40.2.1.75 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_psi = 6.89475729317e4_fgsl_double`
- 40.2.1.76 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_quart = 9.46352946004e2_fgsl_double`
- 40.2.1.77 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_rad = 1e2_fgsl_double`
- 40.2.1.78 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_roentgen = 2.58e-8_fgsl_double`
- 40.2.1.79 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_rydberg = 2.17987196968e-11_fgsl_double`
- 40.2.1.80 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_solar_mass = 1.98892e33_fgsl_double`
- 40.2.1.81 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_speed_of_light = 2.99792458e10_fgsl_double`
- 40.2.1.82 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_standard_gas_volume = 2.2710981e4_fgsl_double`
- 40.2.1.83 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_std_atmosphere = 1.01325e6_fgsl_double`
- 40.2.1.84 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stefan_boltzmann_constant = 5.67040047374e-5_fgsl_double`
- 40.2.1.85 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stilb = 1e0_fgsl_double`
- 40.2.1.86 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stokes = 1e0_fgsl_double`
- 40.2.1.87 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_tablespoon = 1.47867647813e1_fgsl_double`
- 40.2.1.88 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_tespoon = 4.92892159375e0_fgsl_double`
- 40.2.1.89 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_texpoint = 3.51459803515e-2_fgsl_double`
- 40.2.1.90 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_therm = 1.05506e15_fgsl_double`
- 40.2.1.91 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_thomson_cross_section = 6.65245893699e-25_fgsl_double`
- 40.2.1.92 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_ton = 9.0718474e5_fgsl_double`
- 40.2.1.93 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_torr = 1.33322368421e3_fgsl_double`
- 40.2.1.94 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_troy_ounce = 3.1103475e1_fgsl_double`
- 40.2.1.95 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_uk_gallon = 4.546092e3_fgsl_double`
- 40.2.1.96 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_uk_ton = 1.0160469088e6_fgsl_double`
- 40.2.1.97 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_unified_atomic_mass = 1.660538782e-24_fgsl_double`
- 40.2.1.98 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_us_gallon = 3.78541178402e3_fgsl_double`
- 40.2.1.99 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_week = 6.048e5_fgsl_double`
- 40.2.1.100 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_yard = 9.144e1_fgsl_double`
- 40.2.1.101 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_acre = 4.04685642241e3_fgsl_double`

- 40.2.1.102 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_angstrom = 1e-10_fgsl_double`
- 40.2.1.103 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_astronomical_unit = 1.49597870691e11_fgsl_double`
- 40.2.1.104 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_bar = 1e5_fgsl_double`
- 40.2.1.105 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_barn = 1e-28_fgsl_double`
- 40.2.1.106 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_bohr_magneton = 9.27400899e-24_fgsl_double`
- 40.2.1.107 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_bohr_radius = 5.291772083e-11_fgsl_double`
- 40.2.1.108 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_boltzmann = 1.3806504e-23_fgsl_double`
- 40.2.1.109 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_btu = 1.05505585262e3_fgsl_double`
- 40.2.1.110 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_calorie = 4.1868e0_fgsl_double`
- 40.2.1.111 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_canadian_gallon = 4.54609e-3_fgsl_double`
- 40.2.1.112 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_carat = 2e-4_fgsl_double`
- 40.2.1.113 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_cup = 2.36588236501e-4_fgsl_double`
- 40.2.1.114 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_curie = 3.7e10_fgsl_double`
- 40.2.1.115 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_day = 8.64e4_fgsl_double`
- 40.2.1.116 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_debye = 3.33564095198e-30_fgsl_double`
- 40.2.1.117 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_dyne = 1e-5_fgsl_double`
- 40.2.1.118 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_electron_charge = 1.602176487e-19_fgsl_double`
- 40.2.1.119 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_electron_magnetic_moment = 9.28476362e-24_fgsl_double`
- 40.2.1.120 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_electron_volt = 1.602176487e-19_fgsl_double`
- 40.2.1.121 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_erg = 1e-7_fgsl_double`
- 40.2.1.122 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_faraday = 9.64853429775e4_fgsl_double`
- 40.2.1.123 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_fathom = 1.8288e0_fgsl_double`
- 40.2.1.124 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_fluid_ounce = 2.95735295626e-5_fgsl_double`
- 40.2.1.125 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_foot = 3.048e-1_fgsl_double`
- 40.2.1.126 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_footcandle = 1.076e1_fgsl_double`
- 40.2.1.127 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_footlambert = 1.07639104e1_fgsl_double`
- 40.2.1.128 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_gauss = 1e-4_fgsl_double`
- 40.2.1.129 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_gram_force = 9.80665e-3_fgsl_double`

40.2.1.130 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_grav_accel = 9.80665e0_fgsl_double

40.2.1.131 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_gravitational_constant = 6.673e-11_fgsl_double

40.2.1.132 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_hectare = 1e4_fgsl_double

40.2.1.133 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_horsepower = 7.457e2_fgsl_double

40.2.1.134 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_hour = 3.6e3_fgsl_double

40.2.1.135 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_inch = 2.54e-2_fgsl_double

40.2.1.136 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_inch_of_mercury = 3.38638815789e3_fgsl_double

40.2.1.137 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_inch_of_water = 2.490889e2_fgsl_double

40.2.1.138 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_joule = 1e0_fgsl_double

40.2.1.139 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_kilometers_per_hour = 2.7777777778e-1_fgsl_double

40.2.1.140 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_kilopound_force = 4.44822161526e3_fgsl_double

40.2.1.141 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_knot = 5.14444444444e-1_fgsl_double

40.2.1.142 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_lambert = 1e4_fgsl_double

40.2.1.143 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_light_year = 9.46053620707e15_fgsl_double

40.2.1.144 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_liter = 1e-3_fgsl_double

40.2.1.145 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_lumen = 1e0_fgsl_double

40.2.1.146 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_lux = 1e0_fgsl_double

40.2.1.147 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mass_electron = 9.10938188e-31_fgsl_double

40.2.1.148 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mass_muon = 1.88353109e-28_fgsl_double

40.2.1.149 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mass_neutron = 1.67492716e-27_fgsl_double

40.2.1.150 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mass_proton = 1.67262158e-27_fgsl_double

40.2.1.151 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_meter_of_mercury = 1.33322368421e5_fgsl_double

40.2.1.152 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_metric_ton = 1e3_fgsl_double

40.2.1.153 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_micron = 1e-6_fgsl_double

40.2.1.154 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mil = 2.54e-5_fgsl_double

40.2.1.155 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_mile = 1.609344e3_fgsl_double

40.2.1.156 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_miles_per_hour = 4.4704e-1_fgsl_double

40.2.1.157 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_minute = 6e1_fgsl_double

- 40.2.1.158 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_molar_gas = 8.314472e0_fgsl_double`
- 40.2.1.159 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_nautical_mile = 1.852e3_fgsl_double`
- 40.2.1.160 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_newton = 1e0_fgsl_double`
- 40.2.1.161 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_nuclear_magneton = 5.05078317e-27_fgsl_double`
- 40.2.1.162 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_ounce_mass = 2.8349523125e-2_fgsl_double`
- 40.2.1.163 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_parsec = 3.08567758135e16_fgsl_double`
- 40.2.1.164 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_phot = 1e4_fgsl_double`
- 40.2.1.165 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_pint = 4.73176473002e-4_fgsl_double`
- 40.2.1.166 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_plancks_constant_h = 6.62606896e-34_fgsl_double`
- 40.2.1.167 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_plancks_constant_hbar = 1.05457162825e-34_fgsl_double`
- 40.2.1.168 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_point = 3.52777777778e-4_fgsl_double`
- 40.2.1.169 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_poise = 1e-1_fgsl_double`
- 40.2.1.170 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_pound_force = 4.44822161526e0_fgsl_double`
- 40.2.1.171 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_pound_mass = 4.5359237e-1_fgsl_double`
- 40.2.1.172 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_poundal = 1.38255e-1_fgsl_double`
- 40.2.1.173 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_proton_magnetic_moment = 1.410606633e-26_fgsl_double`
- 40.2.1.174 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_psi = 6.89475729317e3_fgsl_double`
- 40.2.1.175 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_quart = 9.46352946004e-4_fgsl_double`
- 40.2.1.176 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_rad = 1e-2_fgsl_double`
- 40.2.1.177 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_roentgen = 2.58e-4_fgsl_double`
- 40.2.1.178 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_rydberg = 2.17987196968e-18_fgsl_double`
- 40.2.1.179 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_solar_mass = 1.98892e30_fgsl_double`
- 40.2.1.180 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_speed_of_light = 2.99792458e8_fgsl_double`
- 40.2.1.181 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_standard_gas_volume = 2.2710981e-2_fgsl_double`
- 40.2.1.182 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_std_atmosphere = 1.01325e5_fgsl_double`
- 40.2.1.183 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_stefan_boltzmann_constant = 5.67040047374e-8_fgsl_double`
- 40.2.1.184 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkxa_stilb = 1e4_fgsl_double`

- 40.2.1.185 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_stokes = 1e-4_fgsl_double
- 40.2.1.186 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_tablespoon = 1.47867647813e-5_fgsl_double
- 40.2.1.187 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_tespoon = 4.92892159375e-6_fgsl_double
- 40.2.1.188 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_texpoint = 3.51459803515e-4_fgsl_double
- 40.2.1.189 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_therm = 1.05506e8_fgsl_double
- 40.2.1.190 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_thomson_cross_section = 6.65245893699e-29_fgsl_double
- 40.2.1.191 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_ton = 9.0718474e2_fgsl_double
- 40.2.1.192 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_torr = 1.33322368421e2_fgsl_double
- 40.2.1.193 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_troy_ounce = 3.1103475e-2_fgsl_double
- 40.2.1.194 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_uk_gallon = 4.546092e-3_fgsl_double
- 40.2.1.195 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_uk_ton = 1.0160469088e3_fgsl_double
- 40.2.1.196 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_unified_atomic_mass = 1.660538782e-27_fgsl_double
- 40.2.1.197 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_us_gallon = 3.78541178402e-3_fgsl_double
- 40.2.1.198 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_vacuum_permeability = 1.25663706144e-6_fgsl_double
- 40.2.1.199 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_vacuum_permittivity = 8.854187817e-12_fgsl_double
- 40.2.1.200 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_week = 6.048e5_fgsl_double
- 40.2.1.201 real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_yard = 9.144e-1_fgsl_double
- 40.2.1.202 real(fgsl_double), parameter, public fgsl::fgsl_const_num_atto = 1e-18_fgsl_double
- 40.2.1.203 real(fgsl_double), parameter, public fgsl::fgsl_const_num_avogadro = 6.02214199E23_fgsl_double
- 40.2.1.204 real(fgsl_double), parameter, public fgsl::fgsl_const_num_exa = 1e18_fgsl_double
- 40.2.1.205 real(fgsl_double), parameter, public fgsl::fgsl_const_num_femto = 1e-15_fgsl_double
- 40.2.1.206 real(fgsl_double), parameter, public fgsl::fgsl_const_num_fine_structure = 7.297352533E-3_fgsl_double
- 40.2.1.207 real(fgsl_double), parameter, public fgsl::fgsl_const_num_giga = 1e9_fgsl_double
- 40.2.1.208 real(fgsl_double), parameter, public fgsl::fgsl_const_num_kilo = 1e3_fgsl_double
- 40.2.1.209 real(fgsl_double), parameter, public fgsl::fgsl_const_num_mega = 1e6_fgsl_double
- 40.2.1.210 real(fgsl_double), parameter, public fgsl::fgsl_const_num_micro = 1e-6_fgsl_double
- 40.2.1.211 real(fgsl_double), parameter, public fgsl::fgsl_const_num_milli = 1e-3_fgsl_double
- 40.2.1.212 real(fgsl_double), parameter, public fgsl::fgsl_const_num_nano = 1e-9_fgsl_double

- 40.2.1.213 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_peta = 1e15_fgsl_double`
- 40.2.1.214 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_pico = 1e-12_fgsl_double`
- 40.2.1.215 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_tera = 1e12_fgsl_double`
- 40.2.1.216 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_yocto = 1e-24_fgsl_double`
- 40.2.1.217 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_yotta = 1e24_fgsl_double`
- 40.2.1.218 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_numzepto = 1e-21_fgsl_double`
- 40.2.1.219 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_zetta = 1e21_fgsl_double`
- 40.2.1.220 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_continue = -2`
- 40.2.1.221 `integer`, parameter, public `fgsl::fgsl_double = c_double`
- 40.2.1.222 `integer`, parameter, public `fgsl::fgsl_double_complex = c_double_complex`
- 40.2.1.223 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_ebadfunc = 9`
- 40.2.1.224 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_ebadlen = 19`
- 40.2.1.225 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_ebadtol = 13`
- 40.2.1.226 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_ecache = 25`
- 40.2.1.227 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_ediverge = 22`
- 40.2.1.228 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_edom = 1`
- 40.2.1.229 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_efactor = 6`
- 40.2.1.230 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_efault = 3`
- 40.2.1.231 `integer(c_int)`, parameter, public `fgsl::fgsl_eigen_sort_abs_asc = 2`
- 40.2.1.232 `integer(c_int)`, parameter, public `fgsl::fgsl_eigen_sort_abs_desc = 3`
- 40.2.1.233 `integer(c_int)`, parameter, public `fgsl::fgsl_eigen_sort_val_asc = 0`
- 40.2.1.234 `integer(c_int)`, parameter, public `fgsl::fgsl_eigen_sort_val_desc = 1`
- 40.2.1.235 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_einval = 4`
- 40.2.1.236 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_eloss = 17`
- 40.2.1.237 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_emaxiter = 11`
- 40.2.1.238 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_enomem = 8`
- 40.2.1.239 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_enoproj = 27`
- 40.2.1.240 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_enoprojg = 28`

- 40.2.1.241 integer(fgsl_int), parameter, public fgsl::fgsl_enotsqr = 20
- 40.2.1.242 integer(fgsl_int), parameter, public fgsl::fgsl_eof = 32
- 40.2.1.243 integer(fgsl_int), parameter, public fgsl::fgsl_eovrflw = 16
- 40.2.1.244 integer(fgsl_int), parameter, public fgsl::fgsl_erange = 2
- 40.2.1.245 integer(fgsl_int), parameter, public fgsl::fgsl_eround = 18
- 40.2.1.246 integer(fgsl_int), parameter, public fgsl::fgsl_erunaway = 10
- 40.2.1.247 integer(fgsl_int), parameter, public fgsl::fgsl_esanity = 7
- 40.2.1.248 integer(fgsl_int), parameter, public fgsl::fgsl_esing = 21
- 40.2.1.249 integer(fgsl_int), parameter, public fgsl::fgsl_etable = 26
- 40.2.1.250 integer(fgsl_int), parameter, public fgsl::fgsl_etol = 14
- 40.2.1.251 integer(fgsl_int), parameter, public fgsl::fgsl_etolf = 29
- 40.2.1.252 integer(fgsl_int), parameter, public fgsl::fgsl_etolg = 31
- 40.2.1.253 integer(fgsl_int), parameter, public fgsl::fgsl_etolx = 30
- 40.2.1.254 integer(fgsl_int), parameter, public fgsl::fgsl_eundrflw = 15
- 40.2.1.255 integer(fgsl_int), parameter, public fgsl::fgsl_eunimpl = 24
- 40.2.1.256 integer(fgsl_int), parameter, public fgsl::fgsl_eunsup = 23
- 40.2.1.257 integer, parameter, public fgsl::fgsl_extended = selected_real_kind(13)
- 40.2.1.258 integer(fgsl_int), parameter, public fgsl::fgsl_ezerodiv = 12
- 40.2.1.259 integer(fgsl_int), parameter, public fgsl::fgsl_failure = -1
- 40.2.1.260 integer, parameter, public fgsl::fgsl_float = c_float
- 40.2.1.261 character(kind=fgsl_char, len=*), parameter, public fgsl::fgsl_gslbase =GSL_VERSION
- 40.2.1.262 integer, parameter, public fgsl::fgsl_int = c_int
- 40.2.1.263 integer(fgsl_int), parameter, public fgsl::fgsl_integ_cosine = 0
- 40.2.1.264 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss15 = 1
- 40.2.1.265 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss21 = 2
- 40.2.1.266 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss31 = 3
- 40.2.1.267 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss41 = 4
- 40.2.1.268 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss51 = 5

- 40.2.1.269 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_integ_gauss61 = 6`
- 40.2.1.270 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_integ_sine = 1`
- 40.2.1.271 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_akima = fgsl_interp_type(5)`
- 40.2.1.272 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_akima_periodic = fgsl_interp_type(6)`
- 40.2.1.273 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_cspline = fgsl_interp_type(3)`
- 40.2.1.274 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_cspline_periodic = fgsl_interp_type(4)`
- 40.2.1.275 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_linear = fgsl_interp_type(1)`
- 40.2.1.276 `type(fgsl_interp_type)`, parameter, public `fgsl::fgsl_interp_polynomial = fgsl_interp_type(2)`
- 40.2.1.277 `integer`, parameter, public `fgsl::fgsl_long = c_long`
- 40.2.1.278 `type(fgsl_min_fminimizer_type)`, parameter, public `fgsl::fgsl_min_fminimizer_brent = fgsl_min_fminimizer_type(2)`
- 40.2.1.279 `type(fgsl_min_fminimizer_type)`, parameter, public `fgsl::fgsl_min_fminimizer_goldensection = fgsl_min_fminimizer_type(1)`
- 40.2.1.280 `type(fgsl_min_fminimizer_type)`, parameter, public `fgsl::fgsl_min_fminimizer_quad_golden = fgsl_min_fminimizer_type(3)`
- 40.2.1.281 `type(fgsl_multifit_fdsolver_type)`, parameter, public `fgsl::fgsl_multifit_fdsolver_lmder = fgsl_multifit_fdsolver_type(1)`
- 40.2.1.282 `type(fgsl_multifit_fdsolver_type)`, parameter, public `fgsl::fgsl_multifit_fdsolver_lmsder = fgsl_multifit_fdsolver_type(2)`
- 40.2.1.283 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_bisquare = fgsl_multifit_robust_type(2)`
- 40.2.1.284 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_cauchy = fgsl_multifit_robust_type(3)`
- 40.2.1.285 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_default = fgsl_multifit_robust_type(1)`
- 40.2.1.286 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_fair = fgsl_multifit_robust_type(4)`
- 40.2.1.287 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_huber = fgsl_multifit_robust_type(5)`
- 40.2.1.288 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_ols = fgsl_multifit_robust_type(6)`
- 40.2.1.289 `type(fgsl_multifit_robust_type)`, parameter, public `fgsl::fgsl_multifit_robust_welsch = fgsl_multifit_robust_type(7)`
- 40.2.1.290 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_conjugate_fr = fgsl_multimin_fdfminimizer_type(3)`

- 40.2.1.291 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_conjugate_pr = fgsl_multimin_fdfminimizer_type(2)`
- 40.2.1.292 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_steepest_descent = fgsl_multimin_fdfminimizer_type(1)`
- 40.2.1.293 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_vector_bfgs = fgsl_multimin_fdfminimizer_type(4)`
- 40.2.1.294 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_vector_bfgs2 = fgsl_multimin_fdfminimizer_type(5)`
- 40.2.1.295 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex = fgsl_multimin_fminimizer_type(1)`
- 40.2.1.296 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex2 = fgsl_multimin_fminimizer_type(2)`
- 40.2.1.297 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex2rand = fgsl_multimin_fminimizer_type(3)`
- 40.2.1.298 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_gnewton = fgsl_multiroot_fdfsolver_type(2)`
- 40.2.1.299 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_hybridj = fgsl_multiroot_fdfsolver_type(3)`
- 40.2.1.300 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_hybridjsj = fgsl_multiroot_fdfsolver_type(4)`
- 40.2.1.301 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_newton = fgsl_multiroot_fdfsolver_type(1)`
- 40.2.1.302 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_broyden = fgsl_multiroot_fsolver_type(2)`
- 40.2.1.303 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_dnewton = fgsl_multiroot_fsolver_type(1)`
- 40.2.1.304 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_hybrid = fgsl_multiroot_fsolver_type(3)`
- 40.2.1.305 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_hybridjs = fgsl_multiroot_fsolver_type(4)`
- 40.2.1.306 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_bsimp = fgsl_odeiv2_step_type(9)`
- 40.2.1.307 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_msadams = fgsl_odeiv2_step_type(10)`
- 40.2.1.308 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_msbdf = fgsl_odeiv2_step_type(11)`
- 40.2.1.309 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk1imp = fgsl_odeiv2_step_type(6)`
- 40.2.1.310 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk2 = fgsl_odeiv2_step_type(1)`

- 40.2.1.311 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rk2imp = fgsl_odeiv2_step_type(7)
- 40.2.1.312 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rk4 = fgsl_odeiv2_step_type(2)
- 40.2.1.313 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rk4imp = fgsl_odeiv2_step_type(8)
- 40.2.1.314 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rk8pd = fgsl_odeiv2_step_type(5)
- 40.2.1.315 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rkck = fgsl_odeiv2_step_type(4)
- 40.2.1.316 type(fgsl_odeiv2_step_type), parameter, public fgsl::fgsl_odeiv2_step_rkf45 = fgsl_odeiv2_step_type(3)
- 40.2.1.317 integer(fgsl_int), parameter, public fgsl::fgsl_odeiv_hadj_dec = -1
- 40.2.1.318 integer(fgsl_int), parameter, public fgsl::fgsl_odeiv_hadj_inc = 1
- 40.2.1.319 integer(fgsl_int), parameter, public fgsl::fgsl_odeiv_hadj_nil = 0
- 40.2.1.320 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_bsimp = fgsl_odeiv_step_type(9)
- 40.2.1.321 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_gear1 = fgsl_odeiv_step_type(10)
- 40.2.1.322 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_gear2 = fgsl_odeiv_step_type(11)
- 40.2.1.323 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk2 = fgsl_odeiv_step_type(1)
- 40.2.1.324 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk2imp = fgsl_odeiv_step_type(6)
- 40.2.1.325 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk2simp = fgsl_odeiv_step_type(7)
- 40.2.1.326 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk4 = fgsl_odeiv_step_type(2)
- 40.2.1.327 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk4imp = fgsl_odeiv_step_type(8)
- 40.2.1.328 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rk8pd = fgsl_odeiv_step_type(5)
- 40.2.1.329 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rkck = fgsl_odeiv_step_type(4)
- 40.2.1.330 type(fgsl_odeiv_step_type), parameter, public fgsl::fgsl_odeiv_step_rkf45 = fgsl_odeiv_step_type(3)
- 40.2.1.331 integer, parameter, public fgsl::fgsl_pathmax = 2048
- 40.2.1.332 type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_approx = fgsl_mode_t(2)
- 40.2.1.333 type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_double = fgsl_mode_t(0)
- 40.2.1.334 type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_single = fgsl_mode_t(1)
- 40.2.1.335 type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_halton = fgsl_qrng_type(3)
- 40.2.1.336 type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_niederreiter_2 = fgsl_qrng_type(1)
- 40.2.1.337 type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_reversehalton = fgsl_qrng_type(4)
- 40.2.1.338 type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_sobol = fgsl_qrng_type(2)

40.2.1.339 `type(fgsl_rng_type), public fgsl::fgsl_rng_borosh13 = fgsl_rng_type(c_null_ptr, 1)`

40.2.1.340 `type(fgsl_rng_type), public fgsl::fgsl_rng_cmrg = fgsl_rng_type(c_null_ptr, 3)`

40.2.1.341 `type(fgsl_rng_type), public fgsl::fgsl_rng_coveyou = fgsl_rng_type(c_null_ptr, 2)`

40.2.1.342 `type(fgsl_rng_type), public fgsl::fgsl_rng_default = fgsl_rng_type(c_null_ptr, -1)`

40.2.1.343 `integer(fgsl_long), public fgsl::fgsl_rng_default_seed`

40.2.1.344 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman18 = fgsl_rng_type(c_null_ptr, 4)`

40.2.1.345 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman20 = fgsl_rng_type(c_null_ptr, 5)`

40.2.1.346 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman2x = fgsl_rng_type(c_null_ptr, 6)`

40.2.1.347 `type(fgsl_rng_type), public fgsl::fgsl_rng_gfsr4 = fgsl_rng_type(c_null_ptr, 7)`

40.2.1.348 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran = fgsl_rng_type(c_null_ptr, 8)`

40.2.1.349 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran2 = fgsl_rng_type(c_null_ptr, 9)`

40.2.1.350 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran2002 = fgsl_rng_type(c_null_ptr, 62)`

40.2.1.351 `type(fgsl_rng_type), public fgsl::fgsl_rng_lecuyer21 = fgsl_rng_type(c_null_ptr, 10)`

40.2.1.352 `type(fgsl_rng_type), public fgsl::fgsl_rng_minstd = fgsl_rng_type(c_null_ptr, 11)`

40.2.1.353 `type(fgsl_rng_type), public fgsl::fgsl_rng_mrg = fgsl_rng_type(c_null_ptr, 12)`

40.2.1.354 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937 = fgsl_rng_type(c_null_ptr, 13)`

40.2.1.355 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937_1998 = fgsl_rng_type(c_null_ptr, 15)`

40.2.1.356 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937_1999 = fgsl_rng_type(c_null_ptr, 14)`

40.2.1.357 `type(fgsl_rng_type), public fgsl::fgsl_rng_r250 = fgsl_rng_type(c_null_ptr, 16)`

40.2.1.358 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran0 = fgsl_rng_type(c_null_ptr, 17)`

40.2.1.359 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran1 = fgsl_rng_type(c_null_ptr, 18)`

40.2.1.360 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran2 = fgsl_rng_type(c_null_ptr, 19)`

40.2.1.361 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran3 = fgsl_rng_type(c_null_ptr, 20)`

40.2.1.362 `type(fgsl_rng_type), public fgsl::fgsl_rng_rand = fgsl_rng_type(c_null_ptr, 21)`

40.2.1.363 `type(fgsl_rng_type), public fgsl::fgsl_rng_rand48 = fgsl_rng_type(c_null_ptr, 22)`

40.2.1.364 `type(fgsl_rng_type), public fgsl::fgsl_rng_random128_bsd = fgsl_rng_type(c_null_ptr, 23)`

40.2.1.365 `type(fgsl_rng_type), public fgsl::fgsl_rng_random128_glibc2 = fgsl_rng_type(c_null_ptr, 24)`

40.2.1.366 `type(fgsl_rng_type), public fgsl::fgsl_rng_random128_libc5 = fgsl_rng_type(c_null_ptr, 25)`

- 40.2.1.367 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_bsd = fgsl_rng_type(c_null_ptr, 26)`
- 40.2.1.368 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_glibc2 = fgsl_rng_type(c_null_ptr, 27)`
- 40.2.1.369 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_libc5 = fgsl_rng_type(c_null_ptr, 28)`
- 40.2.1.370 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_bsd = fgsl_rng_type(c_null_ptr, 29)`
- 40.2.1.371 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_glibc2 = fgsl_rng_type(c_null_ptr, 30)`
- 40.2.1.372 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_libc5 = fgsl_rng_type(c_null_ptr, 31)`
- 40.2.1.373 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_bsd = fgsl_rng_type(c_null_ptr, 32)`
- 40.2.1.374 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_glibc2 = fgsl_rng_type(c_null_ptr, 33)`
- 40.2.1.375 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_libc5 = fgsl_rng_type(c_null_ptr, 34)`
- 40.2.1.376 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_bsd = fgsl_rng_type(c_null_ptr, 35)`
- 40.2.1.377 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_glibc2 = fgsl_rng_type(c_null_ptr, 36)`
- 40.2.1.378 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_libc5 = fgsl_rng_type(c_null_ptr, 37)`
- 40.2.1.379 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_bsd = fgsl_rng_type(c_null_ptr, 38)`
- 40.2.1.380 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_glibc2 = fgsl_rng_type(c_null_ptr, 39)`
- 40.2.1.381 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_libc5 = fgsl_rng_type(c_null_ptr, 40)`
- 40.2.1.382 `type(fgsl_rng_type), public fgsl::fgsl_rng_randu = fgsl_rng_type(c_null_ptr, 41)`
- 40.2.1.383 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranf = fgsl_rng_type(c_null_ptr, 42)`
- 40.2.1.384 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlux = fgsl_rng_type(c_null_ptr, 43)`
- 40.2.1.385 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlux389 = fgsl_rng_type(c_null_ptr, 44)`
- 40.2.1.386 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxd1 = fgsl_rng_type(c_null_ptr, 45)`
- 40.2.1.387 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxd2 = fgsl_rng_type(c_null_ptr, 46)`
- 40.2.1.388 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs0 = fgsl_rng_type(c_null_ptr, 47)`
- 40.2.1.389 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs1 = fgsl_rng_type(c_null_ptr, 48)`
- 40.2.1.390 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs2 = fgsl_rng_type(c_null_ptr, 49)`
- 40.2.1.391 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranmar = fgsl_rng_type(c_null_ptr, 50)`
- 40.2.1.392 `type(fgsl_rng_type), public fgsl::fgsl_rng_slatec = fgsl_rng_type(c_null_ptr, 51)`
- 40.2.1.393 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus = fgsl_rng_type(c_null_ptr, 52)`
- 40.2.1.394 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus113 = fgsl_rng_type(c_null_ptr, 54)`

- 40.2.1.395 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus2 = fgsl_rng_type(c_null_ptr, 53)`
- 40.2.1.396 `type(fgsl_rng_type), public fgsl::fgsl_rng_transputer = fgsl_rng_type(c_null_ptr, 55)`
- 40.2.1.397 `type(fgsl_rng_type), public fgsl::fgsl_rng_tt800 = fgsl_rng_type(c_null_ptr, 56)`
- 40.2.1.398 `type(fgsl_rng_type), public fgsl::fgsl_rng_uni = fgsl_rng_type(c_null_ptr, 57)`
- 40.2.1.399 `type(fgsl_rng_type), public fgsl::fgsl_rng_uni32 = fgsl_rng_type(c_null_ptr, 58)`
- 40.2.1.400 `type(fgsl_rng_type), public fgsl::fgsl_rng_vax = fgsl_rng_type(c_null_ptr, 59)`
- 40.2.1.401 `type(fgsl_rng_type), public fgsl::fgsl_rng_waterman14 = fgsl_rng_type(c_null_ptr, 60)`
- 40.2.1.402 `type(fgsl_rng_type), public fgsl::fgsl_rng_zuf = fgsl_rng_type(c_null_ptr, 61)`
- 40.2.1.403 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_newton = fgsl_root_fdfsolver_type(1)`
- 40.2.1.404 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_secant = fgsl_root_fdfsolver_type(2)`
- 40.2.1.405 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_steffenson = fgsl_root_fdfsolver_type(3)`
- 40.2.1.406 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_bisection = fgsl_root_fsolver_type(1)`
- 40.2.1.407 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_brent = fgsl_root_fsolver_type(2)`
- 40.2.1.408 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_falsepos = fgsl_root_fsolver_type(3)`
- 40.2.1.409 `integer, parameter, public fgsl::fgsl_size_t = c_size_t`
- 40.2.1.410 `integer, parameter, public fgsl::fgsl_strmax = 128`
- 40.2.1.411 `integer(fgsl_int), parameter, public fgsl::fgsl_success = 0`
- 40.2.1.412 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_importance = 1`
- 40.2.1.413 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_importance_only = 0`
- 40.2.1.414 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_stratified = -1`
- 40.2.1.415 `character(kind=fgsl_char, len=*), parameter, public fgsl::fgsl_version = PACKAGE_VERSION`
- 40.2.1.416 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_bspline = fgsl_wavelet_type(5)`
- 40.2.1.417 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_bspline_centered = fgsl_wavelet_type(6)`
- 40.2.1.418 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_daubechies = fgsl_wavelet_type(1)`
- 40.2.1.419 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_daubechies_centered = fgsl_wavelet_type(2)`
- 40.2.1.420 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_haar = fgsl_wavelet_type(3)`
- 40.2.1.421 `type(fgsl_wavelet_type), parameter, public fgsl::fgsl_wavelet_haar_centered = fgsl_wavelet_type(4)`

- 40.2.1.422 `real(fgsl_extended)`, parameter, public `fgsl::m_1_pi = 0.31830988618379067153776752675_fgsl_extended`
- 40.2.1.423 `real(fgsl_extended)`, parameter, public `fgsl::m_2_pi = 0.63661977236758134307553505349_fgsl_extended`
- 40.2.1.424 `real(fgsl_extended)`, parameter, public `fgsl::m_2_sqrtpi = 1.12837916709551257389615890312_fgsl_extended`
- 40.2.1.425 `real(fgsl_extended)`, parameter, public `fgsl::m_e = 2.71828182845904523536028747135_fgsl_extended`
- 40.2.1.426 `real(fgsl_extended)`, parameter, public `fgsl::m_euler = 0.57721566490153286060651209008_fgsl_extended`
- 40.2.1.427 `real(fgsl_extended)`, parameter, public `fgsl::m_ln10 = 2.30258509299404568401799145468_fgsl_extended`
- 40.2.1.428 `real(fgsl_extended)`, parameter, public `fgsl::m_ln2 = 0.69314718055994530941723212146_fgsl_extended`
- 40.2.1.429 `real(fgsl_extended)`, parameter, public `fgsl::m_lnpi = 1.14472988584940017414342735135_fgsl_extended`
- 40.2.1.430 `real(fgsl_extended)`, parameter, public `fgsl::m_log10e = 0.43429448190325182765112891892_fgsl_extended`
- 40.2.1.431 `real(fgsl_extended)`, parameter, public `fgsl::m_log2e = 1.44269504088896340735992468100_fgsl_extended`
- 40.2.1.432 `real(fgsl_extended)`, parameter, public `fgsl::m_pi = 3.14159265358979323846264338328_fgsl_extended`
- 40.2.1.433 `real(fgsl_extended)`, parameter, public `fgsl::m_pi_2 = 1.57079632679489661923132169164_fgsl_extended`
- 40.2.1.434 `real(fgsl_extended)`, parameter, public `fgsl::m_pi_4 = 0.78539816339744830961566084582_fgsl_extended`
- 40.2.1.435 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt1_2 = 0.70710678118654752440084436210_fgsl_extended`
- 40.2.1.436 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt2 = 1.41421356237309504880168872421_fgsl_extended`
- 40.2.1.437 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt3 = 1.73205080756887729352744634151_fgsl_extended`
- 40.2.1.438 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrtpi = 1.77245385090551602729816748334_fgsl_extended`

The documentation for this module was generated from the following file:

- [fgsl.F90](#)

40.3 fgsl::fgsl_bspline_deriv_workspace Type Reference

Public Attributes

- `type(c_ptr)` [gsl_bspline_deriv_workspace](#)

40.3.1 Member Data Documentation

- 40.3.1.1 `type(c_ptr)` `fgsl::fgsl_bspline_deriv_workspace::gsl_bspline_deriv_workspace`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.4 fgsl::fgsl_bspline_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_bspline_workspace](#)

40.4.1 Member Data Documentation

40.4.1.1 type(c_ptr) fgsl::fgsl_bspline_workspace::fgsl_bspline_workspace

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.5 fgsl::fgsl_cheb_series Type Reference

Public Attributes

- type(c_ptr) [fgsl_cheb_series](#) = c_null_ptr

40.5.1 Member Data Documentation

40.5.1.1 type(c_ptr) fgsl::fgsl_cheb_series::fgsl_cheb_series = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.6 fgsl::fgsl_combination Type Reference

Public Attributes

- type(c_ptr) [fgsl_combination](#) = c_null_ptr

40.6.1 Member Data Documentation

40.6.1.1 type(c_ptr) fgsl::fgsl_combination::fgsl_combination = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.7 fgsl::fgsl_dht Type Reference

Public Attributes

- type(c_ptr) [fgsl_dht](#) = c_null_ptr

40.7.1 Member Data Documentation

40.7.1.1 `type(c_ptr) fgsl::fgsl_dht::gsl_dht = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.8 fgsl::fgsl_eigen_gen_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_gen_workspace = c_null_ptr`

40.8.1 Member Data Documentation

40.8.1.1 `type(c_ptr) fgsl::fgsl_eigen_gen_workspace::gsl_eigen_gen_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.9 fgsl::fgsl_eigen_genherm_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_genherm_workspace = c_null_ptr`

40.9.1 Member Data Documentation

40.9.1.1 `type(c_ptr) fgsl::fgsl_eigen_genherm_workspace::gsl_eigen_genherm_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.10 fgsl::fgsl_eigen_genhermv_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_genhermv_workspace = c_null_ptr`

40.10.1 Member Data Documentation

40.10.1.1 `type(c_ptr) fgsl::fgsl_eigen_genhermv_workspace::gsl_eigen_genhermv_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.11 fgsl::fgsl_eigen_gensymm_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_eigen_gensymm_workspace](#) = c_null_ptr

40.11.1 Member Data Documentation

40.11.1.1 type(c_ptr) fgsl::fgsl_eigen_gensymm_workspace::fgsl_eigen_gensymm_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.12 fgsl::fgsl_eigen_gensymmv_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_eigen_gensymmv_workspace](#) = c_null_ptr

40.12.1 Member Data Documentation

40.12.1.1 type(c_ptr) fgsl::fgsl_eigen_gensymmv_workspace::fgsl_eigen_gensymmv_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.13 fgsl::fgsl_eigen_genv_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_eigen_genv_workspace](#) = c_null_ptr

40.13.1 Member Data Documentation

40.13.1.1 type(c_ptr) fgsl::fgsl_eigen_genv_workspace::fgsl_eigen_genv_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.14 fgsl::fgsl_eigen_herm_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_eigen_herm_workspace](#) = c_null_ptr

40.14.1 Member Data Documentation

40.14.1.1 `type(c_ptr) fgsl::fgsl_eigen_herm_workspace::gsl_eigen_herm_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.15 fgsl::fgsl_eigen_hermv_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_hermv_workspace = c_null_ptr`

40.15.1 Member Data Documentation

40.15.1.1 `type(c_ptr) fgsl::fgsl_eigen_hermv_workspace::gsl_eigen_hermv_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.16 fgsl::fgsl_eigen_nonsymm_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_nonsymm_workspace = c_null_ptr`

40.16.1 Member Data Documentation

40.16.1.1 `type(c_ptr) fgsl::fgsl_eigen_nonsymm_workspace::gsl_eigen_nonsymm_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.17 fgsl::fgsl_eigen_nonsymmv_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_eigen_nonsymmv_workspace = c_null_ptr`

40.17.1 Member Data Documentation

40.17.1.1 `type(c_ptr) fgsl::fgsl_eigen_nonsymmv_workspace::gsl_eigen_nonsymmv_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.18 fgsl::fgsl_eigen_symm_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_symm_workspace = c_null_ptr`

40.18.1 Member Data Documentation

40.18.1.1 `type(c_ptr) fgsl::fgsl_eigen_symm_workspace::fgsl_eigen_symm_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.19 fgsl::fgsl_eigen_symmv_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_symmv_workspace = c_null_ptr`

40.19.1 Member Data Documentation

40.19.1.1 `type(c_ptr) fgsl::fgsl_eigen_symmv_workspace::fgsl_eigen_symmv_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.20 fgsl::fgsl_error_handler_t Type Reference

Public Attributes

- `type(c_funptr) fgsl_error_handler_t = c_null_funptr`

40.20.1 Member Data Documentation

40.20.1.1 `type(c_funptr) fgsl::fgsl_error_handler_t::fgsl_error_handler_t = c_null_funptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.21 fgsl::fgsl_fft_complex_wavetable Type Reference

Public Attributes

- `type(c_ptr) fgsl_fft_complex_wavetable = c_null_ptr`

40.21.1 Member Data Documentation

40.21.1.1 `type(c_ptr) fgsl::fgsl_fft_complex_wavetable::gsl_fft_complex_wavetable = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.22 fgsl::fgsl_fft_complex_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_fft_complex_workspace = c_null_ptr`

40.22.1 Member Data Documentation

40.22.1.1 `type(c_ptr) fgsl::fgsl_fft_complex_workspace::gsl_fft_complex_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.23 fgsl::fgsl_fft_halfcomplex_wavetable Type Reference

Public Attributes

- `type(c_ptr) gsl_fft_halfcomplex_wavetable = c_null_ptr`

40.23.1 Member Data Documentation

40.23.1.1 `type(c_ptr) fgsl::fgsl_fft_halfcomplex_wavetable::gsl_fft_halfcomplex_wavetable = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.24 fgsl::fgsl_fft_real_wavetable Type Reference

Public Attributes

- `type(c_ptr) gsl_fft_real_wavetable = c_null_ptr`

40.24.1 Member Data Documentation

40.24.1.1 `type(c_ptr) fgsl::fgsl_fft_real_wavetable::gsl_fft_real_wavetable = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.25 fgsl::fgsl_fft_real_workspace Type Reference

Public Attributes

- type(c_ptr) [fgsl_fft_real_workspace](#) = c_null_ptr

40.25.1 Member Data Documentation

40.25.1.1 type(c_ptr) fgsl::fgsl_fft_real_workspace::fgsl_fft_real_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.26 fgsl::fgsl_file Type Reference

Public Attributes

- type(c_ptr) [fgsl_file](#) = c_null_ptr

40.26.1 Member Data Documentation

40.26.1.1 type(c_ptr) fgsl::fgsl_file::fgsl_file = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.27 fgsl::fgsl_function Type Reference

Public Attributes

- type(c_ptr) [fgsl_function](#) = c_null_ptr

40.27.1 Member Data Documentation

40.27.1.1 type(c_ptr) fgsl::fgsl_function::fgsl_function = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.28 fgsl::fgsl_function_fdf Type Reference

Public Attributes

- type(c_ptr) [fgsl_function_fdf](#) = c_null_ptr

40.28.1 Member Data Documentation

40.28.1.1 `type(c_ptr) fgsl::fgsl_function_fdf::gsl_function_fdf = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.29 fgsl::fgsl_histogram Type Reference

Public Attributes

- `type(c_ptr) gsl_histogram = c_null_ptr`

40.29.1 Member Data Documentation

40.29.1.1 `type(c_ptr) fgsl::fgsl_histogram::gsl_histogram = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.30 fgsl::fgsl_histogram2d Type Reference

Public Attributes

- `type(c_ptr) gsl_histogram2d = c_null_ptr`

40.30.1 Member Data Documentation

40.30.1.1 `type(c_ptr) fgsl::fgsl_histogram2d::gsl_histogram2d = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.31 fgsl::fgsl_histogram2d_pdf Type Reference

Public Attributes

- `type(c_ptr) gsl_histogram2d_pdf = c_null_ptr`

40.31.1 Member Data Documentation

40.31.1.1 `type(c_ptr) fgsl::fgsl_histogram2d_pdf::gsl_histogram2d_pdf = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.32 fgsl::fgsl_histogram_pdf Type Reference

Public Attributes

- type(c_ptr) [fgsl_histogram_pdf](#) = c_null_ptr

40.32.1 Member Data Documentation

40.32.1.1 type(c_ptr) fgsl::fgsl_histogram_pdf::fgsl_histogram_pdf = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.33 fgsl_ieee_fprintf Interface Reference

Public Member Functions

- [fgsl_ieee_fprintf_float](#)
- [fgsl_ieee_fprintf_double](#)

40.33.1 Member Function/Subroutine Documentation

40.33.1.1 fgsl_ieee_fprintf::fgsl_ieee_fprintf_double ()

40.33.1.2 fgsl_ieee_fprintf::fgsl_ieee_fprintf_float ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.34 fgsl_ieee_printf Interface Reference

Public Member Functions

- [fgsl_ieee_printf_float](#)
- [fgsl_ieee_printf_double](#)

40.34.1 Member Function/Subroutine Documentation

40.34.1.1 fgsl_ieee_printf::fgsl_ieee_printf_double ()

40.34.1.2 fgsl_ieee_printf::fgsl_ieee_printf_float ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.35 fgsl::fgsl_integration_cquad_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_cquad_workspace = c_null_ptr`

40.35.1 Member Data Documentation

40.35.1.1 `type(c_ptr) fgsl::fgsl_integration_cquad_workspace::fgsl_integration_cquad_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.36 fgsl::fgsl_integration_glfixed_table Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_glfixed_table = c_null_ptr`

40.36.1 Member Data Documentation

40.36.1.1 `type(c_ptr) fgsl::fgsl_integration_glfixed_table::fgsl_integration_glfixed_table = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.37 fgsl::fgsl_integration_qawo_table Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_qawo_table = c_null_ptr`

40.37.1 Member Data Documentation

40.37.1.1 `type(c_ptr) fgsl::fgsl_integration_qawo_table::fgsl_integration_qawo_table = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.38 fgsl::fgsl_integration_qaws_table Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_qaws_table = c_null_ptr`

40.38.1 Member Data Documentation

40.38.1.1 `type(c_ptr) fgsl::fgsl_integration_qaws_table::gsl_integration_qaws_table = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.39 fgsl::fgsl_integration_workspace Type Reference

Public Attributes

- `type(c_ptr) gsl_integration_workspace = c_null_ptr`

40.39.1 Member Data Documentation

40.39.1.1 `type(c_ptr) fgsl::fgsl_integration_workspace::gsl_integration_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.40 fgsl::fgsl_interp Type Reference

Public Attributes

- `type(c_ptr) gsl_interp = c_null_ptr`

40.40.1 Member Data Documentation

40.40.1.1 `type(c_ptr) fgsl::fgsl_interp::gsl_interp = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.41 fgsl::fgsl_interp_accel Type Reference

Public Attributes

- `type(c_ptr) gsl_interp_accel = c_null_ptr`

40.41.1 Member Data Documentation

40.41.1.1 `type(c_ptr) fgsl::fgsl_interp_accel::gsl_interp_accel = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.42 fgsl::fgsl_interp_type Type Reference

Public Attributes

- `integer(fgsl_int) which = 0`

40.42.1 Member Data Documentation

40.42.1.1 `integer(fgsl_int) fgsl::fgsl_interp_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.43 fgsl::fgsl_matrix Type Reference

Public Attributes

- `type(c_ptr) gsl_matrix = c_null_ptr`

40.43.1 Member Data Documentation

40.43.1.1 `type(c_ptr) fgsl::fgsl_matrix::gsl_matrix = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.44 fgsl_matrix_align Interface Reference

Public Member Functions

- [fgsl_matrix_align](#)
- [fgsl_matrix_pointer_align](#)
- [fgsl_matrix_complex_align](#)
- [fgsl_matrix_complex_pointer_align](#)

40.44.1 Constructor & Destructor Documentation

40.44.1.1 `fgsl_matrix_align::fgsl_matrix_align ()`

40.44.2 Member Function/Subroutine Documentation

40.44.2.1 `fgsl_matrix_align::fgsl_matrix_complex_align ()`

40.44.2.2 `fgsl_matrix_align::fgsl_matrix_complex_pointer_align ()`

40.44.2.3 `fgsl_matrix_align::fgsl_matrix_pointer_align ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.45 fgsl::fgsl_matrix_complex Type Reference

Public Attributes

- type(c_ptr) [fgsl_matrix_complex](#) = c_null_ptr

40.45.1 Member Data Documentation

40.45.1.1 type(c_ptr) fgsl::fgsl_matrix_complex::fgsl_matrix_complex = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.46 fgsl_matrix_free Interface Reference

Public Member Functions

- [fgsl_matrix_free](#)
- [fgsl_matrix_complex_free](#)

40.46.1 Constructor & Destructor Documentation

40.46.1.1 fgsl_matrix_free::fgsl_matrix_free ()

40.46.2 Member Function/Subroutine Documentation

40.46.2.1 fgsl_matrix_free::fgsl_matrix_complex_free ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.47 fgsl_matrix_init Interface Reference

Public Member Functions

- [fgsl_matrix_init](#)
- [fgsl_matrix_complex_init](#)

40.47.1 Constructor & Destructor Documentation

40.47.1.1 fgsl_matrix_init::fgsl_matrix_init ()

40.47.2 Member Function/Subroutine Documentation

40.47.2.1 fgsl_matrix_init::fgsl_matrix_complex_init ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.48 fgsl::fgsl_min_fminimizer Type Reference

Public Attributes

- `type(c_ptr) fgsl_min_fminimizer = c_null_ptr`

40.48.1 Member Data Documentation

40.48.1.1 `type(c_ptr) fgsl::fgsl_min_fminimizer::fgsl_min_fminimizer = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.49 fgsl::fgsl_min_fminimizer_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.49.1 Member Data Documentation

40.49.1.1 `integer(c_int) fgsl::fgsl_min_fminimizer_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.50 fgsl::fgsl_mode_t Type Reference

Public Attributes

- `integer(c_int) fgsl_mode = 0`

40.50.1 Member Data Documentation

40.50.1.1 `integer(c_int) fgsl::fgsl_mode_t::fgsl_mode = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.51 fgsl::fgsl_monte_function Type Reference

Public Attributes

- `type(c_ptr) fgsl_monte_function = c_null_ptr`

40.51.1 Member Data Documentation

40.51.1.1 `type(c_ptr) fgsl::fgsl_monte_function::gsl_monte_function = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.52 fgsl::fgsl_monte_miser_state Type Reference

Public Attributes

- `type(c_ptr) gsl_monte_miser_state = c_null_ptr`

40.52.1 Member Data Documentation

40.52.1.1 `type(c_ptr) fgsl::fgsl_monte_miser_state::gsl_monte_miser_state = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.53 fgsl::fgsl_monte_plain_state Type Reference

Public Attributes

- `type(c_ptr) gsl_monte_plain_state = c_null_ptr`

40.53.1 Member Data Documentation

40.53.1.1 `type(c_ptr) fgsl::fgsl_monte_plain_state::gsl_monte_plain_state = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.54 fgsl::fgsl_monte_vegas_state Type Reference

Public Attributes

- `type(c_ptr) gsl_monte_vegas_state = c_null_ptr`

40.54.1 Member Data Documentation

40.54.1.1 `type(c_ptr) fgsl::fgsl_monte_vegas_state::gsl_monte_vegas_state = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.55 fgsl::fgsl_multifit_fdfsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multifit_fdfsolver = c_null_ptr`

40.55.1 Member Data Documentation

40.55.1.1 `type(c_ptr) fgsl::fgsl_multifit_fdfsolver::fgsl_multifit_fdfsolver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.56 fgsl::fgsl_multifit_fdfsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.56.1 Member Data Documentation

40.56.1.1 `integer(c_int) fgsl::fgsl_multifit_fdfsolver_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.57 fgsl::fgsl_multifit_fsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multifit_fsolver = c_null_ptr`

40.57.1 Member Data Documentation

40.57.1.1 `type(c_ptr) fgsl::fgsl_multifit_fsolver::fgsl_multifit_fsolver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.58 fgsl::fgsl_multifit_fsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.58.1 Member Data Documentation

40.58.1.1 `integer(c_int) fgsl::fgsl_multifit_fsolver_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.59 fgsl::fgsl_multifit_function Type Reference

Public Attributes

- `type(c_ptr) fgsl_multifit_function = c_null_ptr`

40.59.1 Member Data Documentation

40.59.1.1 `type(c_ptr) fgsl::fgsl_multifit_function::fgsl_multifit_function = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.60 fgsl::fgsl_multifit_function_fdf Type Reference

Public Attributes

- `type(c_ptr) fgsl_multifit_function_fdf = c_null_ptr`

40.60.1 Member Data Documentation

40.60.1.1 `type(c_ptr) fgsl::fgsl_multifit_function_fdf::fgsl_multifit_function_fdf = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.61 fgsl::fgsl_multifit_linear_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_multifit_linear_workspace = c_null_ptr`

40.61.1 Member Data Documentation

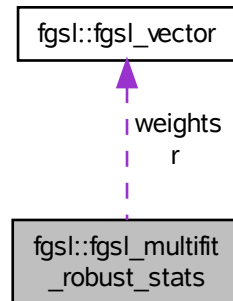
40.61.1.1 `type(c_ptr) fgsl::fgsl_multifit_linear_workspace::fgsl_multifit_linear_workspace = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.62 fgsl::fgsl_multifit_robust_stats Type Reference

Collaboration diagram for fgsl::fgsl_multifit_robust_stats:



Public Attributes

- `real(fgsl_double) sigma_ols`
- `real(fgsl_double) sigma_mad`
- `real(fgsl_double) sigma_rob`
- `real(fgsl_double) sigma`
- `real(fgsl_double) rsq`
- `real(fgsl_double) adj_rsq`
- `real(fgsl_double) rmse`
- `real(fgsl_double) sse`
- `real(fgsl_double) dof`
- `real(fgsl_double) numit`
- `type(fgsl_vector) weights`
- `type(fgsl_vector) r`

40.62.1 Member Data Documentation

40.62.1.1 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::adj_rsq`

40.62.1.2 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::dof`

40.62.1.3 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::numit`

40.62.1.4 `type(fgsl_vector) fgsl::fgsl_multifit_robust_stats::r`

40.62.1.5 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::rmse`

40.62.1.6 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::rsq`

40.62.1.7 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::sigma`

40.62.1.8 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::sigma_mad`

40.62.1.9 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::sigma_ols`

40.62.1.10 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::sigma_rob`

40.62.1.11 `real(fgsl_double) fgsl::fgsl_multifit_robust_stats::sse`

40.62.1.12 `type(fgsl_vector) fgsl::fgsl_multifit_robust_stats::weights`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.63 `fgsl::fgsl_multifit_robust_type` Type Reference

Public Attributes

- `integer(fgsl_int) which = 0`

40.63.1 Member Data Documentation

40.63.1.1 `integer(fgsl_int) fgsl::fgsl_multifit_robust_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.64 `fgsl::fgsl_multifit_robust_workspace` Type Reference

Public Attributes

- `type(c_ptr) gsl_multifit_robust_workspace`

40.64.1 Member Data Documentation

40.64.1.1 `type(c_ptr) fgsl::fgsl_multifit_robust_workspace::gsl_multifit_robust_workspace`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.65 `fgsl::fgsl_multimin_fdfminimizer` Type Reference

Public Attributes

- `type(c_ptr) gsl_multimin_fdfminimizer = c_null_ptr`

40.65.1 Member Data Documentation

40.65.1.1 `type(c_ptr) fgsl::fgsl_multimin_fdfminimizer::gsl_multimin_fdfminimizer = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.66 fgsl::fgsl_multimin_fdfminimizer_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.66.1 Member Data Documentation

40.66.1.1 `integer(c_int) fgsl::fgsl_multimin_fdfminimizer_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.67 fgsl::fgsl_multimin_fminimizer Type Reference

Public Attributes

- `type(c_ptr) gsl_multimin_fminimizer = c_null_ptr`

40.67.1 Member Data Documentation

40.67.1.1 `type(c_ptr) fgsl::fgsl_multimin_fminimizer::gsl_multimin_fminimizer = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.68 fgsl::fgsl_multimin_fminimizer_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.68.1 Member Data Documentation

40.68.1.1 `integer(c_int) fgsl::fgsl_multimin_fminimizer_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.69 fgsl::fgsl_multimin_function Type Reference

Public Attributes

- `type(c_ptr) fgsl_multimin_function = c_null_ptr`

40.69.1 Member Data Documentation

40.69.1.1 `type(c_ptr) fgsl::fgsl_multimin_function::fgsl_multimin_function = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.70 fgsl::fgsl_multimin_function_fdf Type Reference

Public Attributes

- `type(c_ptr) fgsl_multimin_function_fdf = c_null_ptr`

40.70.1 Member Data Documentation

40.70.1.1 `type(c_ptr) fgsl::fgsl_multimin_function_fdf::fgsl_multimin_function_fdf = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.71 fgsl::fgsl_multiroot_fdfsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multiroot_fdfsolver = c_null_ptr`

40.71.1 Member Data Documentation

40.71.1.1 `type(c_ptr) fgsl::fgsl_multiroot_fdfsolver::fgsl_multiroot_fdfsolver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.72 fgsl::fgsl_multiroot_fdfsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.72.1 Member Data Documentation

40.72.1.1 `integer(c_int) fgsl::fgsl_multiroot_fdfsolver_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.73 fgsl::fgsl_multiroot_fsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multiroot_fsolver = c_null_ptr`

40.73.1 Member Data Documentation

40.73.1.1 `type(c_ptr) fgsl::fgsl_multiroot_fsolver::fgsl_multiroot_fsolver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.74 fgsl::fgsl_multiroot_fsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.74.1 Member Data Documentation

40.74.1.1 `integer(c_int) fgsl::fgsl_multiroot_fsolver_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.75 fgsl::fgsl_multiroot_function Type Reference

Public Attributes

- `type(c_ptr) fgsl_multiroot_function = c_null_ptr`

40.75.1 Member Data Documentation

40.75.1.1 `type(c_ptr) fgsl::fgsl_multiroot_function::fgsl_multiroot_function = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.76 fgsl::fgsl_multiroot_function_fdf Type Reference

Public Attributes

- type(c_ptr) [fgsl_multiroot_function_fdf](#) = c_null_ptr

40.76.1 Member Data Documentation

40.76.1.1 type(c_ptr) fgsl::fgsl_multiroot_function_fdf::fgsl_multiroot_function_fdf = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.77 fgsl::fgsl_multiset Type Reference

Public Attributes

- type(c_ptr) [fgsl_multiset](#) = c_null_ptr

40.77.1 Member Data Documentation

40.77.1.1 type(c_ptr) fgsl::fgsl_multiset::fgsl_multiset = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.78 fgsl::fgsl_ntuple Type Reference

Public Attributes

- type(c_ptr) [fgsl_ntuple](#) = c_null_ptr

40.78.1 Member Data Documentation

40.78.1.1 type(c_ptr) fgsl::fgsl_ntuple::fgsl_ntuple = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.79 fgsl::fgsl_ntuple_select_fn Type Reference

Public Attributes

- type(c_ptr) [fgsl_ntuple_select_fn](#) = c_null_ptr

40.79.1 Member Data Documentation

40.79.1.1 `type(c_ptr) fgsl::fgsl_ntuple_select_fn::gsl_ntuple_select_fn = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.80 fgsl::fgsl_ntuple_value_fn Type Reference

Public Attributes

- `type(c_ptr) fgsl_ntuple_value_fn = c_null_ptr`

40.80.1 Member Data Documentation

40.80.1.1 `type(c_ptr) fgsl::fgsl_ntuple_value_fn::gsl_ntuple_value_fn = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.81 fgsl_obj_c_ptr Interface Reference

Public Member Functions

- [fgsl_rng_c_ptr](#)
- [fgsl_vector_c_ptr](#)
- [fgsl_matrix_c_ptr](#)

40.81.1 Member Function/Subroutine Documentation

40.81.1.1 `fgsl_obj_c_ptr::fgsl_matrix_c_ptr ()`

40.81.1.2 `fgsl_obj_c_ptr::fgsl_rng_c_ptr ()`

40.81.1.3 `fgsl_obj_c_ptr::fgsl_vector_c_ptr ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.82 fgsl::fgsl_odeiv2_control Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv2_control = c_null_ptr`

40.82.1 Member Data Documentation

40.82.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_control::gsl_odeiv2_control = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.83 fgsl::fgsl_odeiv2_control_type Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_control_type = c_null_ptr`

40.83.1 Member Data Documentation

40.83.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_control_type::gsl_odeiv2_control_type = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.84 fgsl::fgsl_odeiv2_driver Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_driver = c_null_ptr`

40.84.1 Member Data Documentation

40.84.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_driver::gsl_odeiv2_driver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.85 fgsl::fgsl_odeiv2_evolve Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_evolve`

40.85.1 Member Data Documentation

40.85.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_evolve::gsl_odeiv2_evolve`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.86 fgsl::fgsl_odeiv2_step Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv2_step = c_null_ptr`

40.86.1 Member Data Documentation

40.86.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_step::fgsl_odeiv2_step = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.87 fgsl::fgsl_odeiv2_step_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.87.1 Member Data Documentation

40.87.1.1 `integer(c_int) fgsl::fgsl_odeiv2_step_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.88 fgsl::fgsl_odeiv2_system Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv2_system = c_null_ptr`

40.88.1 Member Data Documentation

40.88.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_system::fgsl_odeiv2_system = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.89 fgsl::fgsl_odeiv_control Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv_control = c_null_ptr`

40.89.1 Member Data Documentation

40.89.1.1 `type(c_ptr) fgsl::fgsl_odeiv_control::gsl_odeiv_control = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.90 fgsl::fgsl_odeiv_control_type Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv_control_type = c_null_ptr`

40.90.1 Member Data Documentation

40.90.1.1 `type(c_ptr) fgsl::fgsl_odeiv_control_type::gsl_odeiv_control_type = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.91 fgsl::fgsl_odeiv_evolve Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv_evolve`

40.91.1 Member Data Documentation

40.91.1.1 `type(c_ptr) fgsl::fgsl_odeiv_evolve::gsl_odeiv_evolve`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.92 fgsl::fgsl_odeiv_step Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv_step = c_null_ptr`

40.92.1 Member Data Documentation

40.92.1.1 `type(c_ptr) fgsl::fgsl_odeiv_step::gsl_odeiv_step = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.93 fgsl::fgsl_odeiv_step_type Type Reference

Public Attributes

- integer(c_int) [which](#) = 0

40.93.1 Member Data Documentation

40.93.1.1 integer(c_int) fgsl::fgsl_odeiv_step_type::which = 0

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.94 fgsl::fgsl_odeiv_system Type Reference

Public Attributes

- type(c_ptr) [gsl_odeiv_system](#) = c_null_ptr

40.94.1 Member Data Documentation

40.94.1.1 type(c_ptr) fgsl::fgsl_odeiv_system::gsl_odeiv_system = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.95 fgsl::fgsl_permutation Type Reference

Public Attributes

- type(c_ptr) [gsl_permutation](#) = c_null_ptr

40.95.1 Member Data Documentation

40.95.1.1 type(c_ptr) fgsl::fgsl_permutation::gsl_permutation = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.96 fgsl_permute Interface Reference

Public Member Functions

- [fgsl_permute](#)
- [fgsl_permute_long](#)

40.96.1 Constructor & Destructor Documentation

40.96.1.1 `fgsl_permute::fgsl_permute ()`

40.96.2 Member Function/Subroutine Documentation

40.96.2.1 `fgsl_permute::fgsl_permute_long ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.97 `fgsl_permute_inverse` Interface Reference

Public Member Functions

- [fgsl_permute_inverse](#)
- [fgsl_permute_long_inverse](#)

40.97.1 Constructor & Destructor Documentation

40.97.1.1 `fgsl_permute_inverse::fgsl_permute_inverse ()`

40.97.2 Member Function/Subroutine Documentation

40.97.2.1 `fgsl_permute_inverse::fgsl_permute_long_inverse ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.98 `fgsl::fgsl_poly_complex_workspace` Type Reference

Public Attributes

- `type(c_ptr)` [gsl_poly_complex_workspace](#)

40.98.1 Member Data Documentation

40.98.1.1 `type(c_ptr) fgsl::fgsl_poly_complex_workspace::gsl_poly_complex_workspace`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.99 `fgsl::fgsl_qrng` Type Reference

Public Attributes

- `type(c_ptr)` [gsl_qrng](#)

40.99.1 Member Data Documentation

40.99.1.1 `type(c_ptr) fgsl::fgsl_qrng::gsl_qrng`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.100 fgsl::fgsl_qrng_type Type Reference

Public Attributes

- `integer(fgsl_int) type = 0`

40.100.1 Member Data Documentation

40.100.1.1 `integer(fgsl_int) fgsl::fgsl_qrng_type::type = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.101 fgsl::fgsl_ran_discrete_t Type Reference

Public Attributes

- `type(c_ptr) gsl_ran_discrete_t`

40.101.1 Member Data Documentation

40.101.1.1 `type(c_ptr) fgsl::fgsl_ran_discrete_t::gsl_ran_discrete_t`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.102 fgsl_ran_shuffle Interface Reference

Public Member Functions

- [fgsl_ran_shuffle](#)
- [fgsl_ran_shuffle_double](#)
- [fgsl_ran_shuffle_size_t](#)

40.102.1 Constructor & Destructor Documentation

40.102.1.1 `fgsl_ran_shuffle::fgsl_ran_shuffle ()`

40.102.2 Member Function/Subroutine Documentation

40.102.2.1 `fgsl_ran_shuffle::fgsl_ran_shuffle_double ()`

40.102.2.2 `fgsl_ran_shuffle::fgsl_ran_shuffle_size_t ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.103 `fgsl::fgsl_rng` Type Reference

Public Attributes

- `type(c_ptr)` [gsl_rng](#)

40.103.1 Member Data Documentation

40.103.1.1 `type(c_ptr) fgsl::fgsl_rng::gsl_rng`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.104 `fgsl::fgsl_rng_type` Type Reference

Public Attributes

- `type(c_ptr)` [gsl_rng_type](#)
- `integer(fgsl_int) type = 0`

40.104.1 Member Data Documentation

40.104.1.1 `type(c_ptr) fgsl::fgsl_rng_type::gsl_rng_type`

40.104.1.2 `integer(fgsl_int) fgsl::fgsl_rng_type::type = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.105 `fgsl::fgsl_root_fdfsolver` Type Reference

Public Attributes

- `type(c_ptr)` [gsl_root_fdfsolver](#) = `c_null_ptr`

40.105.1 Member Data Documentation

40.105.1.1 `type(c_ptr) fgsl::fgsl_root_fdfsolver::gsl_root_fdfsolver = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.106 fgsl::fgsl_root_fdfsolver_type Type Reference

Public Attributes

- integer(c_int) [which](#) = 0

40.106.1 Member Data Documentation

40.106.1.1 integer(c_int) fgsl::fgsl_root_fdfsolver_type::which = 0

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.107 fgsl::fgsl_root_fsolver Type Reference

Public Attributes

- type(c_ptr) [gsl_root_fsolver](#) = c_null_ptr

40.107.1 Member Data Documentation

40.107.1.1 type(c_ptr) fgsl::fgsl_root_fsolver::gsl_root_fsolver = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.108 fgsl::fgsl_root_fsolver_type Type Reference

Public Attributes

- integer(c_int) [which](#) = 0

40.108.1 Member Data Documentation

40.108.1.1 integer(c_int) fgsl::fgsl_root_fsolver_type::which = 0

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.109 fgsl::fgsl_sf_result Type Reference

Public Attributes

- real(fgsl_double) [val](#)

- [real\(fgsl_double\) err](#)

40.109.1 Member Data Documentation

40.109.1.1 [real\(fgsl_double\) fgsl::fgsl_sf_result::err](#)

40.109.1.2 [real\(fgsl_double\) fgsl::fgsl_sf_result::val](#)

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.110 fgsl::fgsl_sf_result_e10 Type Reference

Public Attributes

- [real\(fgsl_double\) val](#)
- [real\(fgsl_double\) err](#)
- [integer\(fgsl_int\) e10](#)

40.110.1 Member Data Documentation

40.110.1.1 [integer\(fgsl_int\) fgsl::fgsl_sf_result_e10::e10](#)

40.110.1.2 [real\(fgsl_double\) fgsl::fgsl_sf_result_e10::err](#)

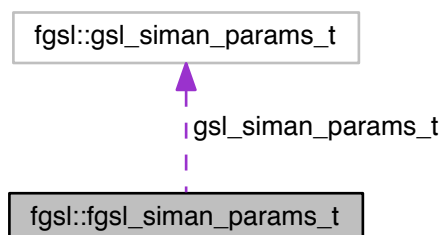
40.110.1.3 [real\(fgsl_double\) fgsl::fgsl_sf_result_e10::val](#)

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.111 fgsl::fgsl_siman_params_t Type Reference

Collaboration diagram for fgsl::fgsl_siman_params_t:



Public Attributes

- `type(gsl_siman_params_t)`, pointer [gsl_siman_params_t](#) => `null()`

40.111.1 Member Data Documentation

- 40.111.1.1 `type(gsl_siman_params_t)`, pointer `fgsl::fgsl_siman_params_t::gsl_siman_params_t` => `null()`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.112 fgsl_sizeof Interface Reference

Public Member Functions

- [fgsl_sizeof_double](#)
- [fgsl_sizeof_float](#)
- [fgsl_sizeof_int](#)
- [fgsl_sizeof_size_t](#)
- [fgsl_sizeof_char](#)
- [fgsl_sizeof_vector](#)
- [fgsl_sizeof_matrix](#)
- [fgsl_sizeof_vector_complex](#)
- [fgsl_sizeof_matrix_complex](#)
- [fgsl_sizeof_interp](#)
- [fgsl_sizeof_permutation](#)
- [fgsl_sizeof_combination](#)
- [fgsl_sizeof_multiset](#)
- [fgsl_sizeof_integration_workspace](#)
- [fgsl_sizeof_integration_qaws_table](#)
- [fgsl_sizeof_integration_qawo_table](#)
- [fgsl_sizeof_wavelet](#)
- [fgsl_sizeof_wavelet_workspace](#)

40.112.1 Member Function/Subroutine Documentation

40.112.1.1 `fgsl_sizeof::fgsl_sizeof_char ()`

40.112.1.2 `fgsl_sizeof::fgsl_sizeof_combination ()`

40.112.1.3 `fgsl_sizeof::fgsl_sizeof_double ()`

40.112.1.4 `fgsl_sizeof::fgsl_sizeof_float ()`

40.112.1.5 `fgsl_sizeof::fgsl_sizeof_int ()`

40.112.1.6 `fgsl_sizeof::fgsl_sizeof_integration_qawo_table ()`

40.112.1.7 `fgsl_sizeof::fgsl_sizeof_integration_qaws_table ()`

40.112.1.8 `fgsl_sizeof::fgsl_sizeof_integration_workspace ()`

- 40.112.1.9 `fgsl_sizeof::fgsl_sizeof_interp ()`
- 40.112.1.10 `fgsl_sizeof::fgsl_sizeof_matrix ()`
- 40.112.1.11 `fgsl_sizeof::fgsl_sizeof_matrix_complex ()`
- 40.112.1.12 `fgsl_sizeof::fgsl_sizeof_multiset ()`
- 40.112.1.13 `fgsl_sizeof::fgsl_sizeof_permutation ()`
- 40.112.1.14 `fgsl_sizeof::fgsl_sizeof_size_t ()`
- 40.112.1.15 `fgsl_sizeof::fgsl_sizeof_vector ()`
- 40.112.1.16 `fgsl_sizeof::fgsl_sizeof_vector_complex ()`
- 40.112.1.17 `fgsl_sizeof::fgsl_sizeof_wavelet ()`
- 40.112.1.18 `fgsl_sizeof::fgsl_sizeof_wavelet_workspace ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.113 `fgsl_sort` Interface Reference

Public Member Functions

- [fgsl_sort_double](#)
- [fgsl_sort_long](#)
- [fgsl_sort_vector](#)

40.113.1 Member Function/Subroutine Documentation

- 40.113.1.1 `fgsl_sort::fgsl_sort_double ()`
- 40.113.1.2 `fgsl_sort::fgsl_sort_long ()`
- 40.113.1.3 `fgsl_sort::fgsl_sort_vector ()`

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.114 `fgsl_sort_index` Interface Reference

Public Member Functions

- [fgsl_sort_double_index](#)
- [fgsl_sort_long_index](#)
- [fgsl_sort_vector_index](#)

40.114.1 Member Function/Subroutine Documentation

40.114.1.1 [fgsl_sort_index::fgsl_sort_double_index \(\)](#)

40.114.1.2 [fgsl_sort_index::fgsl_sort_long_index \(\)](#)

40.114.1.3 [fgsl_sort_index::fgsl_sort_vector_index \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.115 fgsl_sort_largest Interface Reference

Public Member Functions

- [fgsl_sort_double_largest](#)
- [fgsl_sort_long_largest](#)
- [fgsl_sort_vector_largest](#)

40.115.1 Member Function/Subroutine Documentation

40.115.1.1 [fgsl_sort_largest::fgsl_sort_double_largest \(\)](#)

40.115.1.2 [fgsl_sort_largest::fgsl_sort_long_largest \(\)](#)

40.115.1.3 [fgsl_sort_largest::fgsl_sort_vector_largest \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.116 fgsl_sort_largest_index Interface Reference

Public Member Functions

- [fgsl_sort_double_largest_index](#)
- [fgsl_sort_long_largest_index](#)
- [fgsl_sort_vector_largest_index](#)

40.116.1 Member Function/Subroutine Documentation

40.116.1.1 [fgsl_sort_largest_index::fgsl_sort_double_largest_index \(\)](#)

40.116.1.2 [fgsl_sort_largest_index::fgsl_sort_long_largest_index \(\)](#)

40.116.1.3 [fgsl_sort_largest_index::fgsl_sort_vector_largest_index \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.117 fgsl_sort_smallest Interface Reference

Public Member Functions

- [fgsl_sort_double_smallest](#)
- [fgsl_sort_long_smallest](#)
- [fgsl_sort_vector_smallest](#)

40.117.1 Member Function/Subroutine Documentation

40.117.1.1 [fgsl_sort_smallest::fgsl_sort_double_smallest \(\)](#)

40.117.1.2 [fgsl_sort_smallest::fgsl_sort_long_smallest \(\)](#)

40.117.1.3 [fgsl_sort_smallest::fgsl_sort_vector_smallest \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.118 fgsl_sort_smallest_index Interface Reference

Public Member Functions

- [fgsl_sort_double_smallest_index](#)
- [fgsl_sort_long_smallest_index](#)
- [fgsl_sort_vector_smallest_index](#)

40.118.1 Member Function/Subroutine Documentation

40.118.1.1 [fgsl_sort_smallest_index::fgsl_sort_double_smallest_index \(\)](#)

40.118.1.2 [fgsl_sort_smallest_index::fgsl_sort_long_smallest_index \(\)](#)

40.118.1.3 [fgsl_sort_smallest_index::fgsl_sort_vector_smallest_index \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.119 fgsl::fgsl_spline Type Reference

Public Attributes

- `type(c_ptr) gsl_spline = c_null_ptr`

40.119.1 Member Data Documentation

40.119.1.1 `type(c_ptr) fgsl::fgsl_spline::gsl_spline = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.120 fgsl::fgsl_sum_levin_u_workspace Type Reference

Public Attributes

- type(c_ptr) [gsl_sum_levin_u_workspace](#) = c_null_ptr

40.120.1 Member Data Documentation

40.120.1.1 type(c_ptr) fgsl::fgsl_sum_levin_u_workspace::gsl_sum_levin_u_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.121 fgsl::fgsl_sum_levin_utrunc_workspace Type Reference

Public Attributes

- type(c_ptr) [gsl_sum_levin_utrunc_workspace](#) = c_null_ptr

40.121.1 Member Data Documentation

40.121.1.1 type(c_ptr) fgsl::fgsl_sum_levin_utrunc_workspace::gsl_sum_levin_utrunc_workspace = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.122 fgsl::fgsl_vector Type Reference

Public Attributes

- type(c_ptr) [gsl_vector](#) = c_null_ptr

40.122.1 Member Data Documentation

40.122.1.1 type(c_ptr) fgsl::fgsl_vector::gsl_vector = c_null_ptr

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.123 fgsl_vector_align Interface Reference

Public Member Functions

- [fgsl_vector_align](#)

- [fgsl_vector_complex_align](#)
- [fgsl_vector_pointer_align](#)
- [fgsl_vector_complex_pointer_align](#)

40.123.1 Constructor & Destructor Documentation

40.123.1.1 [fgsl_vector_align::fgsl_vector_align](#) ()

40.123.2 Member Function/Subroutine Documentation

40.123.2.1 [fgsl_vector_align::fgsl_vector_complex_align](#) ()

40.123.2.2 [fgsl_vector_align::fgsl_vector_complex_pointer_align](#) ()

40.123.2.3 [fgsl_vector_align::fgsl_vector_pointer_align](#) ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.124 fgsl::fgsl_vector_complex Type Reference

Public Attributes

- `type(c_ptr) fgsl_vector_complex = c_null_ptr`

40.124.1 Member Data Documentation

40.124.1.1 `type(c_ptr) fgsl::fgsl_vector_complex::fgsl_vector_complex = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.125 fgsl_vector_free Interface Reference

Public Member Functions

- [fgsl_vector_free](#)
- [fgsl_vector_complex_free](#)

40.125.1 Constructor & Destructor Documentation

40.125.1.1 [fgsl_vector_free::fgsl_vector_free](#) ()

40.125.2 Member Function/Subroutine Documentation

40.125.2.1 [fgsl_vector_free::fgsl_vector_complex_free](#) ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.126 fgsl_vector_init Interface Reference

Public Member Functions

- [fgsl_vector_init](#)
- [fgsl_vector_complex_init](#)

40.126.1 Constructor & Destructor Documentation

40.126.1.1 [fgsl_vector_init::fgsl_vector_init \(\)](#)

40.126.2 Member Function/Subroutine Documentation

40.126.2.1 [fgsl_vector_init::fgsl_vector_complex_init \(\)](#)

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.127 fgsl::fgsl_wavelet Type Reference

Public Attributes

- `type(c_ptr) gsl_wavelet = c_null_ptr`

40.127.1 Member Data Documentation

40.127.1.1 `type(c_ptr) fgsl::fgsl_wavelet::gsl_wavelet = c_null_ptr`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.128 fgsl::fgsl_wavelet_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.128.1 Member Data Documentation

40.128.1.1 `integer(c_int) fgsl::fgsl_wavelet_type::which = 0`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.129 fgsl::fgsl_wavelet_workspace Type Reference

Public Attributes

- `type(c_ptr)` [fgsl_wavelet_workspace](#)

40.129.1 Member Data Documentation

40.129.1.1 `type(c_ptr)` `fgsl::fgsl_wavelet_workspace::fgsl_wavelet_workspace`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.130 fgsl_well_defined Interface Reference

Public Member Functions

- [fgsl_vector_status](#)
- [fgsl_matrix_status](#)
- [fgsl_vector_complex_status](#)
- [fgsl_matrix_complex_status](#)
- [fgsl_cheb_series_status](#)
- [fgsl_interp_status](#)
- [fgsl_dht_status](#)
- [fgsl_error_handler_status](#)
- [fgsl_integration_workspace_status](#)
- [fgsl_integration_cquad_workspace_status](#)
- [fgsl_integration_qawo_table_status](#)
- [fgsl_integration_qaws_table_status](#)
- [fgsl_integration_glfixed_table_status](#)
- [fgsl_interp_accel_status](#)
- [fgsl_spline_status](#)
- [fgsl_permutation_status](#)
- [fgsl_combination_status](#)
- [fgsl_multiset_status](#)
- [fgsl_odeiv_control_status](#)
- [fgsl_odeiv_evolve_status](#)
- [fgsl_odeiv_step_status](#)
- [fgsl_odeiv_system_status](#)
- [fgsl_odeiv2_control_status](#)
- [fgsl_odeiv2_evolve_status](#)
- [fgsl_odeiv2_step_status](#)
- [fgsl_odeiv2_system_status](#)
- [fgsl_odeiv2_driver_status](#)
- [fgsl_poly_complex_workspace_stat](#)
- [fgsl_rng_status](#)
- [fgsl_qrng_status](#)
- [fgsl_ran_discrete_t_status](#)
- [fgsl_root_fsolver_status](#)
- [fgsl_root_ufdsolver_status](#)
- [fgsl_siman_params_t_status](#)
- [fgsl_min_fminimizer_status](#)

- [fgsl_histogram_status](#)
- [fgsl_ntuple_status](#)
- [fgsl_ntuple_value_fn_status](#)
- [fgsl_ntuple_select_fn_status](#)
- [fgsl_monte_function_status](#)
- [fgsl_monte_plain_status](#)
- [fgsl_monte_miser_status](#)
- [fgsl_monte_vegas_status](#)
- [fgsl_multiroot_fsolver_status](#)
- [fgsl_multiroot_fdfsolver_status](#)
- [fgsl_multimin_fminimizer_status](#)
- [fgsl_multimin_fdfminimizer_status](#)
- [fgsl_multifit_status](#)
- [fgsl_multifit_fsolver_status](#)
- [fgsl_multifit_fdfsolver_status](#)
- [fgsl_file_status](#)
- [fgsl_wavelet_status](#)
- [fgsl_wavelet_workspace_status](#)

40.130.1 Member Function/Subroutine Documentation

- 40.130.1.1 [fgsl_well_defined::fgsl_cheb_series_status \(\)](#)
- 40.130.1.2 [fgsl_well_defined::fgsl_combination_status \(\)](#)
- 40.130.1.3 [fgsl_well_defined::fgsl_dht_status \(\)](#)
- 40.130.1.4 [fgsl_well_defined::fgsl_error_handler_status \(\)](#)
- 40.130.1.5 [fgsl_well_defined::fgsl_file_status \(\)](#)
- 40.130.1.6 [fgsl_well_defined::fgsl_histogram_status \(\)](#)
- 40.130.1.7 [fgsl_well_defined::fgsl_integration_cquad_workspace_status \(\)](#)
- 40.130.1.8 [fgsl_well_defined::fgsl_integration_glfixed_table_status \(\)](#)
- 40.130.1.9 [fgsl_well_defined::fgsl_integration_qawo_table_status \(\)](#)
- 40.130.1.10 [fgsl_well_defined::fgsl_integration_qaws_table_status \(\)](#)
- 40.130.1.11 [fgsl_well_defined::fgsl_integration_workspace_status \(\)](#)
- 40.130.1.12 [fgsl_well_defined::fgsl_interp_accel_status \(\)](#)
- 40.130.1.13 [fgsl_well_defined::fgsl_interp_status \(\)](#)
- 40.130.1.14 [fgsl_well_defined::fgsl_matrix_complex_status \(\)](#)
- 40.130.1.15 [fgsl_well_defined::fgsl_matrix_status \(\)](#)
- 40.130.1.16 [fgsl_well_defined::fgsl_min_fminimizer_status \(\)](#)
- 40.130.1.17 [fgsl_well_defined::fgsl_monte_function_status \(\)](#)

40.130.1.18 fgsl_well_defined::fgsl_monte_miser_status ()

40.130.1.19 fgsl_well_defined::fgsl_monte_plain_status ()

40.130.1.20 fgsl_well_defined::fgsl_monte_vegas_status ()

40.130.1.21 fgsl_well_defined::fgsl_multifit_fdfsolver_status ()

40.130.1.22 fgsl_well_defined::fgsl_multifit_fsolver_status ()

40.130.1.23 fgsl_well_defined::fgsl_multifit_status ()

40.130.1.24 fgsl_well_defined::fgsl_multimin_fdfminimizer_status ()

40.130.1.25 fgsl_well_defined::fgsl_multimin_fminimizer_status ()

40.130.1.26 fgsl_well_defined::fgsl_multiroot_fdfsolver_status ()

40.130.1.27 fgsl_well_defined::fgsl_multiroot_fsolver_status ()

40.130.1.28 fgsl_well_defined::fgsl_multiset_status ()

40.130.1.29 fgsl_well_defined::fgsl_ntuple_select_fn_status ()

40.130.1.30 fgsl_well_defined::fgsl_ntuple_status ()

40.130.1.31 fgsl_well_defined::fgsl_ntuple_value_fn_status ()

40.130.1.32 fgsl_well_defined::fgsl_odeiv2_control_status ()

40.130.1.33 fgsl_well_defined::fgsl_odeiv2_driver_status ()

40.130.1.34 fgsl_well_defined::fgsl_odeiv2_evolve_status ()

40.130.1.35 fgsl_well_defined::fgsl_odeiv2_step_status ()

40.130.1.36 fgsl_well_defined::fgsl_odeiv2_system_status ()

40.130.1.37 fgsl_well_defined::fgsl_odeiv_control_status ()

40.130.1.38 fgsl_well_defined::fgsl_odeiv_evolve_status ()

40.130.1.39 fgsl_well_defined::fgsl_odeiv_step_status ()

40.130.1.40 fgsl_well_defined::fgsl_odeiv_system_status ()

40.130.1.41 fgsl_well_defined::fgsl_permutation_status ()

40.130.1.42 fgsl_well_defined::fgsl_poly_complex_workspace_stat ()

40.130.1.43 fgsl_well_defined::fgsl_qrng_status ()

40.130.1.44 fgsl_well_defined::fgsl_ran_discrete_t_status ()

40.130.1.45 fgsl_well_defined::fgsl_rng_status ()

- 40.130.1.46 fgsl_well_defined::fgsl_root_fdfsolver_status ()
- 40.130.1.47 fgsl_well_defined::fgsl_root_fsolver_status ()
- 40.130.1.48 fgsl_well_defined::fgsl_siman_params_t_status ()
- 40.130.1.49 fgsl_well_defined::fgsl_spline_status ()
- 40.130.1.50 fgsl_well_defined::fgsl_vector_complex_status ()
- 40.130.1.51 fgsl_well_defined::fgsl_vector_status ()
- 40.130.1.52 fgsl_well_defined::fgsl_wavelet_status ()
- 40.130.1.53 fgsl_well_defined::fgsl_wavelet_workspace_status ()

The documentation for this interface was generated from the following file:

- [interface/generics.finc](#)

40.131 fgsl::gsl_complex Type Reference

Public Attributes

- `real(c_double), dimension(2) dat`

40.131.1 Member Data Documentation

- 40.131.1.1 `real(c_double), dimension(2) fgsl::gsl_complex::dat`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.132 fgsl::gsl_sf_result Type Reference

Public Attributes

- `real(c_double) val`
- `real(c_double) err`

40.132.1 Member Data Documentation

- 40.132.1.1 `real(c_double) fgsl::gsl_sf_result::err`
- 40.132.1.2 `real(c_double) fgsl::gsl_sf_result::val`

The documentation for this type was generated from the following file:

- [fgsl.F90](#)

40.133 fgsl::gsl_sf_result_e10 Type Reference

Public Attributes

- `real(c_double)` [val](#)
- `real(c_double)` [err](#)
- `integer(c_int)` [e10](#)

40.133.1 Member Data Documentation

40.133.1.1 `integer(c_int)` [fgsl::gsl_sf_result_e10::e10](#)

40.133.1.2 `real(c_double)` [fgsl::gsl_sf_result_e10::err](#)

40.133.1.3 `real(c_double)` [fgsl::gsl_sf_result_e10::val](#)

The documentation for this type was generated from the following file:

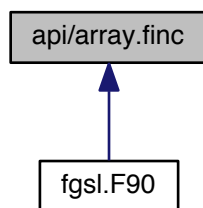
- [fgsl.F90](#)

Chapter 41

File Documentation

41.1 `api/array.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsi_vector)` function `fgsi_vector_init` (type)
Initialize a GSL vector object. This is invoked via the generic `fgsi_vector_init`.
- `integer(fgsi_int)` function `fgsi_vector_align` (array, len, fvec, size, offset, stride)
Wrap a rank 1 Fortran array slice inside a double precision real GSL vector object. This is invoked via the generic `fgsi_vector_align`.
- `integer(fgsi_int)` function `fgsi_vector_pointer_align` (ptr, fvec)
Associate a Fortran pointer with the data stored inside a GSL vector object. This is invoked via the generic `fgsi_vector_align`. Objects of type `gsl_vector` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.
- subroutine `fgsi_vector_to_array` (result, source)
The assignment operator (see `interface/generics.finc`) is overloaded to enable copying of the content of a GSL vector into a Fortran array.
- subroutine `fgsi_vector_free` (fvec)
Free the resources inside a GSL vector object previously established by a call to `fgsi_vector_init()`. This is invoked via the generic `fgsi_vector_free`.
- subroutine `fgsi_vector_c_ptr` (res, src)
- logical function `fgsi_vector_status` (vector)

- integer(`fgsl_size_t`) function `fgsl_sizeof_vector` (`w`)
Inquire the size of a double precision real GSL vector object.
- type(`fgsl_vector_complex`) function `fgsl_vector_complex_init` (`type`)
Initialize a complex GSL vector object. This is invoked via the generic `fgsl_vector_init`.
- integer(`fgsl_int`) function `fgsl_vector_complex_align` (`array`, `len`, `fvec`, `size`, `offset`, `stride`)
Wrap a rank 1 Fortran array slice inside a double precision complex real GSL vector object. This is invoked via the generic `fgsl_vector_align`.
- integer(`fgsl_int`) function `fgsl_vector_complex_pointer_align` (`ptr`, `fvec`)
Associate a Fortran pointer with the data stored inside a GSL vector object. This is invoked via the generic `fgsl_vector_align`. Objects of type `gsl_vector_complex` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.
- subroutine `fgsl_vector_complex_to_array` (`result`, `source`)
The assignment operator (see `interface/generics.finc`) is overloaded to enable copying of the content of a complex GSL vector into a Fortran array.
- subroutine `fgsl_vector_complex_free` (`fvec`)
Free the resources inside a complex GSL vector object previously established by a call to `fgsl_vector_complex_init()`. This is invoked via the generic `fgsl_vector_free`.
- subroutine `fgsl_vector_complex_c_ptr` (`res`, `src`)
- logical function `fgsl_vector_complex_status` (`vector_complex`)
- integer(`fgsl_size_t`) function `fgsl_sizeof_vector_complex` (`w`)
Inquire the size of a double precision complex GSL vector object.
- type(`fgsl_matrix`) function `fgsl_matrix_init` (`type`)
Initialize a GSL matrix object. This is invoked via the generic `fgsl_matrix_init`.
- integer(`fgsl_int`) function `fgsl_matrix_align` (`array`, `lda`, `n`, `m`, `fmat`)
Wrap a rank 2 Fortran array inside a double precision real GSL matrix object. This is invoked via the generic `fgsl_matrix_align`.
- integer(`fgsl_int`) function `fgsl_matrix_pointer_align` (`ptr`, `fmat`)
Associate a Fortran pointer with the data stored inside a GSL matrix object. This is invoked via the generic `fgsl_matrix_align`. Objects of type `gsl_matrix` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.
- subroutine `fgsl_matrix_to_array` (`result`, `source`)
The assignment operator (see `interface/generics.finc`) is overloaded to enable copying of the content of a GSL matrix into a rank 2 Fortran array.
- subroutine `fgsl_matrix_free` (`fvec`)
Free the resources inside a GSL matrix object previously established by a call to `fgsl_matrix_init()`. This is invoked via the generic `fgsl_matrix_free`.
- subroutine `fgsl_matrix_c_ptr` (`res`, `src`)
- logical function `fgsl_matrix_status` (`matrix`)
- integer(`fgsl_size_t`) function `fgsl_sizeof_matrix` (`w`)
Inquire the number of elements in a double precision real GSL matrix object.
- type(`fgsl_matrix_complex`) function `fgsl_matrix_complex_init` (`type`)
Initialize a GSL matrix object. This is invoked via the generic `fgsl_matrix_init`.
- integer(`fgsl_int`) function `fgsl_matrix_complex_align` (`array`, `lda`, `n`, `m`, `fmat`)
Wrap a rank 2 Fortran array inside a double precision complex GSL matrix object. This is invoked via the generic `fgsl_matrix_align`.
- integer(`fgsl_int`) function `fgsl_matrix_complex_pointer_align` (`ptr`, `fmat`)
Associate a Fortran pointer with the data stored inside a complex GSL matrix object. This is invoked via the generic `fgsl_matrix_align`. Objects of type `gsl_matrix_complex` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.
- subroutine `fgsl_matrix_complex_to_array` (`result`, `source`)
The assignment operator (see `interface/generics.finc`) is overloaded to enable copying of the content of a complex GSL matrix into a rank 2 Fortran array.

- subroutine [fgsl_matrix_complex_free](#) (fvec)

Free the resources inside a complex GSL matrix object previously established by a call to [fgsl_matrix_complex_init](#)(). This is invoked via the generic [fgsl_matrix_free](#).
- subroutine [fgsl_matrix_complex_c_ptr](#) (res, src)
- logical function [fgsl_matrix_complex_status](#) (matrix_complex)
- integer([fgsl_size_t](#)) function [fgsl_sizeof_matrix_complex](#) (w)

Inquire the number of elements in a double precision complex GSL matrix object.
- integer([fgsl_size_t](#)) function [fgsl_vector_get_size](#) (vec)
- integer([fgsl_size_t](#)) function [fgsl_vector_get_stride](#) (vec)
- integer([fgsl_size_t](#)) function [fgsl_matrix_get_size1](#) (matr)
- integer([fgsl_size_t](#)) function [fgsl_matrix_get_size2](#) (matr)
- integer([fgsl_size_t](#)) function [fgsl_matrix_get_tda](#) (matr)

41.1.1 Function/Subroutine Documentation

41.1.1.1 integer([fgsl_int](#)) function [fgsl_matrix_align](#) (real([fgsl_double](#)), dimension(*lda*, *m*), intent(in), target *array*, integer([fgsl_size_t](#)), intent(in) *lda*, integer([fgsl_size_t](#)), intent(in) *n*, integer([fgsl_size_t](#)), intent(in) *m*, type([fgsl_matrix](#)), intent(inout) *pmat*)

Wrap a rank 2 Fortran array inside a double precision real GSL matrix object. This is invoked via the generic [fgsl_matrix_align](#).

Parameters

<i>array</i>	- requires the actual argument to have the TARGET attribute. Otherwise being passed by reference is not guaranteed by the Fortran standard.
<i>lda</i>	- leading dimension of the rank 2 array
<i>n</i>	- number of rows in array
<i>m</i>	- number of columns in array
<i>pmat</i>	- previously initialized double precision GSL matrix object

Returns

Status

41.1.1.2 subroutine [fgsl_matrix_c_ptr](#) (type([fgsl_matrix](#)), intent(out) *res*, type([c_ptr](#)), intent(in) *src*)

41.1.1.3 integer([fgsl_int](#)) function [fgsl_matrix_complex_align](#) (complex([fgsl_double_complex](#)), dimension(*lda*, *m*), intent(in), target *array*, integer([fgsl_size_t](#)), intent(in) *lda*, integer([fgsl_size_t](#)), intent(in) *n*, integer([fgsl_size_t](#)), intent(in) *m*, type([fgsl_matrix_complex](#)), intent(inout) *pmat*)

Wrap a rank 2 Fortran array inside a double precision complex GSL matrix object. This is invoked via the generic [fgsl_matrix_align](#).

Parameters

<i>array</i>	- requires the actual argument to have the TARGET attribute. Otherwise being passed by reference is not guaranteed by the Fortran standard.
<i>lda</i>	- leading dimension of the rank 2 array
<i>n</i>	- number of rows in array
<i>m</i>	- number of columns in array

<i>fmt</i>	- previously initialized double precision complex GSL matrix object
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Returns

Status

41.1.1.4 subroutine `fgsl_matrix_complex_c_ptr` (`type(fgsl_matrix_complex)`, `intent(out) res`, `type(c_ptr)`, `intent(in) src`)

41.1.1.5 subroutine `fgsl_matrix_complex_free` (`type(fgsl_matrix_complex)`, `intent(inout) fvec`)

Free the resources inside a complex GSL matrix object previously established by a call to `fgsl_matrix_complex_init()`. This is invoked via the generic `fgsl_matrix_free`.

41.1.1.6 `type(fgsl_matrix_complex)` function `fgsl_matrix_complex_init` (`complex(fgsl_double_complex)`, `intent(in) type`)

Initialize a GSL matrix object. This is invoked via the generic `fgsl_matrix_init`.

Parameters

<i>type</i>	- determine intrinsic type of vector object
-------------	---

Returns

new object of type `fgsl_matrix`.

41.1.1.7 `integer(fgsl_int)` function `fgsl_matrix_complex_pointer_align` (`complex(fgsl_double_complex)`, `dimension(:,:)`, `intent(out)`, `pointer ptr`, `type(fgsl_matrix_complex)`, `intent(in) fmt`)

Associate a Fortran pointer with the data stored inside a complex GSL matrix object. This is invoked via the generic `fgsl_matrix_align`. Objects of type `gsl_matrix_complex` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.

Parameters

<i>ptr</i>	- rank 2 Fortran pointer
<i>fmt</i>	- double precision complex GSL matrix

Returns

Status

41.1.1.8 logical function `fgsl_matrix_complex_status` (`type(fgsl_matrix_complex)`, `intent(in) matrix_complex`)

41.1.1.9 subroutine `fgsl_matrix_complex_to_array` (`complex(fgsl_double_complex)`, `dimension(:,:)`, `intent(inout) result`, `type(fgsl_matrix_complex)`, `intent(in) source`)

The assignment operator (see [interface/generics.finc](#)) is overloaded to enable copying of the content of a complex GSL matrix into a rank 2 Fortran array.

41.1.1.10 subroutine `fgsl_matrix_free` (`type(fgsl_matrix)`, `intent(inout) fvec`)

Free the resources inside a GSL matrix object previously established by a call to `fgsl_matrix_init()`. This is invoked via the generic `fgsl_matrix_free`.

41.1.1.11 integer(*fgsl_size_t*) function `fgsl_matrix_get_size1` (*type*(*fgsl_matrix*), intent(in) *matr*)

41.1.1.12 integer(*fgsl_size_t*) function `fgsl_matrix_get_size2` (*type*(*fgsl_matrix*), intent(in) *matr*)

41.1.1.13 integer(*fgsl_size_t*) function `fgsl_matrix_get_tda` (*type*(*fgsl_matrix*), intent(in) *matr*)

41.1.1.14 *type*(*fgsl_matrix*) function `fgsl_matrix_init` (*real*(*fgsl_double*), intent(in) *type*)

Initialize a GSL matrix object. This is invoked via the generic [fgsl_matrix_init](#).

Parameters

<i>type</i>	- determine intrinsic type of vector object
-------------	---

Returns

new object of type *fgsl_matrix*.

41.1.1.15 integer(*fgsl_int*) function `fgsl_matrix_pointer_align` (*real*(*fgsl_double*), dimension(:,,:), intent(out), pointer *ptr*, *type*(*fgsl_matrix*), intent(in) *fmat*)

Associate a Fortran pointer with the data stored inside a GSL matrix object. This is invoked via the generic [fgsl_matrix_align](#). Objects of type `gsl_matrix` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.

Parameters

<i>ptr</i>	- rank 2 Fortran pointer
<i>fmat</i>	- double precision real GSL matrix

Returns

Status

41.1.1.16 logical function `fgsl_matrix_status` (*type*(*fgsl_matrix*), intent(in) *matrix*)

41.1.1.17 subroutine `fgsl_matrix_to_array` (*real*(*fgsl_double*), dimension(:,,:), intent(inout) *result*, *type*(*fgsl_matrix*), intent(in) *source*)

The assignment operator (see [interface/generics.finc](#)) is overloaded to enable copying of the content of a GSL matrix into a rank 2 Fortran array.

41.1.1.18 integer(*fgsl_size_t*) function `fgsl_sizeof_matrix` (*type*(*fgsl_matrix*), intent(in) *w*)

Inquire the number of elements in a double precision real GSL matrix object.

41.1.1.19 integer(*fgsl_size_t*) function `fgsl_sizeof_matrix_complex` (*type*(*fgsl_matrix_complex*), intent(in) *w*)

Inquire the number of elements in a double precision complex GSL matrix object.

41.1.1.20 integer(*fgsl_size_t*) function `fgsl_sizeof_vector` (*type*(*fgsl_vector*), intent(in) *w*)

Inquire the size of a double precision real GSL vector object.

41.1.1.21 `integer(fgsl_size_t) function fgsl_sizeof_vector_complex (type(fgsl_vector_complex), intent(in) w)`

Inquire the size of a double precision complex GSL vector object.

41.1.1.22 `integer(fgsl_int) function fgsl_vector_align (real(fgsl_double), dimension(len), intent(in), target array, integer(fgsl_size_t), intent(in) len, type(fgsl_vector), intent(inout) fvec, integer(fgsl_size_t), intent(in) size, integer(fgsl_size_t), intent(in) offset, integer(fgsl_size_t), intent(in) stride)`

Wrap a rank 1 Fortran array slice inside a double precision real GSL vector object. This is invoked via the generic [fgsl_vector_align](#).

Parameters

<i>array</i>	- requires the actual argument to have the TARGET attribute. Otherwise being passed by reference is not guaranteed by the Fortran standard.
<i>len</i>	- number of elements of the rank 1 array
<i>fvec</i>	- previously initialized GSL vector object
<i>size</i>	- number of elements from array wrapped inside fvec
<i>offset</i>	- index of first element of array to be mapped to fvec
<i>stride</i>	- stride in array for successive elements of fvec

Returns

Status

41.1.1.23 `subroutine fgsl_vector_c_ptr (type(fgsl_vector), intent(out) res, type(c_ptr), intent(in) src)`

41.1.1.24 `integer(fgsl_int) function fgsl_vector_complex_align (complex(fgsl_double_complex), dimension(len), intent(in), target array, integer(fgsl_size_t), intent(in) len, type(fgsl_vector_complex), intent(inout) fvec, integer(fgsl_size_t), intent(in) size, integer(fgsl_size_t), intent(in) offset, integer(fgsl_size_t), intent(in) stride)`

Wrap a rank 1 Fortran array slice inside a double precision complex real GSL vector object. This is invoked via the generic [fgsl_vector_align](#).

Parameters

<i>array</i>	- requires the actual argument to have the TARGET attribute. Otherwise being passed by reference is not guaranteed by the Fortran standard.
<i>len</i>	- number of elements of the rank 1 array
<i>fvec</i>	- previously initialized complex GSL vector object
<i>size</i>	- number of elements from array wrapped inside fvec
<i>offset</i>	- index of first element of array to be mapped to fvec
<i>stride</i>	- stride in array for successive elements of fvec

Returns

Status

41.1.1.25 `subroutine fgsl_vector_complex_c_ptr (type(fgsl_vector_complex), intent(out) res, type(c_ptr), intent(in) src)`

41.1.1.26 `subroutine fgsl_vector_complex_free (type(fgsl_vector_complex), intent(inout) fvec)`

Free the resources inside a complex GSL vector object previously established by a call to [fgsl_vector_complex_init\(\)](#). This is invoked via the generic [fgsl_vector_free](#).

41.1.1.27 `type(fgsl_vector_complex) function fgsl_vector_complex_init (complex(fgsl_double_complex), intent(in) type)`

Initialize a complex GSL vector object. This is invoked via the generic [fgsl_vector_init](#).

Parameters

<i>type</i>	- determine intrinsic type of vector object
-------------	---

Returns

new object of type `fgsl_vector`

41.1.1.28 `integer(fgsl_int) function fgsl_vector_complex_pointer_align (complex(fgsl_double_complex), dimension(:), intent(out), pointer ptr, type(fgsl_vector_complex), intent(in) fvec)`

Associate a Fortran pointer with the data stored inside a GSL vector object. This is invoked via the generic [fgsl_vector_align](#). Objects of type `gsl_vector_complex` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.

Parameters

<i>ptr</i>	- rank 1 Fortran pointer
<i>fvec</i>	- double precision complex GSL vector

Returns

Status

41.1.1.29 `logical function fgsl_vector_complex_status (type(fgsl_vector_complex), intent(in) vector_complex)`

41.1.1.30 `subroutine fgsl_vector_complex_to_array (complex(fgsl_double_complex), dimension(:), intent(inout) result, type(fgsl_vector_complex), intent(in) source)`

The assignment operator (see [interface/generics.finc](#)) is overloaded to enable copying of the content of a complex GSL vector into a Fortran array.

41.1.1.31 `subroutine fgsl_vector_free (type(fgsl_vector), intent(inout) fvec)`

Free the resources inside a GSL vector object previously established by a call to [fgsl_vector_init\(\)](#). This is invoked via the generic [fgsl_vector_free](#).

41.1.1.32 `integer(fgsl_size_t) function fgsl_vector_get_size (type(fgsl_vector), intent(in) vec)`

41.1.1.33 `integer(fgsl_size_t) function fgsl_vector_get_stride (type(fgsl_vector), intent(in) vec)`

41.1.1.34 `type(fgsl_vector) function fgsl_vector_init (real(fgsl_double), intent(in) type)`

Initialize a GSL vector object. This is invoked via the generic [fgsl_vector_init](#).

Parameters

<i>type</i>	- determine intrinsic type of vector object
-------------	---

Returns

new object of type `fgsl_vector`

41.1.1.35 `integer(fgsl_int) function fgsl_vector_pointer_align (real(fgsl_double), dimension(:), intent(out), pointer ptr, type(fgsl_vector), intent(in) fvec)`

Associate a Fortran pointer with the data stored inside a GSL vector object. This is invoked via the generic [fgsl_vector_align](#). Objects of type `gsl_vector` which are returned by GSL routines often are persistent subobjects of other GSL objects. A Fortran pointer aligned with a subobject hence will remain up-to-date throughout the lifetime of the object; it may become undefined once the object ceases to exist.

Parameters

<i>ptr</i>	- rank 1 Fortran pointer
<i>fvec</i>	- double precision real GSL vector

Returns

Status

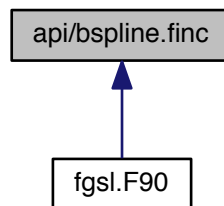
41.1.1.36 `logical function fgsl_vector_status (type(fgsl_vector), intent(in) vector)`

41.1.1.37 `subroutine fgsl_vector_to_array (real(fgsl_double), dimension(:), intent(inout) result, type(fgsl_vector), intent(in) source)`

The assignment operator (see [interface/generics.finc](#)) is overloaded to enable copying of the content of a GSL vector into a Fortran array.

41.2 api/bspline.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_bspline_workspace)`
function [fgsl_bspline_alloc](#) (*k*, *nbreak*)
- subroutine [fgsl_bspline_free](#) (*w*)
- `type(fgsl_bspline_deriv_workspace)`
function [fgsl_bspline_deriv_alloc](#) (*k*)
- subroutine [fgsl_bspline_deriv_free](#) (*w*)
- `integer(fgsl_int) function fgsl_bspline_knots` (*breakpts*, *w*)
- `integer(fgsl_int) function fgsl_bspline_knots_uniform` (*a*, *b*, *w*)
- `integer(fgsl_int) function fgsl_bspline_eval` (*x*, *b*, *w*)

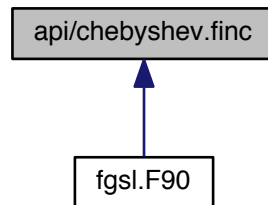
- integer(fgsl_int) function [fgsl_bspline_eval_nonzero](#) (x, bk, istart, iend, w)
- integer(fgsl_int) function [fgsl_bspline_deriv_eval](#) (x, nderiv, db, w, dw)
- integer(fgsl_int) function [fgsl_bspline_deriv_eval_nonzero](#) (x, nderiv, db, istart, iend, w, dw)
- integer(fgsl_size_t) function [fgsl_bspline_ncoeffs](#) (w)
- real(fgsl_double) function [fgsl_bspline_greville_abcissa](#) (i, w)
- integer(fgsl_int) function [fgsl_bspline_knots_greville](#) (abscissae, w, abserr)

41.2.1 Function/Subroutine Documentation

- 41.2.1.1 `type(fgsl_bspline_workspace)` function `fgsl_bspline_alloc` (`integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_size_t)`, `intent(in) nbreak`)
- 41.2.1.2 `type(fgsl_bspline_deriv_workspace)` function `fgsl_bspline_deriv_alloc` (`integer(fgsl_size_t)`, `intent(in) k`)
- 41.2.1.3 `integer(fgsl_int)` function `fgsl_bspline_deriv_eval` (`real(fgsl_double)`, `intent(in) x`, `integer(fgsl_size_t)`, `intent(in) nderiv`, `type(fgsl_matrix)`, `intent(inout) db`, `type(fgsl_bspline_workspace)`, `intent(inout) w`, `type(fgsl_bspline_deriv_workspace)`, `intent(inout) dw`)
- 41.2.1.4 `integer(fgsl_int)` function `fgsl_bspline_deriv_eval_nonzero` (`real(fgsl_double)`, `intent(in) x`, `integer(fgsl_size_t)`, `intent(in) nderiv`, `type(fgsl_matrix)`, `intent(inout) db`, `integer(fgsl_size_t)`, `intent(inout) istart`, `integer(fgsl_size_t)`, `intent(inout) iend`, `type(fgsl_bspline_workspace)`, `intent(inout) w`, `type(fgsl_bspline_deriv_workspace)`, `intent(inout) dw`)
- 41.2.1.5 subroutine `fgsl_bspline_deriv_free` (`type(fgsl_bspline_deriv_workspace)`, `intent(inout) w`)
- 41.2.1.6 `integer(fgsl_int)` function `fgsl_bspline_eval` (`real(fgsl_double)`, `intent(in) x`, `type(fgsl_vector)`, `intent(inout) b`, `type(fgsl_bspline_workspace)`, `intent(inout) w`)
- 41.2.1.7 `integer(fgsl_int)` function `fgsl_bspline_eval_nonzero` (`real(fgsl_double)`, `intent(in) x`, `type(fgsl_vector)`, `intent(inout) bk`, `integer(fgsl_size_t)`, `intent(inout) istart`, `integer(fgsl_size_t)`, `intent(inout) iend`, `type(fgsl_bspline_workspace)`, `intent(inout) w`)
- 41.2.1.8 subroutine `fgsl_bspline_free` (`type(fgsl_bspline_workspace)`, `intent(inout) w`)
- 41.2.1.9 `real(fgsl_double)` function `fgsl_bspline_greville_abcissa` (`integer(fgsl_size_t) i`, `type(fgsl_bspline_workspace)`, `intent(in) w`)
- 41.2.1.10 `integer(fgsl_int)` function `fgsl_bspline_knots` (`type(fgsl_vector)`, `intent(in) breakpts`, `type(fgsl_bspline_workspace)`, `intent(inout) w`)
- 41.2.1.11 `integer(fgsl_int)` function `fgsl_bspline_knots_greville` (`type(fgsl_vector) abscissae`, `type(fgsl_bspline_workspace) w`, `real(fgsl_double)`, `intent(out) abserr`)
- 41.2.1.12 `integer(fgsl_int)` function `fgsl_bspline_knots_uniform` (`real(fgsl_double)`, `intent(in) a`, `real(fgsl_double)`, `intent(in) b`, `type(fgsl_bspline_workspace)`, `intent(inout) w`)
- 41.2.1.13 `integer(fgsl_size_t)` function `fgsl_bspline_ncoeffs` (`type(fgsl_bspline_workspace)`, `intent(inout) w`)

41.3 api/chebyshev.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_cheb_series) function [fgsl_cheb_alloc](#) (n)
- subroutine [fgsl_cheb_free](#) (cs)
- integer(fgsl_int) function [fgsl_cheb_init](#) (cs, f, a, b)
- integer(fgsl_size_t) function [fgsl_cheb_order](#) (cs)
- integer(fgsl_size_t) function [fgsl_cheb_size](#) (cs)
- real(fgsl_double) function, dimension(:), pointer [fgsl_cheb_coefs](#) (cs)
- real(fgsl_double) function [fgsl_cheb_eval](#) (cs, x)
- integer(fgsl_int) function [fgsl_cheb_eval_err](#) (cs, x, result, abserr)
- real(fgsl_double) function [fgsl_cheb_eval_n](#) (cs, order, x)
- integer(fgsl_int) function [fgsl_cheb_eval_n_err](#) (cs, order, x, result, abserr)
- integer(fgsl_int) function [fgsl_cheb_calc_deriv](#) (deriv, cs)
- integer(fgsl_int) function [fgsl_cheb_calc_integ](#) (integ, cs)
- logical function [fgsl_cheb_series_status](#) (cheb_series)

41.3.1 Function/Subroutine Documentation

41.3.1.1 type(fgsl_cheb_series) function [fgsl_cheb_alloc](#) (integer(fgsl_int), intent(in) *n*)

41.3.1.2 integer(fgsl_int) function [fgsl_cheb_calc_deriv](#) (type(fgsl_cheb_series), intent(inout) *deriv*, type(fgsl_cheb_series), intent(in) *cs*)

41.3.1.3 integer(fgsl_int) function [fgsl_cheb_calc_integ](#) (type(fgsl_cheb_series), intent(inout) *integ*, type(fgsl_cheb_series), intent(in) *cs*)

41.3.1.4 real(fgsl_double) function, dimension(:), pointer [fgsl_cheb_coefs](#) (type(fgsl_cheb_series), intent(in) *cs*)

41.3.1.5 real(fgsl_double) function [fgsl_cheb_eval](#) (type(fgsl_cheb_series), intent(in) *cs*, real(fgsl_double), intent(in) *x*)

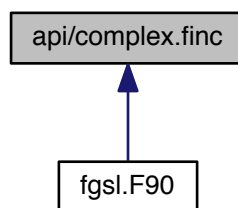
41.3.1.6 integer(fgsl_int) function [fgsl_cheb_eval_err](#) (type(fgsl_cheb_series), intent(in) *cs*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*)

41.3.1.7 real(fgsl_double) function [fgsl_cheb_eval_n](#) (type(fgsl_cheb_series), intent(in) *cs*, integer(fgsl_size_t), intent(in) *order*, real(fgsl_double), intent(in) *x*)

- 41.3.1.8 integer(fgsl_int) function `fgsl_cheb_eval_n_err` (type(fgsl_cheb_series), intent(in) *cs*, integer(fgsl_size_t), intent(in) *order*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*)
- 41.3.1.9 subroutine `fgsl_cheb_free` (type(fgsl_cheb_series), intent(in) *cs*)
- 41.3.1.10 integer(fgsl_int) function `fgsl_cheb_init` (type(fgsl_cheb_series), intent(inout) *cs*, type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*)
- 41.3.1.11 integer(fgsl_size_t) function `fgsl_cheb_order` (type(fgsl_cheb_series), intent(in) *cs*)
- 41.3.1.12 logical function `fgsl_cheb_series_status` (type(fgsl_cheb_series), intent(in) *cheb_series*)
- 41.3.1.13 integer(fgsl_size_t) function `fgsl_cheb_size` (type(fgsl_cheb_series), intent(in) *cs*)

41.4 api/complex.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- real(fgsl_double) function [fgsl_complex_arg](#) (z)
- real(fgsl_double) function [fgsl_complex_logabs](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_log10](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_log_b](#) (z, b)
- complex(fgsl_double_complex) function [fgsl_complex_arcsin](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_arcsin_real](#) (r)
- complex(fgsl_double_complex) function [fgsl_complex_arccos](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_arccos_real](#) (r)
- complex(fgsl_double_complex) function [fgsl_complex_arctan](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_arcsec](#) (z)
- complex(fgsl_double_complex) function [fgsl_complex_arcsec_real](#) (r)

- complex(fgsl_double_complex)
function [fgsl_complex_arccsc](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arccsc_real](#) (r)
- complex(fgsl_double_complex)
function [fgsl_complex_arccot](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arcsinh](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arccosh](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arccosh_real](#) (r)
- complex(fgsl_double_complex)
function [fgsl_complex_arctanh](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arctanh_real](#) (r)
- complex(fgsl_double_complex)
function [fgsl_complex_arcsech](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arccsch](#) (z)
- complex(fgsl_double_complex)
function [fgsl_complex_arccoth](#) (z)
- elemental subroutine [fgsl_complex_to_complex](#) (result, source)
- elemental subroutine [complex_to_fgsl_complex](#) (result, source)

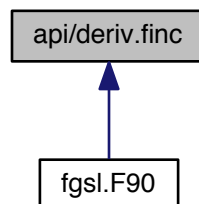
41.4.1 Function/Subroutine Documentation

- 41.4.1.1 elemental subroutine [complex_to_fgsl_complex](#) (type(fgsl_complex), intent(out) *result*, complex(fgsl_double_complex), intent(in) *source*)
- 41.4.1.2 complex(fgsl_double_complex) function [fgsl_complex_arccos](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.3 complex(fgsl_double_complex) function [fgsl_complex_arccos_real](#) (real(fgsl_double), intent(in) *r*)
- 41.4.1.4 complex(fgsl_double_complex) function [fgsl_complex_arccosh](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.5 complex(fgsl_double_complex) function [fgsl_complex_arccosh_real](#) (real(fgsl_double), intent(in) *r*)
- 41.4.1.6 complex(fgsl_double_complex) function [fgsl_complex_arccot](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.7 complex(fgsl_double_complex) function [fgsl_complex_arccoth](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.8 complex(fgsl_double_complex) function [fgsl_complex_arccsc](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.9 complex(fgsl_double_complex) function [fgsl_complex_arccsc_real](#) (real(fgsl_double), intent(in) *r*)
- 41.4.1.10 complex(fgsl_double_complex) function [fgsl_complex_arccsch](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.11 complex(fgsl_double_complex) function [fgsl_complex_arcsec](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.12 complex(fgsl_double_complex) function [fgsl_complex_arcsec_real](#) (real(fgsl_double), intent(in) *r*)
- 41.4.1.13 complex(fgsl_double_complex) function [fgsl_complex_arcsech](#) (complex(fgsl_double_complex), intent(in) *z*)
- 41.4.1.14 complex(fgsl_double_complex) function [fgsl_complex_arcsin](#) (complex(fgsl_double_complex), intent(in) *z*)

- 41.4.1.15 `complex(fgsl_double_complex)` function `fgsl_complex_arcsin_real` (`real(fgsl_double)`, `intent(in) r`)
- 41.4.1.16 `complex(fgsl_double_complex)` function `fgsl_complex_arcsinh` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.17 `complex(fgsl_double_complex)` function `fgsl_complex_arctan` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.18 `complex(fgsl_double_complex)` function `fgsl_complex_arctanh` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.19 `complex(fgsl_double_complex)` function `fgsl_complex_arctanh_real` (`real(fgsl_double)`, `intent(in) r`)
- 41.4.1.20 `real(fgsl_double)` function `fgsl_complex_arg` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.21 `complex(fgsl_double_complex)` function `fgsl_complex_log10` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.22 `complex(fgsl_double_complex)` function `fgsl_complex_log_b` (`complex(fgsl_double_complex)`, `intent(in) z`, `complex(fgsl_double_complex)`, `intent(in) b`)
- 41.4.1.23 `real(fgsl_double)` function `fgsl_complex_logabs` (`complex(fgsl_double_complex)`, `intent(in) z`)
- 41.4.1.24 elemental subroutine `fgsl_complex_to_complex` (`complex(fgsl_double_complex)`, `intent(out) result`, `type(gsl_complex)`, `intent(in) source`)

41.5 `api/deriv.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `integer(fgsl_int)` function `fgsl_deriv_central` (`f`, `x`, `h`, `result`, `abserr`)
- `integer(fgsl_int)` function `fgsl_deriv_forward` (`f`, `x`, `h`, `result`, `abserr`)
- `integer(fgsl_int)` function `fgsl_deriv_backward` (`f`, `x`, `h`, `result`, `abserr`)

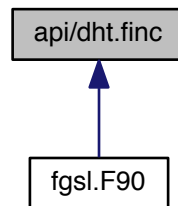
41.5.1 Function/Subroutine Documentation

- 41.5.1.1 `integer(fgsl_int)` function `fgsl_deriv_backward` (`type(fgsl_function)`, `intent(in) f`, `real(fgsl_double)`, `intent(in) x`, `real(fgsl_double)`, `intent(in) h`, `real(fgsl_double)`, `intent(out) result`, `real(fgsl_double)`, `intent(out) abserr`)
- 41.5.1.2 `integer(fgsl_int)` function `fgsl_deriv_central` (`type(fgsl_function)`, `intent(in) f`, `real(fgsl_double)`, `intent(in) x`, `real(fgsl_double)`, `intent(in) h`, `real(fgsl_double)`, `intent(out) result`, `real(fgsl_double)`, `intent(out) abserr`)

41.5.1.3 integer(fgsl_int) function `fgsl_deriv_forward` (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *h*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*)

41.6 api/dht.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_dht) function [fgsl_dht_alloc](#) (size)
- integer(fgsl_int) function [fgsl_dht_init](#) (t, nu, xmax)
- type(fgsl_dht) function [fgsl_dht_new](#) (size, nu, xmax)
- subroutine [fgsl_dht_free](#) (t)
- integer(fgsl_int) function [fgsl_dht_apply](#) (t, f_in, f_out)
- real(fgsl_double) function [fgsl_dht_x_sample](#) (t, n)
- real(fgsl_double) function [fgsl_dht_k_sample](#) (t, n)
- logical function [fgsl_dht_status](#) (dht)

41.6.1 Function/Subroutine Documentation

41.6.1.1 type(fgsl_dht) function `fgsl_dht_alloc` (integer(fgsl_size_t), intent(in) *size*)

41.6.1.2 integer(fgsl_int) function `fgsl_dht_apply` (type(fgsl_dht), intent(in) *t*, real(fgsl_double), dimension(:), intent(in) *f_in*, real(fgsl_double), dimension(:), intent(out) *f_out*)

41.6.1.3 subroutine `fgsl_dht_free` (type(fgsl_dht), intent(inout) *t*)

41.6.1.4 integer(fgsl_int) function `fgsl_dht_init` (type(fgsl_dht), intent(inout) *t*, real(fgsl_double), intent(in) *nu*, real(fgsl_double), intent(in) *xmax*)

41.6.1.5 real(fgsl_double) function `fgsl_dht_k_sample` (type(fgsl_dht), intent(in) *t*, integer(fgsl_int), intent(in) *n*)

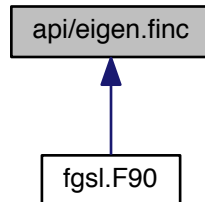
41.6.1.6 type(fgsl_dht) function `fgsl_dht_new` (integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), intent(in) *nu*, real(fgsl_double), intent(in) *xmax*)

41.6.1.7 logical function `fgsl_dht_status` (type(fgsl_dht), intent(in) *dht*)

41.6.1.8 real(fgsl_double) function `fgsl_dht_x_sample` (type(fgsl_dht), intent(in) *t*, integer(fgsl_int), intent(in) *n*)

41.7 api/eigen.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_eigen_symm_workspace)
function [fgsl_eigen_symm_alloc](#) (n)
- subroutine [fgsl_eigen_symm_free](#) (w)
- integer(fgsl_int) function [fgsl_eigen_symm](#) (a, eval, w)
- type(fgsl_eigen_symmv_workspace)
function [fgsl_eigen_symmv_alloc](#) (n)
- subroutine [fgsl_eigen_symmv_free](#) (w)
- integer(fgsl_int) function [fgsl_eigen_symmv](#) (a, eval, evec, w)
- type(fgsl_eigen_herm_workspace)
function [fgsl_eigen_herm_alloc](#) (n)
- subroutine [fgsl_eigen_herm_free](#) (w)
- integer(fgsl_int) function [fgsl_eigen_herm](#) (a, eval, w)
- type(fgsl_eigen_hermv_workspace)
function [fgsl_eigen_hermv_alloc](#) (n)
- subroutine [fgsl_eigen_hermv_free](#) (w)
- integer(fgsl_int) function [fgsl_eigen_hermv](#) (a, eval, evec, w)
- type(fgsl_eigen_nonsymm_workspace)
function [fgsl_eigen_nonsymm_alloc](#) (n)
- subroutine [fgsl_eigen_nonsymm_free](#) (w)
- subroutine [fgsl_eigen_nonsymm_params](#) (compute_t, balance, w)
- integer(fgsl_int) function [fgsl_eigen_nonsymm](#) (a, eval, w)
- integer(fgsl_int) function [fgsl_eigen_nonsymm_z](#) (a, eval, z, w)
- type(fgsl_eigen_nonsymmv_workspace)
function [fgsl_eigen_nonsymmv_alloc](#) (n)
- subroutine [fgsl_eigen_nonsymmv_free](#) (w)
- subroutine [fgsl_eigen_nonsymmv_params](#) (balance, w)
- integer(fgsl_int) function [fgsl_eigen_nonsymmv](#) (a, eval, evec, w)
- integer(fgsl_int) function [fgsl_eigen_nonsymmv_z](#) (a, eval, evec, z, w)
- type(fgsl_eigen_gensymm_workspace)
function [fgsl_eigen_gensymm_alloc](#) (n)
- subroutine [fgsl_eigen_gensymm_free](#) (w)
- integer(fgsl_int) function [fgsl_eigen_gensymm](#) (a, b, eval, w)
- type(fgsl_eigen_gensymmv_workspace)
function [fgsl_eigen_gensymmv_alloc](#) (n)

- subroutine `fgsl_eigen_gensymmv_free` (*w*)
- integer(*fgsl_int*) function `fgsl_eigen_gensymmv` (*a*, *b*, *eval*, *evvec*, *w*)
- type(*fgsl_eigen_genherm_workspace*)
function `fgsl_eigen_genherm_alloc` (*n*)
- subroutine `fgsl_eigen_genherm_free` (*w*)
- integer(*fgsl_int*) function `fgsl_eigen_genherm` (*a*, *b*, *eval*, *w*)
- type(*fgsl_eigen_genhermv_workspace*)
function `fgsl_eigen_genhermv_alloc` (*n*)
- subroutine `fgsl_eigen_genhermv_free` (*w*)
- integer(*fgsl_int*) function `fgsl_eigen_genhermv` (*a*, *b*, *eval*, *evvec*, *w*)
- type(*fgsl_eigen_gen_workspace*)
function `fgsl_eigen_gen_alloc` (*n*)
- subroutine `fgsl_eigen_gen_free` (*w*)
- subroutine `fgsl_eigen_gen_params` (*compute_s*, *compute_t*, *balance*, *w*)
- integer(*fgsl_int*) function `fgsl_eigen_gen` (*a*, *b*, *alpha*, *beta*, *w*)
- integer(*fgsl_int*) function `fgsl_eigen_gen_qz` (*a*, *b*, *alpha*, *beta*, *q*, *z*, *w*)
- type(*fgsl_eigen_genv_workspace*)
function `fgsl_eigen_genv_alloc` (*n*)
- subroutine `fgsl_eigen_genv_free` (*w*)
- integer(*fgsl_int*) function `fgsl_eigen_genv` (*a*, *b*, *alpha*, *beta*, *evvec*, *w*)
- integer(*fgsl_int*) function `fgsl_eigen_genv_qz` (*a*, *b*, *alpha*, *beta*, *evvec*, *q*, *z*, *w*)
- integer(*fgsl_int*) function `fgsl_eigen_symmv_sort` (*eval*, *evvec*, *sort_type*)
- integer(*fgsl_int*) function `fgsl_eigen_hermv_sort` (*eval*, *evvec*, *sort_type*)
- integer(*fgsl_int*) function `fgsl_eigen_nonsymmv_sort` (*eval*, *evvec*, *sort_type*)
- integer(*fgsl_int*) function `fgsl_eigen_gensymmv_sort` (*eval*, *evvec*, *sort_type*)
- integer(*fgsl_int*) function `fgsl_eigen_genhermv_sort` (*eval*, *evvec*, *sort_type*)
- integer(*fgsl_int*) function `fgsl_eigen_genv_sort` (*alpha*, *beta*, *evvec*, *sort_type*)

41.7.1 Function/Subroutine Documentation

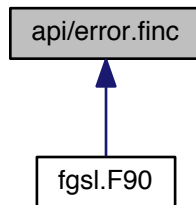
- 41.7.1.1 integer(*fgsl_int*) function `fgsl_eigen_gen` (type(*fgsl_matrix*), intent(inout) *a*, type(*fgsl_matrix*), intent(inout) *b*, type(*fgsl_vector_complex*), intent(inout) *alpha*, type(*fgsl_vector*), intent(inout) *beta*, type(*fgsl_eigen_gen_workspace*) *w*)
- 41.7.1.2 type(*fgsl_eigen_gen_workspace*) function `fgsl_eigen_gen_alloc` (integer(*fgsl_size_t*), intent(in) *n*)
- 41.7.1.3 subroutine `fgsl_eigen_gen_free` (type(*fgsl_eigen_gen_workspace*) *w*)
- 41.7.1.4 subroutine `fgsl_eigen_gen_params` (integer(*fgsl_int*), intent(in) *compute_s*, integer(*fgsl_int*), intent(in) *compute_t*, integer(*fgsl_int*), intent(in) *balance*, type(*fgsl_eigen_gen_workspace*), intent(inout) *w*)
- 41.7.1.5 integer(*fgsl_int*) function `fgsl_eigen_gen_qz` (type(*fgsl_matrix*), intent(inout) *a*, type(*fgsl_matrix*), intent(inout) *b*, type(*fgsl_vector_complex*), intent(inout) *alpha*, type(*fgsl_vector*), intent(inout) *beta*, type(*fgsl_matrix*), intent(inout) *q*, type(*fgsl_matrix*), intent(inout) *z*, type(*fgsl_eigen_gen_workspace*) *w*)
- 41.7.1.6 integer(*fgsl_int*) function `fgsl_eigen_genherm` (type(*fgsl_matrix_complex*), intent(inout) *a*, type(*fgsl_matrix_complex*), intent(inout) *b*, type(*fgsl_vector*), intent(inout) *eval*, type(*fgsl_eigen_genherm_workspace*) *w*)
- 41.7.1.7 type(*fgsl_eigen_genherm_workspace*) function `fgsl_eigen_genherm_alloc` (integer(*fgsl_size_t*), intent(in) *n*)
- 41.7.1.8 subroutine `fgsl_eigen_genherm_free` (type(*fgsl_eigen_genherm_workspace*) *w*)
- 41.7.1.9 integer(*fgsl_int*) function `fgsl_eigen_genhermv` (type(*fgsl_matrix_complex*), intent(inout) *a*, type(*fgsl_matrix_complex*), intent(inout) *b*, type(*fgsl_vector*), intent(inout) *eval*, type(*fgsl_matrix_complex*), intent(inout) *evvec*, type(*fgsl_eigen_genhermv_workspace*) *w*)

- 41.7.1.10 `type(fgsl_eigen_genhermv_workspace)` function `fgsl_eigen_genhermv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.11 subroutine `fgsl_eigen_genhermv_free (type(fgsl_eigen_genhermv_workspace) w)`
- 41.7.1.12 `integer(fgsl_int)` function `fgsl_eigen_genhermv_sort (type(fgsl_vector), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`
- 41.7.1.13 `integer(fgsl_int)` function `fgsl_eigen_gensymm (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) b, type(fgsl_vector), intent(inout) eval, type(fgsl_eigen_gensymm_workspace) w)`
- 41.7.1.14 `type(fgsl_eigen_gensymm_workspace)` function `fgsl_eigen_gensymm_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.15 subroutine `fgsl_eigen_gensymm_free (type(fgsl_eigen_gensymm_workspace) w)`
- 41.7.1.16 `integer(fgsl_int)` function `fgsl_eigen_gensymmv (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) b, type(fgsl_vector), intent(inout) eval, type(fgsl_matrix), intent(inout) evec, type(fgsl_eigen_gensymmv_workspace) w)`
- 41.7.1.17 `type(fgsl_eigen_gensymmv_workspace)` function `fgsl_eigen_gensymmv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.18 subroutine `fgsl_eigen_gensymmv_free (type(fgsl_eigen_gensymmv_workspace) w)`
- 41.7.1.19 `integer(fgsl_int)` function `fgsl_eigen_gensymmv_sort (type(fgsl_vector), intent(inout) eval, type(fgsl_matrix), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`
- 41.7.1.20 `integer(fgsl_int)` function `fgsl_eigen_genv (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) b, type(fgsl_vector_complex), intent(inout) alpha, type(fgsl_vector), intent(inout) beta, type(fgsl_matrix_complex), intent(inout) evec, type(fgsl_eigen_genv_workspace) w)`
- 41.7.1.21 `type(fgsl_eigen_genv_workspace)` function `fgsl_eigen_genv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.22 subroutine `fgsl_eigen_genv_free (type(fgsl_eigen_genv_workspace) w)`
- 41.7.1.23 `integer(fgsl_int)` function `fgsl_eigen_genv_qz (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) b, type(fgsl_vector_complex), intent(inout) alpha, type(fgsl_vector), intent(inout) beta, type(fgsl_matrix_complex), intent(inout) evec, type(fgsl_matrix), intent(inout) q, type(fgsl_matrix), intent(inout) z, type(fgsl_eigen_genv_workspace) w)`
- 41.7.1.24 `integer(fgsl_int)` function `fgsl_eigen_genv_sort (type(fgsl_vector_complex), intent(inout) alpha, type(fgsl_vector), intent(inout) beta, type(fgsl_matrix_complex), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`
- 41.7.1.25 `integer(fgsl_int)` function `fgsl_eigen_herm (type(fgsl_matrix_complex), intent(inout) a, type(fgsl_vector), intent(inout) eval, type(fgsl_eigen_herm_workspace) w)`
- 41.7.1.26 `type(fgsl_eigen_herm_workspace)` function `fgsl_eigen_herm_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.27 subroutine `fgsl_eigen_herm_free (type(fgsl_eigen_herm_workspace) w)`
- 41.7.1.28 `integer(fgsl_int)` function `fgsl_eigen_hermv (type(fgsl_matrix_complex), intent(inout) a, type(fgsl_vector), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, type(fgsl_eigen_hermv_workspace) w)`
- 41.7.1.29 `type(fgsl_eigen_hermv_workspace)` function `fgsl_eigen_hermv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.30 subroutine `fgsl_eigen_hermv_free (type(fgsl_eigen_hermv_workspace) w)`
- 41.7.1.31 `integer(fgsl_int)` function `fgsl_eigen_hermv_sort (type(fgsl_vector), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`

- 41.7.1.32 `integer(fgsl_int) function fgsl_eigen_nonsymm (type(fgsl_matrix), intent(inout) a, type(fgsl_vector_complex), intent(inout) eval, type(fgsl_eigen_nonsymm_workspace) w)`
- 41.7.1.33 `type(fgsl_eigen_nonsymm_workspace) function fgsl_eigen_nonsymm_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.34 `subroutine fgsl_eigen_nonsymm_free (type(fgsl_eigen_nonsymm_workspace) w)`
- 41.7.1.35 `subroutine fgsl_eigen_nonsymm_params (integer(fgsl_int), intent(in) compute_t, integer(fgsl_int), intent(in) balance, type(fgsl_eigen_nonsymm_workspace), intent(inout) w)`
- 41.7.1.36 `integer(fgsl_int) function fgsl_eigen_nonsymm_z (type(fgsl_matrix), intent(inout) a, type(fgsl_vector_complex), intent(inout) eval, type(fgsl_matrix), intent(inout) z, type(fgsl_eigen_nonsymm_workspace) w)`
- 41.7.1.37 `integer(fgsl_int) function fgsl_eigen_nonsymmv (type(fgsl_matrix), intent(inout) a, type(fgsl_vector_complex), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, type(fgsl_eigen_nonsymmv_workspace) w)`
- 41.7.1.38 `type(fgsl_eigen_nonsymmv_workspace) function fgsl_eigen_nonsymmv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.39 `subroutine fgsl_eigen_nonsymmv_free (type(fgsl_eigen_nonsymmv_workspace) w)`
- 41.7.1.40 `subroutine fgsl_eigen_nonsymmv_params (integer(fgsl_int), intent(in) balance, type(fgsl_eigen_nonsymm_workspace), intent(inout) w)`
- 41.7.1.41 `integer(fgsl_int) function fgsl_eigen_nonsymmv_sort (type(fgsl_vector_complex), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`
- 41.7.1.42 `integer(fgsl_int) function fgsl_eigen_nonsymmv_z (type(fgsl_matrix), intent(inout) a, type(fgsl_vector_complex), intent(inout) eval, type(fgsl_matrix_complex), intent(inout) evec, type(fgsl_matrix), intent(inout) z, type(fgsl_eigen_nonsymmv_workspace) w)`
- 41.7.1.43 `integer(fgsl_int) function fgsl_eigen_symm (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(inout) eval, type(fgsl_eigen_symm_workspace) w)`
- 41.7.1.44 `type(fgsl_eigen_symm_workspace) function fgsl_eigen_symm_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.45 `subroutine fgsl_eigen_symm_free (type(fgsl_eigen_symm_workspace) w)`
- 41.7.1.46 `integer(fgsl_int) function fgsl_eigen_symmv (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(inout) eval, type(fgsl_matrix), intent(inout) evec, type(fgsl_eigen_symmv_workspace) w)`
- 41.7.1.47 `type(fgsl_eigen_symmv_workspace) function fgsl_eigen_symmv_alloc (integer(fgsl_size_t), intent(in) n)`
- 41.7.1.48 `subroutine fgsl_eigen_symmv_free (type(fgsl_eigen_symmv_workspace) w)`
- 41.7.1.49 `integer(fgsl_int) function fgsl_eigen_symmv_sort (type(fgsl_vector), intent(inout) eval, type(fgsl_matrix), intent(inout) evec, integer(fgsl_int), intent(in) sort_type)`

41.8 api/error.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_error_handler_t) function [fgsl_set_error_handler](#) (new_handler)
- type(fgsl_error_handler_t) function [fgsl_set_error_handler_off](#) ()
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_strerror](#) (errno)
- subroutine [fgsl_error](#) (reason, file, line, errno)
- logical function [fgsl_error_handler_status](#) (error_handler_t)
- type(fgsl_error_handler_t) function [fgsl_error_handler_init](#) (handler_sr)

41.8.1 Function/Subroutine Documentation

41.8.1.1 subroutine [fgsl_error](#) (character(kind=fgsl_char,len=*), intent(in) *reason*, character(kind=fgsl_char,len=*), intent(in) *file*, integer(fgsl_int), intent(in) *line*, integer(fgsl_int), intent(in) *errno*)

41.8.1.2 type(fgsl_error_handler_t) function [fgsl_error_handler_init](#) (*handler_sr*)

41.8.1.3 logical function [fgsl_error_handler_status](#) (type(fgsl_error_handler_t), intent(in) *error_handler_t*)

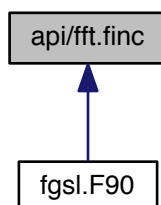
41.8.1.4 type(fgsl_error_handler_t) function [fgsl_set_error_handler](#) (type(fgsl_error_handler_t), intent(in) *new_handler*)

41.8.1.5 type(fgsl_error_handler_t) function [fgsl_set_error_handler_off](#) ()

41.8.1.6 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_strerror](#) (integer(fgsl_int), intent(in) *errno*)

41.9 api/fft.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- integer(fgsl_int) function [fgsl_fft_complex_radix2_forward](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_transform](#) (data, stride, n, sign)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_backward](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_inverse](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_dif_forward](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_dif_transform](#) (data, stride, n, sign)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_dif_backward](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_complex_radix2_dif_inverse](#) (data, stride, n)
- type(fgsl_fft_complex_wavetable)
function [fgsl_fft_complex_wavetable_alloc](#) (n)
- subroutine [fgsl_fft_complex_wavetable_free](#) (w)
- type(fgsl_fft_complex_workspace)
function [fgsl_fft_complex_workspace_alloc](#) (n)
- subroutine [fgsl_fft_complex_workspace_free](#) (w)
- integer(fgsl_int) function [fgsl_fft_complex_forward](#) (data, stride, n, wavetable, work)
- integer(fgsl_int) function [fgsl_fft_complex_transform](#) (data, stride, n, wavetable, work, sign)
- integer(fgsl_int) function [fgsl_fft_complex_backward](#) (data, stride, n, wavetable, work)
- integer(fgsl_int) function [fgsl_fft_complex_inverse](#) (data, stride, n, wavetable, work)
- integer(fgsl_int) function [fgsl_fft_real_radix2_transform](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_halfcomplex_radix2_inverse](#) (data, stride, n)
- integer(fgsl_int) function [fgsl_fft_halfcomplex_radix2_backward](#) (data, stride, n)
- type(fgsl_fft_real_wavetable)
function [fgsl_fft_real_wavetable_alloc](#) (n)
- subroutine [fgsl_fft_real_wavetable_free](#) (w)
- type(fgsl_fft_halfcomplex_wavetable)
function [fgsl_fft_halfcomplex_wavetable_alloc](#) (n)
- subroutine [fgsl_fft_halfcomplex_wavetable_free](#) (w)
- type(fgsl_fft_real_workspace)
function [fgsl_fft_real_workspace_alloc](#) (n)
- subroutine [fgsl_fft_real_workspace_free](#) (w)
- integer(fgsl_int) function [fgsl_fft_real_transform](#) (data, stride, n, wavetable, work)
- integer(fgsl_int) function [fgsl_fft_halfcomplex_transform](#) (data, stride, n, wavetable, work)
- integer(fgsl_int) function [fgsl_fft_real_unpack](#) (real_coefficient, complex_coefficient, stride, n)
- integer(fgsl_int) function [fgsl_fft_halfcomplex_unpack](#) (halfcomplex_coefficient, complex_coefficient, stride, n)

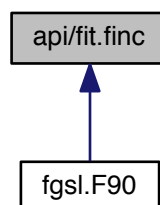
41.9.1 Function/Subroutine Documentation

- 41.9.1.1 integer(fgsl_int) function fgsl_fft_complex_backward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_complex_wavetable), intent(in) *wavetable*, type(fgsl_fft_complex_workspace) *work*)
- 41.9.1.2 integer(fgsl_int) function fgsl_fft_complex_forward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_complex_wavetable), intent(in) *wavetable*, type(fgsl_fft_complex_workspace) *work*)
- 41.9.1.3 integer(fgsl_int) function fgsl_fft_complex_inverse (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_complex_wavetable), intent(in) *wavetable*, type(fgsl_fft_complex_workspace) *work*)
- 41.9.1.4 integer(fgsl_int) function fgsl_fft_complex_radix2_backward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.5 integer(fgsl_int) function fgsl_fft_complex_radix2_dif_backward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.6 integer(fgsl_int) function fgsl_fft_complex_radix2_dif_forward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.7 integer(fgsl_int) function fgsl_fft_complex_radix2_dif_inverse (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.8 integer(fgsl_int) function fgsl_fft_complex_radix2_dif_transform (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, integer(fgsl_int), intent(in) *sign*)
- 41.9.1.9 integer(fgsl_int) function fgsl_fft_complex_radix2_forward (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.10 integer(fgsl_int) function fgsl_fft_complex_radix2_inverse (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.11 integer(fgsl_int) function fgsl_fft_complex_radix2_transform (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, integer(fgsl_int), intent(in) *sign*)
- 41.9.1.12 integer(fgsl_int) function fgsl_fft_complex_transform (complex(fgsl_double_complex), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_complex_wavetable), intent(in) *wavetable*, type(fgsl_fft_complex_workspace) *work*, integer(fgsl_int), intent(in) *sign*)
- 41.9.1.13 type(fgsl_fft_complex_wavetable) function fgsl_fft_complex_wavetable_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.14 subroutine fgsl_fft_complex_wavetable_free (type(fgsl_fft_complex_wavetable) *w*)
- 41.9.1.15 type(fgsl_fft_complex_workspace) function fgsl_fft_complex_workspace_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.16 subroutine fgsl_fft_complex_workspace_free (type(fgsl_fft_complex_workspace) *w*)
- 41.9.1.17 integer(fgsl_int) function fgsl_fft_halfcomplex_radix2_backward (real(fgsl_double), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)

- 41.9.1.18 integer(fgsl_int) function fgsl_fft_halfcomplex_radix2_inverse (real(fgsl_double), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.19 integer(fgsl_int) function fgsl_fft_halfcomplex_transform (real(fgsl_double), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_halfcomplex_wavetable), intent(in) *wavetable*, type(fgsl_fft_real_workspace) *work*)
- 41.9.1.20 integer(fgsl_int) function fgsl_fft_halfcomplex_unpack (real(fgsl_double), dimension(*), intent(in), target *halfcomplex_coefficient*, complex(fgsl_double_complex), dimension(*), intent(inout), target *complex_coefficient*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.21 type(fgsl_fft_halfcomplex_wavetable) function fgsl_fft_halfcomplex_wavetable_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.22 subroutine fgsl_fft_halfcomplex_wavetable_free (type(fgsl_fft_halfcomplex_wavetable) *w*)
- 41.9.1.23 integer(fgsl_int) function fgsl_fft_real_radix2_transform (real(fgsl_double), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.24 integer(fgsl_int) function fgsl_fft_real_transform (real(fgsl_double), dimension(*), intent(inout), target *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_fft_real_wavetable), intent(in) *wavetable*, type(fgsl_fft_real_workspace) *work*)
- 41.9.1.25 integer(fgsl_int) function fgsl_fft_real_unpack (real(fgsl_double), dimension(*), intent(in), target *real_coefficient*, complex(fgsl_double_complex), dimension(*), intent(inout), target *complex_coefficient*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.26 type(fgsl_fft_real_wavetable) function fgsl_fft_real_wavetable_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.27 subroutine fgsl_fft_real_wavetable_free (type(fgsl_fft_real_wavetable) *w*)
- 41.9.1.28 type(fgsl_fft_real_workspace) function fgsl_fft_real_workspace_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.9.1.29 subroutine fgsl_fft_real_workspace_free (type(fgsl_fft_real_workspace) *w*)

41.10 api/fit.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- integer(fgsl_int) function [fgsl_fit_linear](#) (x, xstride, y, ystride, n, c0, c1, cov00, cov01, cov11, sumsq)
- integer(fgsl_int) function [fgsl_fit_wlinear](#) (x, xstride, w, wstride, y, ystride, n, c0, c1, cov00, cov01, cov11, chisq)
- integer(fgsl_int) function [fgsl_fit_linear_est](#) (x, c0, c1, cov00, cov01, cov11, y, y_err)
- integer(fgsl_int) function [fgsl_fit_mul](#) (x, xstride, y, ystride, n, c1, cov11, sumsq)
- integer(fgsl_int) function [fgsl_fit_wmul](#) (x, xstride, w, wstride, y, ystride, n, c1, cov11, chisq)
- integer(fgsl_int) function [fgsl_fit_mul_est](#) (x, c1, cov11, y, y_err)
- type(fgsl_multifit_linear_workspace) function [fgsl_multifit_linear_alloc](#) (n, p)
- subroutine [fgsl_multifit_linear_free](#) (w)
- integer(fgsl_int) function [fgsl_multifit_linear](#) (x, y, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_linear_svd](#) (x, y, tol, rank, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_linear_usvd](#) (x, y, tol, rank, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_wlinear](#) (x, w, y, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_wlinear_svd](#) (x, w, y, tol, rank, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_wlinear_usvd](#) (x, w, y, tol, rank, c, cov, chisq, work)
- integer(fgsl_int) function [fgsl_multifit_linear_est](#) (x, c, cov, y, y_err)
- integer(fgsl_int) function [fgsl_multifit_linear_residuals](#) (x, y, c, r)
- logical function [fgsl_multifit_status](#) (multifit)

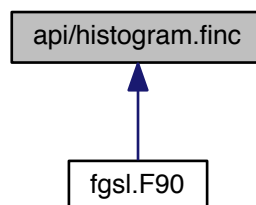
41.10.1 Function/Subroutine Documentation

- 41.10.1.1 integer(fgsl_int) function [fgsl_fit_linear](#) (real(fgsl_double), dimension(:), intent(in) x, integer(fgsl_size_t), intent(in) xstride, real(fgsl_double), dimension(:), intent(in) y, integer(fgsl_size_t), intent(in) ystride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(out) c0, real(fgsl_double), intent(out) c1, real(fgsl_double), intent(out) cov00, real(fgsl_double), intent(out) cov01, real(fgsl_double), intent(out) cov11, real(fgsl_double), intent(out) sumsq)
- 41.10.1.2 integer(fgsl_int) function [fgsl_fit_linear_est](#) (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) c0, real(fgsl_double), intent(in) c1, real(fgsl_double), intent(in) cov00, real(fgsl_double), intent(in) cov01, real(fgsl_double), intent(in) cov11, real(fgsl_double), intent(out) y, real(fgsl_double), intent(out) y_err)
- 41.10.1.3 integer(fgsl_int) function [fgsl_fit_mul](#) (real(fgsl_double), dimension(:), intent(in) x, integer(fgsl_size_t), intent(in) xstride, real(fgsl_double), dimension(:), intent(in) y, integer(fgsl_size_t), intent(in) ystride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(out) c1, real(fgsl_double), intent(out) cov11, real(fgsl_double), intent(out) sumsq)
- 41.10.1.4 integer(fgsl_int) function [fgsl_fit_mul_est](#) (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) c1, real(fgsl_double), intent(in) cov11, real(fgsl_double), intent(out) y, real(fgsl_double), intent(out) y_err)
- 41.10.1.5 integer(fgsl_int) function [fgsl_fit_wlinear](#) (real(fgsl_double), dimension(:), intent(in) x, integer(fgsl_size_t), intent(in) xstride, real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) y, integer(fgsl_size_t), intent(in) ystride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(out) c0, real(fgsl_double), intent(out) c1, real(fgsl_double), intent(out) cov00, real(fgsl_double), intent(out) cov01, real(fgsl_double), intent(out) cov11, real(fgsl_double), intent(out) chisq)
- 41.10.1.6 integer(fgsl_int) function [fgsl_fit_wmul](#) (real(fgsl_double), dimension(:), intent(in) x, integer(fgsl_size_t), intent(in) xstride, real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) y, integer(fgsl_size_t), intent(in) ystride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(out) c1, real(fgsl_double), intent(out) cov11, real(fgsl_double), intent(out) chisq)
- 41.10.1.7 integer(fgsl_int) function [fgsl_multifit_linear](#) (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) y, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)

- 41.10.1.8 `type(fgsl_multifit_linear_workspace)` function `fgsl_multifit_linear_alloc (integer(fgsl_size_t), intent(in) n, integer(fgsl_size_t), intent(in) p)`
- 41.10.1.9 `integer(fgsl_int)` function `fgsl_multifit_linear_est (type(fgsl_vector), intent(in) x, type(fgsl_vector), intent(in) c, type(fgsl_matrix), intent(in) cov, real(fgsl_double), intent(inout) y, real(fgsl_double), intent(inout) y_err)`
- 41.10.1.10 subroutine `fgsl_multifit_linear_free (type(fgsl_multifit_linear_workspace), intent(inout) w)`
- 41.10.1.11 `integer(fgsl_int)` function `fgsl_multifit_linear_residuals (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) y, type(fgsl_vector), intent(in) c, type(fgsl_vector), intent(inout) r)`
- 41.10.1.12 `integer(fgsl_int)` function `fgsl_multifit_linear_svd (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) y, real(fgsl_double), intent(in) tol, integer(fgsl_size_t), intent(inout) rank, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)`
- 41.10.1.13 `integer(fgsl_int)` function `fgsl_multifit_linear_usvd (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) y, real(fgsl_double), intent(in) tol, integer(fgsl_size_t), intent(inout) rank, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)`
- 41.10.1.14 logical function `fgsl_multifit_status (type(fgsl_multifit_linear_workspace), intent(in) multifit)`
- 41.10.1.15 `integer(fgsl_int)` function `fgsl_multifit_wlinear (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) w, type(fgsl_vector), intent(in) y, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)`
- 41.10.1.16 `integer(fgsl_int)` function `fgsl_multifit_wlinear_svd (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) w, type(fgsl_vector), intent(in) y, real(fgsl_double), intent(in) tol, integer(fgsl_size_t), intent(inout) rank, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)`
- 41.10.1.17 `integer(fgsl_int)` function `fgsl_multifit_wlinear_usvd (type(fgsl_matrix), intent(in) x, type(fgsl_vector), intent(in) w, type(fgsl_vector), intent(in) y, real(fgsl_double), intent(in) tol, integer(fgsl_size_t), intent(inout) rank, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, real(fgsl_double), intent(inout) chisq, type(fgsl_multifit_linear_workspace), intent(inout) work)`

41.11 api/histogram.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(`fgsl_histogram`) function [fgsl_histogram_alloc](#) (`n`)
- integer(`fgsl_int`) function [fgsl_histogram_set_ranges](#) (`h`, `range`, `size`)
- integer(`fgsl_int`) function [fgsl_histogram_set_ranges_uniform](#) (`h`, `xmin`, `xmax`)
- subroutine [fgsl_histogram_free](#) (`h`)
- integer(`fgsl_int`) function [fgsl_histogram_memcpy](#) (`dest`, `src`)
- type(`fgsl_histogram`) function [fgsl_histogram_clone](#) (`src`)
- integer(`fgsl_int`) function [fgsl_histogram_increment](#) (`h`, `x`)
- integer(`fgsl_int`) function [fgsl_histogram_accumulate](#) (`h`, `x`, `weight`)
- real(`fgsl_double`) function [fgsl_histogram_get](#) (`h`, `i`)
- integer(`fgsl_int`) function [fgsl_histogram_get_range](#) (`h`, `i`, `lower`, `upper`)
- real(`fgsl_double`) function [fgsl_histogram_max](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_min](#) (`h`)
- integer(`fgsl_size_t`) function [fgsl_histogram_bins](#) (`h`)
- subroutine [fgsl_histogram_reset](#) (`h`)
- integer(`fgsl_int`) function [fgsl_histogram_find](#) (`h`, `x`, `i`)
- real(`fgsl_double`) function [fgsl_histogram_max_val](#) (`h`)
- integer(`fgsl_size_t`) function [fgsl_histogram_max_bin](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_min_val](#) (`h`)
- integer(`fgsl_size_t`) function [fgsl_histogram_min_bin](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_mean](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_sigma](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_sum](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram_equal_bins_p](#) (`h1`, `h2`)
- real(`fgsl_double`) function [fgsl_histogram_add](#) (`h1`, `h2`)
- real(`fgsl_double`) function [fgsl_histogram_sub](#) (`h1`, `h2`)
- real(`fgsl_double`) function [fgsl_histogram_mul](#) (`h1`, `h2`)
- real(`fgsl_double`) function [fgsl_histogram_div](#) (`h1`, `h2`)
- integer(`fgsl_int`) function [fgsl_histogram_scale](#) (`h`, `scale`)
- integer(`fgsl_int`) function [fgsl_histogram_shift](#) (`h`, `offset`)
- integer(`fgsl_int`) function [fgsl_histogram_fwrite](#) (`stream`, `h`)
- integer(`fgsl_int`) function [fgsl_histogram_fread](#) (`stream`, `h`)
- integer(`fgsl_int`) function [fgsl_histogram_fprintf](#) (`stream`, `h`, `range_format`, `bin_format`)
- integer(`fgsl_int`) function [fgsl_histogram_fscanf](#) (`stream`, `h`)
- type(`fgsl_histogram_pdf`) function [fgsl_histogram_pdf_alloc](#) (`n`)
- integer(`fgsl_int`) function [fgsl_histogram_pdf_init](#) (`p`, `h`)
- subroutine [fgsl_histogram_pdf_free](#) (`p`)
- real(`fgsl_double`) function [fgsl_histogram_pdf_sample](#) (`p`, `r`)
- type(`fgsl_histogram2d`) function [fgsl_histogram2d_alloc](#) (`nx`, `ny`)
- integer(`fgsl_int`) function [fgsl_histogram2d_set_ranges](#) (`h`, `xrange`, `xsize`, `yrange`, `ysize`)
- integer(`fgsl_int`) function [fgsl_histogram2d_set_ranges_uniform](#) (`h`, `xmin`, `xmax`, `ymin`, `ymax`)
- subroutine [fgsl_histogram2d_free](#) (`h`)
- integer(`fgsl_int`) function [fgsl_histogram2d_memcpy](#) (`dest`, `src`)
- type(`fgsl_histogram2d`) function [fgsl_histogram2d_clone](#) (`src`)
- integer(`fgsl_int`) function [fgsl_histogram2d_increment](#) (`h`, `x`, `y`)
- integer(`fgsl_int`) function [fgsl_histogram2d_accumulate](#) (`h`, `x`, `y`, `weight`)
- real(`fgsl_double`) function [fgsl_histogram2d_get](#) (`h`, `i`, `j`)
- integer(`fgsl_int`) function [fgsl_histogram2d_get_xrange](#) (`h`, `i`, `xlower`, `xupper`)
- integer(`fgsl_int`) function [fgsl_histogram2d_get_yrange](#) (`h`, `i`, `ylower`, `yupper`)
- real(`fgsl_double`) function [fgsl_histogram2d_xmax](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram2d_xmin](#) (`h`)
- integer(`fgsl_size_t`) function [fgsl_histogram2d_nx](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram2d_ymax](#) (`h`)
- real(`fgsl_double`) function [fgsl_histogram2d_ymin](#) (`h`)

- integer(fgsl_size_t) function [fgsl_histogram2d_ny](#) (h)
- subroutine [fgsl_histogram2d_reset](#) (h)
- integer(fgsl_int) function [fgsl_histogram2d_find](#) (h, x, y, i, j)
- real(fgsl_double) function [fgsl_histogram2d_max_val](#) (h)
- subroutine [fgsl_histogram2d_max_bin](#) (h, i, j)
- real(fgsl_double) function [fgsl_histogram2d_min_val](#) (h)
- subroutine [fgsl_histogram2d_min_bin](#) (h, i, j)
- real(fgsl_double) function [fgsl_histogram2d_xmean](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_ymean](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_xsigma](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_ysigma](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_cov](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_sum](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_equal_bins_p](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram2d_add](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram2d_sub](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram2d_mul](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram2d_div](#) (h1, h2)
- integer(fgsl_int) function [fgsl_histogram2d_scale](#) (h, scale)
- integer(fgsl_int) function [fgsl_histogram2d_shift](#) (h, offset)
- integer(fgsl_int) function [fgsl_histogram2d_fwrite](#) (stream, h)
- integer(fgsl_int) function [fgsl_histogram2d_fread](#) (stream, h)
- integer(fgsl_int) function [fgsl_histogram2d_fprintf](#) (stream, h, range_format, bin_format)
- integer(fgsl_int) function [fgsl_histogram2d_fscanf](#) (stream, h)
- type(fgsl_histogram2d_pdf) function [fgsl_histogram2d_pdf_alloc](#) (nx, ny)
- integer(fgsl_int) function [fgsl_histogram2d_pdf_init](#) (p, h)
- subroutine [fgsl_histogram2d_pdf_free](#) (p)
- integer(fgsl_int) function [fgsl_histogram2d_pdf_sample](#) (p, r1, r2, x, y)
- logical function [fgsl_histogram_status](#) (histogram)

41.11.1 Function/Subroutine Documentation

- 41.11.1.1 integer(fgsl_int) function [fgsl_histogram2d_accumulate](#) (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *weight*)
- 41.11.1.2 real(fgsl_double) function [fgsl_histogram2d_add](#) (type(fgsl_histogram2d), intent(inout) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.3 type(fgsl_histogram2d) function [fgsl_histogram2d_alloc](#) (integer(fgsl_size_t), intent(in) *nx*, integer(fgsl_size_t), intent(in) *ny*)
- 41.11.1.4 type(fgsl_histogram2d) function [fgsl_histogram2d_clone](#) (type(fgsl_histogram2d), intent(in) *src*)
- 41.11.1.5 real(fgsl_double) function [fgsl_histogram2d_cov](#) (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.6 real(fgsl_double) function [fgsl_histogram2d_div](#) (type(fgsl_histogram2d), intent(inout) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.7 real(fgsl_double) function [fgsl_histogram2d_equal_bins_p](#) (type(fgsl_histogram2d), intent(in) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.8 integer(fgsl_int) function [fgsl_histogram2d_find](#) (type(fgsl_histogram2d), intent(in) *h*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, integer(fgsl_size_t), intent(out) *i*, integer(fgsl_size_t), intent(out) *j*)

- 41.11.1.9 integer(fgsl_int) function fgsl_histogram2d_fprintf (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(in) *h*, character(kind=fgsl_char, len=*), intent(in) *range_format*, character(kind=fgsl_char, len=*), intent(in) *bin_format*)
- 41.11.1.10 integer(fgsl_int) function fgsl_histogram2d_fread (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.11 subroutine fgsl_histogram2d_free (type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.12 integer(fgsl_int) function fgsl_histogram2d_fscanf (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.13 integer(fgsl_int) function fgsl_histogram2d_fwrite (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.14 real(fgsl_double) function fgsl_histogram2d_get (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, integer(fgsl_size_t), intent(in) *j*)
- 41.11.1.15 integer(fgsl_int) function fgsl_histogram2d_get_xrange (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, real(fgsl_double), intent(out) *xlower*, real(fgsl_double), intent(out) *xupper*)
- 41.11.1.16 integer(fgsl_int) function fgsl_histogram2d_get_yrange (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, real(fgsl_double), intent(out) *ylower*, real(fgsl_double), intent(out) *yupper*)
- 41.11.1.17 integer(fgsl_int) function fgsl_histogram2d_increment (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*)
- 41.11.1.18 subroutine fgsl_histogram2d_max_bin (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(out) *i*, integer(fgsl_size_t), intent(out) *j*)
- 41.11.1.19 real(fgsl_double) function fgsl_histogram2d_max_val (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.20 integer(fgsl_int) function fgsl_histogram2d_memcpy (type(fgsl_histogram2d), intent(inout) *dest*, type(fgsl_histogram2d), intent(in) *src*)
- 41.11.1.21 subroutine fgsl_histogram2d_min_bin (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(out) *i*, integer(fgsl_size_t), intent(out) *j*)
- 41.11.1.22 real(fgsl_double) function fgsl_histogram2d_min_val (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.23 real(fgsl_double) function fgsl_histogram2d_mul (type(fgsl_histogram2d), intent(inout) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.24 integer(fgsl_size_t) function fgsl_histogram2d_nx (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.25 integer(fgsl_size_t) function fgsl_histogram2d_ny (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.26 type(fgsl_histogram2d_pdf) function fgsl_histogram2d_pdf_alloc (integer(fgsl_size_t), intent(in) *nx*, integer(fgsl_size_t), intent(in) *ny*)
- 41.11.1.27 subroutine fgsl_histogram2d_pdf_free (type(fgsl_histogram2d_pdf), intent(inout) *p*)
- 41.11.1.28 integer(fgsl_int) function fgsl_histogram2d_pdf_init (type(fgsl_histogram2d_pdf), intent(inout) *p*, type(fgsl_histogram2d), intent(in) *h*)

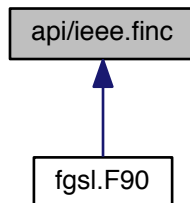
- 41.11.1.29 integer(fgsl_int) function fgsl_histogram2d_pdf_sample (type(fgsl_histogram2d_pdf), intent(in) *p*, real(fgsl_double), intent(in) *r1*, real(fgsl_double), intent(in) *r2*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*)
- 41.11.1.30 subroutine fgsl_histogram2d_reset (type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.31 integer(fgsl_int) function fgsl_histogram2d_scale (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *scale*)
- 41.11.1.32 integer(fgsl_int) function fgsl_histogram2d_set_ranges (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), dimension(:), intent(in) *xrange*, integer(fgsl_size_t), intent(in) *xsize*, real(fgsl_double), dimension(:), intent(in) *yrange*, integer(fgsl_size_t), intent(in) *ysize*)
- 41.11.1.33 integer(fgsl_int) function fgsl_histogram2d_set_ranges_uniform (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *xmin*, real(fgsl_double), intent(in) *xmax*, real(fgsl_double), intent(in) *ymin*, real(fgsl_double), intent(in) *ymax*)
- 41.11.1.34 integer(fgsl_int) function fgsl_histogram2d_shift (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *offset*)
- 41.11.1.35 real(fgsl_double) function fgsl_histogram2d_sub (type(fgsl_histogram2d), intent(inout) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.36 real(fgsl_double) function fgsl_histogram2d_sum (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.37 real(fgsl_double) function fgsl_histogram2d_xmax (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.38 real(fgsl_double) function fgsl_histogram2d_xmean (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.39 real(fgsl_double) function fgsl_histogram2d_xmin (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.40 real(fgsl_double) function fgsl_histogram2d_xsigma (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.41 real(fgsl_double) function fgsl_histogram2d_ymax (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.42 real(fgsl_double) function fgsl_histogram2d_ymean (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.43 real(fgsl_double) function fgsl_histogram2d_ymin (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.44 real(fgsl_double) function fgsl_histogram2d_ysigma (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.45 integer(fgsl_int) function fgsl_histogram_accumulate (type(fgsl_histogram), intent(inout) *h*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *weight*)
- 41.11.1.46 real(fgsl_double) function fgsl_histogram_add (type(fgsl_histogram), intent(inout) *h1*, type(fgsl_histogram), intent(in) *h2*)
- 41.11.1.47 type(fgsl_histogram) function fgsl_histogram_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.11.1.48 integer(fgsl_size_t) function fgsl_histogram_bins (type(fgsl_histogram), intent(in) *h*)
- 41.11.1.49 type(fgsl_histogram) function fgsl_histogram_clone (type(fgsl_histogram), intent(in) *src*)
- 41.11.1.50 real(fgsl_double) function fgsl_histogram_div (type(fgsl_histogram), intent(inout) *h1*, type(fgsl_histogram), intent(in) *h2*)

- 41.11.1.51 `real(fgsl_double)` function `fgsl_histogram_equal_bins_p` (`type(fgsl_histogram)`, `intent(in) h1`, `type(fgsl_histogram)`, `intent(in) h2`)
- 41.11.1.52 `integer(fgsl_int)` function `fgsl_histogram_find` (`type(fgsl_histogram)`, `intent(in) h`, `real(fgsl_double)`, `intent(in) x`, `integer(fgsl_size_t)`, `intent(out) i`)
- 41.11.1.53 `integer(fgsl_int)` function `fgsl_histogram_fprintf` (`type(fgsl_file)`, `intent(in) stream`, `type(fgsl_histogram)`, `intent(in) h`, `character(kind=fgsl_char, len=*)`, `intent(in) range_format`, `character(kind=fgsl_char, len=*)`, `intent(in) bin_format`)
- 41.11.1.54 `integer(fgsl_int)` function `fgsl_histogram_fread` (`type(fgsl_file)`, `intent(in) stream`, `type(fgsl_histogram)`, `intent(inout) h`)
- 41.11.1.55 subroutine `fgsl_histogram_free` (`type(fgsl_histogram)`, `intent(inout) h`)
- 41.11.1.56 `integer(fgsl_int)` function `fgsl_histogram_fscanf` (`type(fgsl_file)`, `intent(in) stream`, `type(fgsl_histogram)`, `intent(inout) h`)
- 41.11.1.57 `integer(fgsl_int)` function `fgsl_histogram_fwrite` (`type(fgsl_file)`, `intent(in) stream`, `type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.58 `real(fgsl_double)` function `fgsl_histogram_get` (`type(fgsl_histogram)`, `intent(in) h`, `integer(fgsl_size_t)`, `intent(in) i`)
- 41.11.1.59 `integer(fgsl_int)` function `fgsl_histogram_get_range` (`type(fgsl_histogram)`, `intent(in) h`, `integer(fgsl_size_t)`, `intent(in) i`, `real(fgsl_double)`, `intent(out) lower`, `real(fgsl_double)`, `intent(out) upper`)
- 41.11.1.60 `integer(fgsl_int)` function `fgsl_histogram_increment` (`type(fgsl_histogram)`, `intent(inout) h`, `real(fgsl_double)`, `intent(in) x`)
- 41.11.1.61 `real(fgsl_double)` function `fgsl_histogram_max` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.62 `integer(fgsl_size_t)` function `fgsl_histogram_max_bin` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.63 `real(fgsl_double)` function `fgsl_histogram_max_val` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.64 `real(fgsl_double)` function `fgsl_histogram_mean` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.65 `integer(fgsl_int)` function `fgsl_histogram_memcpy` (`type(fgsl_histogram)`, `intent(inout) dest`, `type(fgsl_histogram)`, `intent(in) src`)
- 41.11.1.66 `real(fgsl_double)` function `fgsl_histogram_min` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.67 `integer(fgsl_size_t)` function `fgsl_histogram_min_bin` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.68 `real(fgsl_double)` function `fgsl_histogram_min_val` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.69 `real(fgsl_double)` function `fgsl_histogram_mul` (`type(fgsl_histogram)`, `intent(inout) h1`, `type(fgsl_histogram)`, `intent(in) h2`)
- 41.11.1.70 `type(fgsl_histogram_pdf)` function `fgsl_histogram_pdf_alloc` (`integer(fgsl_size_t)`, `intent(in) n`)
- 41.11.1.71 subroutine `fgsl_histogram_pdf_free` (`type(fgsl_histogram_pdf)`, `intent(inout) p`)
- 41.11.1.72 `integer(fgsl_int)` function `fgsl_histogram_pdf_init` (`type(fgsl_histogram_pdf)`, `intent(inout) p`, `type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.73 `real(fgsl_double)` function `fgsl_histogram_pdf_sample` (`type(fgsl_histogram_pdf)`, `intent(in) p`, `real(fgsl_double)`, `intent(in) r`)

- 41.11.1.74 subroutine `fgsl_histogram_reset` (`type(fgsl_histogram)`, `intent(inout) h`)
- 41.11.1.75 `integer(fgsl_int)` function `fgsl_histogram_scale` (`type(fgsl_histogram)`, `intent(inout) h`, `real(fgsl_double)`, `intent(in) scale`)
- 41.11.1.76 `integer(fgsl_int)` function `fgsl_histogram_set_ranges` (`type(fgsl_histogram)`, `intent(inout) h`, `real(fgsl_double)`, `dimension(:)`, `intent(in) range`, `integer(fgsl_size_t)`, `intent(in) size`)
- 41.11.1.77 `integer(fgsl_int)` function `fgsl_histogram_set_ranges_uniform` (`type(fgsl_histogram)`, `intent(inout) h`, `real(fgsl_double)`, `intent(in) xmin`, `real(fgsl_double)`, `intent(in) xmax`)
- 41.11.1.78 `integer(fgsl_int)` function `fgsl_histogram_shift` (`type(fgsl_histogram)`, `intent(inout) h`, `real(fgsl_double)`, `intent(in) offset`)
- 41.11.1.79 `real(fgsl_double)` function `fgsl_histogram_sigma` (`type(fgsl_histogram)`, `intent(in) h`)
- 41.11.1.80 `logical` function `fgsl_histogram_status` (`type(fgsl_histogram)`, `intent(in) histogram`)
- 41.11.1.81 `real(fgsl_double)` function `fgsl_histogram_sub` (`type(fgsl_histogram)`, `intent(inout) h1`, `type(fgsl_histogram)`, `intent(in) h2`)
- 41.11.1.82 `real(fgsl_double)` function `fgsl_histogram_sum` (`type(fgsl_histogram)`, `intent(in) h`)

41.12 api/ieee.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- subroutine `fgsl_ieee_fprintf_float` (stream, x)
- subroutine `fgsl_ieee_fprintf_double` (stream, x)
- subroutine `fgsl_ieee_printf_float` (x)
- subroutine `fgsl_ieee_printf_double` (x)
- subroutine `fgsl_ieee_env_setup` ()

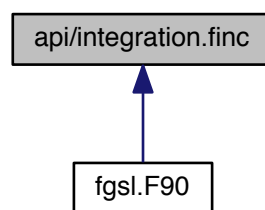
41.12.1 Function/Subroutine Documentation

- 41.12.1.1 subroutine `fgsl_ieee_env_setup` ()

- 41.12.1.2 subroutine `fgsl_ieee_fprintf_double` (`type(fgsl_file)`, intent(in) `stream`, `real(fgsl_double) x`)
- 41.12.1.3 subroutine `fgsl_ieee_fprintf_float` (`type(fgsl_file)`, intent(in) `stream`, `real(fgsl_float) x`)
- 41.12.1.4 subroutine `fgsl_ieee_printf_double` (`real(fgsl_double) x`)
- 41.12.1.5 subroutine `fgsl_ieee_printf_float` (`real(fgsl_float) x`)

41.13 `api/integration.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- integer(`fgsl_int`) function `fgsl_integration_qng` (`f`, `a`, `b`, `epsabs`, `epsrel`, `result`, `abserr`, `neval`)
- type(`fgsl_integration_workspace`)
function `fgsl_integration_workspace_alloc` (`n`)
- subroutine `fgsl_integration_workspace_free` (`w`)
- integer(`fgsl_int`) function `fgsl_integration_qag` (`f`, `a`, `b`, `epsabs`, `epsrel`, `limit`, `key`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qags` (`f`, `a`, `b`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qagp` (`f`, `pts`, `npts`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qagi` (`f`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qagiu` (`f`, `a`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qagil` (`f`, `b`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qawc` (`f`, `a`, `b`, `c`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- type(`fgsl_integration_qaws_table`)
function `fgsl_integration_qaws_table_alloc` (`alpha`, `beta`, `mu`, `nu`)
- integer(`c_int`) function `fgsl_integration_qaws_table_set` (`t`, `alpha`, `beta`, `mu`, `nu`)
- subroutine `fgsl_integration_qaws_table_free` (`w`)
- integer(`fgsl_int`) function `fgsl_integration_qaws` (`f`, `a`, `b`, `t`, `epsabs`, `epsrel`, `limit`, `workspace`, `result`, `abserr`)
- type(`fgsl_integration_qawo_table`)
function `fgsl_integration_qawo_table_alloc` (`omega`, `l`, `sine`, `n`)
- integer(`fgsl_int`) function `fgsl_integration_qawo_table_set` (`t`, `omega`, `l`, `sine`)
- integer(`fgsl_int`) function `fgsl_integration_qawo_table_set_length` (`t`, `l`)
- subroutine `fgsl_integration_qawo_table_free` (`w`)
- integer(`fgsl_int`) function `fgsl_integration_qawo` (`f`, `a`, `epsabs`, `epsrel`, `limit`, `workspace`, `wf`, `result`, `abserr`)
- integer(`fgsl_int`) function `fgsl_integration_qawf` (`f`, `a`, `epsabs`, `limit`, `workspace`, `cyc_workspace`, `wf`, `result`, `abserr`)
- type(`fgsl_integration_cquad_workspace`)
function `fgsl_integration_cquad_workspace_alloc` (`n`)

- subroutine [fgsl_integration_cquad_workspace_free](#) (w)
- integer(fgsl_int) function [fgsl_integration_cquad](#) (f, a, b, epsabs, epsrel, workspace, result, abserr, nevals)
- type(fgsl_integration_glfixed_table)
function [fgsl_integration_glfixed_table_alloc](#) (n)
- subroutine [fgsl_integration_glfixed_table_free](#) (t)
- real(fgsl_double) function [fgsl_integration_glfixed](#) (f, a, b, t)
- integer(fgsl_int) function [fgsl_integration_glfixed_point](#) (a, b, i, xi, wi, t)
- logical function [fgsl_integration_workspace_status](#) (integration_workspace)
- logical function [fgsl_integration_qaws_table_status](#) (integration_qaws_table)
- logical function [fgsl_integration_qawo_table_status](#) (integration_qawo_table)
- logical function [fgsl_integration_cquad_workspace_status](#) (integration_workspace)
- logical function [fgsl_integration_glfixed_table_status](#) (integration_glfixed_table)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_workspace](#) (w)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_qaws_table](#) (w)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_qawo_table](#) (w)

41.13.1 Function/Subroutine Documentation

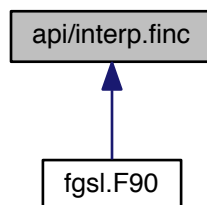
- 41.13.1.1 integer(fgsl_int) function [fgsl_integration_cquad](#) (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *epsabs*, real(fgsl_double), intent(in) *epsrel*, type(fgsl_integration_cquad_workspace), intent(inout) *workspace*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*, integer(fgsl_size_t), intent(inout) *nevals*)
- 41.13.1.2 type(fgsl_integration_cquad_workspace) function [fgsl_integration_cquad_workspace_alloc](#) (integer(fgsl_size_t), intent(in) *n*)
- 41.13.1.3 subroutine [fgsl_integration_cquad_workspace_free](#) (type(fgsl_integration_cquad_workspace), intent(inout) *w*)
- 41.13.1.4 logical function [fgsl_integration_cquad_workspace_status](#) (type(fgsl_integration_cquad_workspace), intent(in) *integration_workspace*)
- 41.13.1.5 real(fgsl_double) function [fgsl_integration_glfixed](#) (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, type(fgsl_integration_glfixed_table), intent(in) *t*)
- 41.13.1.6 integer(fgsl_int) function [fgsl_integration_glfixed_point](#) (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, integer(fgsl_size_t), intent(in) *i*, real(fgsl_double), intent(inout) *xi*, real(fgsl_double), intent(inout) *wi*, type(fgsl_integration_glfixed_table), intent(in) *t*)
- 41.13.1.7 type(fgsl_integration_glfixed_table) function [fgsl_integration_glfixed_table_alloc](#) (integer(fgsl_size_t), intent(in) *n*)
- 41.13.1.8 subroutine [fgsl_integration_glfixed_table_free](#) (type(fgsl_integration_glfixed_table) *t*)
- 41.13.1.9 logical function [fgsl_integration_glfixed_table_status](#) (type(fgsl_integration_glfixed_table), intent(in) *integration_glfixed_table*)
- 41.13.1.10 integer(fgsl_int) function [fgsl_integration_qag](#) (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *epsabs*, real(fgsl_double), intent(in) *epsrel*, integer(fgsl_size_t), intent(in) *limit*, integer(fgsl_int), intent(in) *key*, type(fgsl_integration_workspace), intent(inout) *workspace*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*)
- 41.13.1.11 integer(fgsl_int) function [fgsl_integration_qagi](#) (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *epsabs*, real(fgsl_double), intent(in) *epsrel*, integer(fgsl_size_t), intent(in) *limit*, type(fgsl_integration_workspace), intent(inout) *workspace*, real(fgsl_double), intent(out) *result*, real(fgsl_double), intent(out) *abserr*)

- 41.13.1.12 `integer(fgsl_int) function fgsl_integration_qagil (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.13 `integer(fgsl_int) function fgsl_integration_qagi (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.14 `integer(fgsl_int) function fgsl_integration_qagp (type(fgsl_function), intent(in) f, real(fgsl_double), dimension(:), intent(in) pts, integer(fgsl_size_t), intent(in) npts, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.15 `integer(fgsl_int) function fgsl_integration_qags (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.16 `integer(fgsl_int) function fgsl_integration_qawc (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.17 `integer(fgsl_int) function fgsl_integration_qawf (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) epsabs, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, type(fgsl_integration_workspace), intent(inout) cyc_workspace, type(fgsl_integration_qawo_table), intent(in) wf, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.18 `integer(fgsl_int) function fgsl_integration_qawo (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, type(fgsl_integration_qawo_table), intent(in) wf, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.19 `type(fgsl_integration_qawo_table) function fgsl_integration_qawo_table_alloc (real(fgsl_double), intent(in) omega, real(fgsl_double), intent(in) l, integer(fgsl_int), intent(in) sine, integer(fgsl_size_t), intent(in) n)`
- 41.13.1.20 `subroutine fgsl_integration_qawo_table_free (type(fgsl_integration_qawo_table), intent(inout) w)`
- 41.13.1.21 `integer(fgsl_int) function fgsl_integration_qawo_table_set (type(fgsl_integration_qawo_table), intent(inout) t, real(fgsl_double), intent(in) omega, real(fgsl_double), intent(in) l, integer(fgsl_int), intent(in) sine)`
- 41.13.1.22 `integer(fgsl_int) function fgsl_integration_qawo_table_set_length (type(fgsl_integration_qawo_table), intent(inout) t, real(fgsl_double), intent(in) l)`
- 41.13.1.23 `logical function fgsl_integration_qawo_table_status (type(fgsl_integration_qawo_table), intent(in) integration_qawo_table)`
- 41.13.1.24 `integer(fgsl_int) function fgsl_integration_qaws (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_integration_qaws_table), intent(in) t, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, integer(fgsl_size_t), intent(in) limit, type(fgsl_integration_workspace), intent(inout) workspace, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`
- 41.13.1.25 `type(fgsl_integration_qaws_table) function fgsl_integration_qaws_table_alloc (real(fgsl_double), intent(in) alpha, real(fgsl_double), intent(in) beta, integer(fgsl_int), intent(in) mu, integer(fgsl_int), intent(in) nu)`

- 41.13.1.26 subroutine `fgsl_integration_qaws_table_free` (`type(fgsl_integration_qaws_table)`, `intent(inout) w`)
- 41.13.1.27 `integer(c_int)` function `fgsl_integration_qaws_table_set` (`type(fgsl_integration_qaws_table) t`, `real(fgsl_double)`, `intent(in) alpha`, `real(fgsl_double)`, `intent(in) beta`, `integer(fgsl_int)`, `intent(in) mu`, `integer(fgsl_int)`, `intent(in) nu`)
- 41.13.1.28 logical function `fgsl_integration_qaws_table_status` (`type(fgsl_integration_qaws_table)`, `intent(in) integration_qaws_table`)
- 41.13.1.29 `integer(fgsl_int)` function `fgsl_integration_qng` (`type(fgsl_function)`, `intent(in) f`, `real(fgsl_double)`, `intent(in) a`, `real(fgsl_double)`, `intent(in) b`, `real(fgsl_double)`, `intent(in) epsabs`, `real(fgsl_double)`, `intent(in) epsrel`, `real(fgsl_double)`, `intent(out) result`, `real(fgsl_double)`, `intent(out) abserr`, `integer(fgsl_size_t)`, `intent(inout) neval`)
- 41.13.1.30 `type(fgsl_integration_workspace)` function `fgsl_integration_workspace_alloc` (`integer(fgsl_size_t)`, `intent(in) n`)
- 41.13.1.31 subroutine `fgsl_integration_workspace_free` (`type(fgsl_integration_workspace)`, `intent(inout) w`)
- 41.13.1.32 logical function `fgsl_integration_workspace_status` (`type(fgsl_integration_workspace)`, `intent(in) integration_workspace`)
- 41.13.1.33 `integer(fgsl_size_t)` function `fgsl_sizeof_integration_qawo_table` (`type(fgsl_integration_qawo_table)`, `intent(in) w`)
- 41.13.1.34 `integer(fgsl_size_t)` function `fgsl_sizeof_integration_qaws_table` (`type(fgsl_integration_qaws_table)`, `intent(in) w`)
- 41.13.1.35 `integer(fgsl_size_t)` function `fgsl_sizeof_integration_workspace` (`type(fgsl_integration_workspace)`, `intent(in) w`)

41.14 api/interp.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_interp)` function `fgsl_interp_alloc` (`interp_type`, `size`)
- subroutine `fgsl_interp_free` (`interp`)
- `type(fgsl_interp_accel)` function `fgsl_interp_accel_alloc` ()
- subroutine `fgsl_interp_accel_free` (`acc`)
- logical function `fgsl_interp_status` (`interp`)
- logical function `fgsl_interp_accel_status` (`acc`)
- `integer(fgsl_int)` function `fgsl_interp_init` (`interp`, `xa`, `ya`, `size`)
- `real(fgsl_double)` function `fgsl_interp_eval` (`interp`, `xa`, `ya`, `x`, `acc`)
- `integer(fgsl_int)` function `fgsl_interp_eval_e` (`interp`, `xa`, `ya`, `x`, `acc`, `y`)

- real(fgsl_double) function [fgsl_interp_eval_integ](#) (interp, xa, ya, a, b, acc)
- integer(fgsl_int) function [fgsl_interp_eval_integ_e](#) (interp, xa, ya, a, b, acc, result)
- real(fgsl_double) function [fgsl_interp_eval_deriv](#) (interp, xa, ya, x, acc)
- integer(fgsl_int) function [fgsl_interp_eval_deriv_e](#) (interp, xa, ya, x, acc, d)
- real(fgsl_double) function [fgsl_interp_eval_deriv2](#) (interp, xa, ya, x, acc)
- integer(fgsl_int) function [fgsl_interp_eval_deriv2_e](#) (interp, xa, ya, x, acc, d2)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_interp_name](#) (interp)
- integer(fgsl_long) function [fgsl_interp_min_size](#) (interp)
- integer(fgsl_long) function [fgsl_interp_type_min_size](#) (interp)
- integer(fgsl_size_t) function [fgsl_interp_bsearch](#) (xa, x, index_lo, index_hi)
- integer(fgsl_size_t) function [fgsl_interp_accel_find](#) (acc, xa, size, x)
- type(fgsl_spline) function [fgsl_spline_alloc](#) (interp_type, size)
- subroutine [fgsl_spline_free](#) (spline)
- integer(fgsl_int) function [fgsl_spline_init](#) (spline, xa, ya, size)
- character(len=fgsl_strmax) function [fgsl_spline_name](#) (spline)
- integer(fgsl_long) function [fgsl_spline_min_size](#) (spline)
- real(fgsl_double) function [fgsl_spline_eval](#) (spline, x, acc)
- integer(fgsl_int) function [fgsl_spline_eval_e](#) (spline, x, acc, y)
- real(fgsl_double) function [fgsl_spline_eval_deriv](#) (spline, x, acc)
- integer(fgsl_int) function [fgsl_spline_eval_deriv_e](#) (spline, x, acc, y)
- real(fgsl_double) function [fgsl_spline_eval_deriv2](#) (spline, x, acc)
- integer(fgsl_int) function [fgsl_spline_eval_deriv2_e](#) (spline, x, acc, y)
- real(fgsl_double) function [fgsl_spline_eval_integ](#) (spline, a, b, acc)
- integer(fgsl_int) function [fgsl_spline_eval_integ_e](#) (spline, a, b, acc, y)
- logical function [fgsl_spline_status](#) (spline)
- integer(fgsl_size_t) function [fgsl_sizeof_interp](#) (w)

41.14.1 Function/Subroutine Documentation

41.14.1.1 type(fgsl_interp_accel) function [fgsl_interp_accel_alloc](#) ()

41.14.1.2 integer(fgsl_size_t) function [fgsl_interp_accel_find](#) (type(fgsl_interp_accel), intent(inout) *acc*, real(fgsl_double), dimension(*), intent(in) *xa*, integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), intent(in) *x*)

41.14.1.3 subroutine [fgsl_interp_accel_free](#) (type(fgsl_interp_accel), intent(inout) *acc*)

41.14.1.4 logical function [fgsl_interp_accel_status](#) (type(fgsl_interp_accel), intent(in) *acc*)

41.14.1.5 type(fgsl_interp) function [fgsl_interp_alloc](#) (type(fgsl_interp_type), intent(in) *interp_type*, integer(fgsl_size_t), intent(in) *size*)

41.14.1.6 integer(fgsl_size_t) function [fgsl_interp_bsearch](#) (real(fgsl_double), dimension(:), intent(in) *xa*, real(fgsl_double), intent(in) *x*, integer(fgsl_size_t), intent(in) *index_lo*, integer(fgsl_size_t), intent(in) *index_hi*)

41.14.1.7 real(fgsl_double) function [fgsl_interp_eval](#) (type(fgsl_interp), intent(in) *interp*, real(fgsl_double), dimension(:), intent(in) *xa*, real(fgsl_double), dimension(:), intent(in) *ya*, real(fgsl_double), intent(in) *x*, type(fgsl_interp_accel), intent(inout) *acc*)

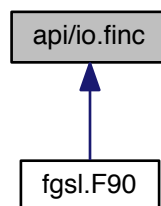
41.14.1.8 real(fgsl_double) function [fgsl_interp_eval_deriv](#) (type(fgsl_interp), intent(in) *interp*, real(fgsl_double), dimension(:), intent(in) *xa*, real(fgsl_double), dimension(:), intent(in) *ya*, real(fgsl_double), intent(in) *x*, type(fgsl_interp_accel), intent(inout) *acc*)

- 41.14.1.9 `real(fgsl_double) function fgsl_interp_eval_deriv2 (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc)`
- 41.14.1.10 `integer(fgsl_int) function fgsl_interp_eval_deriv2_e (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) d2)`
- 41.14.1.11 `integer(fgsl_int) function fgsl_interp_eval_deriv_e (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) d)`
- 41.14.1.12 `integer(fgsl_int) function fgsl_interp_eval_e (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) y)`
- 41.14.1.13 `real(fgsl_double) function fgsl_interp_eval_integ (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_interp_accel), intent(inout) acc)`
- 41.14.1.14 `integer(fgsl_int) function fgsl_interp_eval_integ_e (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:), intent(in) xa, real(fgsl_double), dimension(:), intent(in) ya, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) result)`
- 41.14.1.15 `subroutine fgsl_interp_free (type(fgsl_interp), intent(inout) interp)`
- 41.14.1.16 `integer(fgsl_int) function fgsl_interp_init (type(fgsl_interp), intent(inout) interp, real(fgsl_double), dimension(size), intent(in) xa, real(fgsl_double), dimension(size), intent(in) ya, integer(fgsl_size_t), intent(in) size)`
- 41.14.1.17 `integer(fgsl_long) function fgsl_interp_min_size (type(fgsl_interp), intent(in) interp)`
- 41.14.1.18 `character(kind=fgsl_char,len=fgsl_strmax) function fgsl_interp_name (type(fgsl_interp), intent(in) interp)`
- 41.14.1.19 `logical function fgsl_interp_status (type(fgsl_interp), intent(in) interp)`
- 41.14.1.20 `integer(fgsl_long) function fgsl_interp_type_min_size (type(fgsl_interp_type), intent(in) interp)`
- 41.14.1.21 `integer(fgsl_size_t) function fgsl_sizeof_interp (type(fgsl_interp), intent(in) w)`
- 41.14.1.22 `type(fgsl_spline) function fgsl_spline_alloc (type(fgsl_interp_type), intent(in) interp_type, integer(fgsl_size_t), intent(in) size)`
- 41.14.1.23 `real(fgsl_double) function fgsl_spline_eval (type(fgsl_spline), intent(in) spline, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc)`
- 41.14.1.24 `real(fgsl_double) function fgsl_spline_eval_deriv (type(fgsl_spline), intent(in) spline, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc)`
- 41.14.1.25 `real(fgsl_double) function fgsl_spline_eval_deriv2 (type(fgsl_spline), intent(in) spline, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc)`
- 41.14.1.26 `integer(fgsl_int) function fgsl_spline_eval_deriv2_e (type(fgsl_spline), intent(in) spline, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) y)`
- 41.14.1.27 `integer(fgsl_int) function fgsl_spline_eval_deriv_e (type(fgsl_spline), intent(in) spline, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc, real(fgsl_double), intent(out) y)`

- 41.14.1.28 integer(fgsl_int) function fgsl_spline_eval_e (type(fgsl_spline), intent(in) *spline*, real(fgsl_double), intent(in) *x*, type(fgsl_interp_accel), intent(inout) *acc*, real(fgsl_double), intent(out) *y*)
- 41.14.1.29 real(fgsl_double) function fgsl_spline_eval_integ (type(fgsl_spline), intent(in) *spline*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, type(fgsl_interp_accel), intent(inout) *acc*)
- 41.14.1.30 integer(fgsl_int) function fgsl_spline_eval_integ_e (type(fgsl_spline), intent(in) *spline*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, type(fgsl_interp_accel), intent(inout) *acc*, real(fgsl_double), intent(out) *y*)
- 41.14.1.31 subroutine fgsl_spline_free (type(fgsl_spline), intent(inout) *spline*)
- 41.14.1.32 integer(fgsl_int) function fgsl_spline_init (type(fgsl_spline), intent(inout) *spline*, real(fgsl_double), dimension(size), intent(in) *xa*, real(fgsl_double), dimension(size), intent(in) *ya*, integer(fgsl_size_t), intent(in) *size*)
- 41.14.1.33 integer(fgsl_long) function fgsl_spline_min_size (type(fgsl_spline), intent(in) *spline*)
- 41.14.1.34 character(len=fgsl_strmax) function fgsl_spline_name (type(fgsl_spline), intent(in) *spline*)
- 41.14.1.35 logical function fgsl_spline_status (type(fgsl_spline), intent(in) *spline*)

41.15 api/io.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_file) function [fgsl_open](#) (path, mode)
fgsl_open maps the POSIX call fopen() to Fortran
- integer(fgsl_int) function [fgsl_close](#) (fd)
fgsl_close maps the POSIX call fclose() to Fortran
- type(fgsl_file) function [fgsl_stdin](#) ()
fgsl_stdin produces a fgsl_file object corresponding to C standard input
- type(fgsl_file) function [fgsl_stdout](#) ()
fgsl_stdout produces a fgsl_file object corresponding to C standard output
- type(fgsl_file) function [fgsl_stderr](#) ()
fgsl_stderr produces a fgsl_file object corresponding to C standard error
- integer(fgsl_int) function [fgsl_flush](#) (file)
fgsl_flush flushes a fgsl_file object
- logical function [fgsl_file_status](#) (file)

41.15.1 Function/Subroutine Documentation

41.15.1.1 integer(fgsl_int) function fgsl_close (type(fgsl_file), intent(inout) *fd*)

fgsl_open maps the POSIX call fclose() to Fortran

Parameters

<i>fd</i>	- on entry: open file object
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Returns

Status.

41.15.1.2 logical function fgsl_file_status (type(fgsl_file), intent(in) *file*)

41.15.1.3 integer(fgsl_int) function fgsl_flush (type(fgsl_file), intent(in) *file*)

fgsl_flush flushes a fgsl_file object

41.15.1.4 type(fgsl_file) function fgsl_open (character(kind=fgsl_char, len=*) intent(in) *path*, character(kind=fgsl_char, len=*) intent(in) *mode*)

fgsl_open maps the POSIX call fopen() to Fortran

Parameters

<i>path</i>	- string specifying the path name of the file to be opened
<i>mode</i>	- string containing the opening mode

Returns

object of type fgsl_file which can be used in other I/O calls.

41.15.1.5 type(fgsl_file) function fgsl_stderr ()

fgsl_stderr produces a fgsl_file object corresponding to C standard error

41.15.1.6 type(fgsl_file) function fgsl_stdin ()

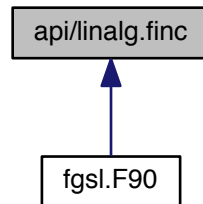
fgsl_stdin produces a fgsl_file object corresponding to C standard input

41.15.1.7 type(fgsl_file) function fgsl_stdout ()

fgsl_stdout produces a fgsl_file object corresponding to C standard output

41.16 api/linalg.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- integer(fgsl_int) function [fgsl_linalg_lu_decomp](#) (a, p, signum)
- integer(fgsl_int) function [fgsl_linalg_complex_lu_decomp](#) (a, p, signum)
- integer(fgsl_int) function [fgsl_linalg_lu_solve](#) (lu, p, b, x)
- integer(fgsl_int) function [fgsl_linalg_complex_lu_solve](#) (lu, p, b, x)
- integer(fgsl_int) function [fgsl_linalg_lu_svx](#) (lu, p, x)
- integer(fgsl_int) function [fgsl_linalg_complex_lu_svx](#) (lu, p, x)
- integer(fgsl_int) function [fgsl_linalg_lu_refine](#) (a, lu, p, b, x, residual)
- integer(fgsl_int) function [fgsl_linalg_complex_lu_refine](#) (a, lu, p, b, x, residual)
- integer(fgsl_int) function [fgsl_linalg_lu_invert](#) (lu, p, inverse)
- integer(fgsl_int) function [fgsl_linalg_complex_lu_invert](#) (lu, p, inverse)
- real(fgsl_double) function [fgsl_linalg_lu_det](#) (lu, signum)
- complex(fgsl_double_complex)
function [fgsl_linalg_complex_lu_det](#) (lu, signum)
- real(fgsl_double) function [fgsl_linalg_lu_lndet](#) (lu)
- real(fgsl_double) function [fgsl_linalg_complex_lu_lndet](#) (lu)
- integer(fgsl_int) function [fgsl_linalg_lu_sgndet](#) (lu, signum)
- complex(fgsl_double_complex)
function [fgsl_linalg_complex_lu_sgndet](#) (lu, signum)
- integer(fgsl_int) function [fgsl_linalg_qr_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_qr_solve](#) (qr, tau, b, x)
- integer(fgsl_int) function [fgsl_linalg_qr_svx](#) (qr, tau, x)
- integer(fgsl_int) function [fgsl_linalg_qr_issolve](#) (qr, tau, b, x, residual)
- integer(fgsl_int) function [fgsl_linalg_qr_qtvec](#) (qr, tau, v)
- integer(fgsl_int) function [fgsl_linalg_qr_qvec](#) (qr, tau, v)
- integer(fgsl_int) function [fgsl_linalg_qr_qtmat](#) (qr, tau, a)
- integer(fgsl_int) function [fgsl_linalg_qr_solve](#) (qr, b, x)
- integer(fgsl_int) function [fgsl_linalg_qr_rsvx](#) (qr, x)
- integer(fgsl_int) function [fgsl_linalg_qr_unpack](#) (qr, tau, q, r)
- integer(fgsl_int) function [fgsl_linalg_qr_qrsolve](#) (q, r, b, x)
- integer(fgsl_int) function [fgsl_linalg_qr_update](#) (q, r, w, v)
- integer(fgsl_int) function [fgsl_linalg_r_solve](#) (r, b, x)
- integer(fgsl_int) function [fgsl_linalg_r_svx](#) (r, x)
- integer(fgsl_int) function [fgsl_linalg_qrpt_decomp](#) (a, tau, p, signum, norm)
- integer(fgsl_int) function [fgsl_linalg_qrpt_decomp2](#) (a, q, r, tau, p, signum, norm)

- integer(fgsl_int) function [fgsl_linalg_qrpt_solve](#) (qr, tau, p, b, x)
- integer(fgsl_int) function [fgsl_linalg_qrpt_svx](#) (qr, tau, p, x)
- integer(fgsl_int) function [fgsl_linalg_qrpt_qrsolve](#) (q, r, p, b, x)
- integer(fgsl_int) function [fgsl_linalg_qrpt_update](#) (q, r, p, w, v)
- integer(fgsl_int) function [fgsl_linalg_qrpt_rsolve](#) (qr, p, b, x)
- integer(fgsl_int) function [fgsl_linalg_qrpt_rsvx](#) (qr, p, x)
- integer(fgsl_int) function [fgsl_linalg_sv_decomp](#) (a, v, s, work)
- integer(fgsl_int) function [fgsl_linalg_sv_decomp_mod](#) (a, x, v, s, work)
- integer(fgsl_int) function [fgsl_linalg_sv_decomp_jacobi](#) (a, v, s)
- integer(fgsl_int) function [fgsl_linalg_sv_solve](#) (u, v, s, b, x)
- integer(fgsl_int) function [fgsl_linalg_sv_leverage](#) (u, h)
- integer(fgsl_int) function [fgsl_linalg_cholesky_decomp](#) (a)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_decomp](#) (a)
- integer(fgsl_int) function [fgsl_linalg_cholesky_solve](#) (chol, b, x)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_solve](#) (chol, b, x)
- integer(fgsl_int) function [fgsl_linalg_cholesky_svx](#) (chol, x)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_svx](#) (chol, x)
- integer(fgsl_int) function [fgsl_linalg_cholesky_invert](#) (chol)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_invert](#) (chol)
- integer(fgsl_int) function [fgsl_linalg_symmtd_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_symmtd_unpack](#) (a, tau, q, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_symmtd_unpack_t](#) (a, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hermttd_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_hermttd_unpack](#) (a, tau, q, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hermttd_unpack_t](#) (a, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_unpack](#) (h, tau, u)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_unpack_accum](#) (h, tau, v)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_set_zero](#) (h)
- integer(fgsl_int) function [fgsl_linalg_hesstri_decomp](#) (a, b, u, v, work)
- integer(fgsl_int) function [fgsl_linalg_bidiag_decomp](#) (a, tau_u, tau_v)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack](#) (a, tau_u, u, tau_v, v, diag, superdiag)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack2](#) (a, tau_u, tau_v, v)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack_b](#) (a, diag, superdiag)
- real(fgsl_double) function [fgsl_linalg_householder_transform](#) (v)
- complex(fgsl_double_complex)
function [fgsl_linalg_complex_householder_transform](#) (v)
- integer(fgsl_int) function [fgsl_linalg_householder_hm](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_hm](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_householder_mh](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_mh](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_householder_hv](#) (tau, v, w)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_hv](#) (tau, v, w)
- integer(fgsl_int) function [fgsl_linalg_hh_solve](#) (a, b, x)
- integer(fgsl_int) function [fgsl_linalg_hh_svx](#) (a, x)
- integer(c_int) function [fgsl_linalg_solve_tridiag](#) (diag, e, f, b, x)
- integer(c_int) function [fgsl_linalg_solve_symm_tridiag](#) (diag, e, b, x)
- integer(c_int) function [fgsl_linalg_solve_cyc_tridiag](#) (diag, e, f, b, x)
- integer(c_int) function [fgsl_linalg_solve_symm_cyc_tridiag](#) (diag, e, b, x)
- integer(fgsl_int) function [fgsl_linalg_balance_matrix](#) (a, d)

41.16.1 Function/Subroutine Documentation

- 41.16.1.1 integer(*fgsl_int*) function `fgsl_linalg_balance_matrix` (*type*(*fgsl_matrix*), intent(inout) *a*, *type*(*fgsl_vector*), intent(inout) *d*)
- 41.16.1.2 integer(*fgsl_int*) function `fgsl_linalg_bidiag_decomp` (*type*(*fgsl_matrix*), intent(inout) *a*, *type*(*fgsl_vector*), intent(inout) *tau_u*, *type*(*fgsl_vector*), intent(inout) *tau_v*)
- 41.16.1.3 integer(*fgsl_int*) function `fgsl_linalg_bidiag_unpack` (*type*(*fgsl_matrix*), intent(in) *a*, *type*(*fgsl_vector*), intent(in) *tau_u*, *type*(*fgsl_matrix*), intent(inout) *u*, *type*(*fgsl_vector*), intent(in) *tau_v*, *type*(*fgsl_matrix*), intent(inout) *v*, *type*(*fgsl_vector*), intent(inout) *diag*, *type*(*fgsl_vector*), intent(inout) *superdiag*)
- 41.16.1.4 integer(*fgsl_int*) function `fgsl_linalg_bidiag_unpack2` (*type*(*fgsl_matrix*), intent(inout) *a*, *type*(*fgsl_vector*), intent(in) *tau_u*, *type*(*fgsl_vector*), intent(in) *tau_v*, *type*(*fgsl_matrix*), intent(inout) *v*)
- 41.16.1.5 integer(*fgsl_int*) function `fgsl_linalg_bidiag_unpack_b` (*type*(*fgsl_matrix*), intent(in) *a*, *type*(*fgsl_vector*), intent(inout) *diag*, *type*(*fgsl_vector*), intent(inout) *superdiag*)
- 41.16.1.6 integer(*fgsl_int*) function `fgsl_linalg_cholesky_decomp` (*type*(*fgsl_matrix*), intent(inout) *a*)
- 41.16.1.7 integer(*fgsl_int*) function `fgsl_linalg_cholesky_invert` (*type*(*fgsl_matrix*), intent(inout) *chol*)
- 41.16.1.8 integer(*fgsl_int*) function `fgsl_linalg_cholesky_solve` (*type*(*fgsl_matrix*), intent(in) *chol*, *type*(*fgsl_vector*), intent(in) *b*, *type*(*fgsl_vector*), intent(inout) *x*)
- 41.16.1.9 integer(*fgsl_int*) function `fgsl_linalg_cholesky_svx` (*type*(*fgsl_matrix*), intent(in) *chol*, *type*(*fgsl_vector*), intent(inout) *x*)
- 41.16.1.10 integer(*fgsl_int*) function `fgsl_linalg_complex_cholesky_decomp` (*type*(*fgsl_matrix_complex*), intent(inout) *a*)
- 41.16.1.11 integer(*fgsl_int*) function `fgsl_linalg_complex_cholesky_invert` (*type*(*fgsl_matrix_complex*), intent(inout) *chol*)
- 41.16.1.12 integer(*fgsl_int*) function `fgsl_linalg_complex_cholesky_solve` (*type*(*fgsl_matrix_complex*), intent(in) *chol*, *type*(*fgsl_vector_complex*), intent(in) *b*, *type*(*fgsl_vector_complex*), intent(inout) *x*)
- 41.16.1.13 integer(*fgsl_int*) function `fgsl_linalg_complex_cholesky_svx` (*type*(*fgsl_matrix_complex*), intent(in) *chol*, *type*(*fgsl_vector_complex*), intent(inout) *x*)
- 41.16.1.14 integer(*fgsl_int*) function `fgsl_linalg_complex_householder_hm` (*complex*(*fgsl_double_complex*), intent(in) *tau*, *type*(*fgsl_vector_complex*), intent(in) *v*, *type*(*fgsl_matrix_complex*), intent(inout) *a*)
- 41.16.1.15 integer(*fgsl_int*) function `fgsl_linalg_complex_householder_hv` (*complex*(*fgsl_double_complex*), intent(in) *tau*, *type*(*fgsl_vector_complex*), intent(in) *v*, *type*(*fgsl_vector_complex*), intent(inout) *w*)
- 41.16.1.16 integer(*fgsl_int*) function `fgsl_linalg_complex_householder_mh` (*complex*(*fgsl_double_complex*), intent(in) *tau*, *type*(*fgsl_vector_complex*), intent(in) *v*, *type*(*fgsl_matrix_complex*), intent(inout) *a*)
- 41.16.1.17 *complex*(*fgsl_double_complex*) function `fgsl_linalg_complex_householder_transform` (*type*(*fgsl_vector*), intent(inout) *v*)
- 41.16.1.18 integer(*fgsl_int*) function `fgsl_linalg_complex_lu_decomp` (*type*(*fgsl_matrix_complex*) *a*, *type*(*fgsl_permutation*) *p*, integer(*fgsl_int*) *signum*)
- 41.16.1.19 *complex*(*fgsl_double_complex*) function `fgsl_linalg_complex_lu_det` (*type*(*fgsl_matrix_complex*), intent(in) *lu*, integer(*fgsl_int*), intent(in) *signum*)

- 41.16.1.20 `integer(fgsl_int) function fgsl_linalg_complex_lu_invert (type(fgsl_matrix_complex), intent(in) lu, type(fgsl_permutation), intent(in) p, type(fgsl_matrix_complex), intent(inout) inverse)`
- 41.16.1.21 `real(fgsl_double) function fgsl_linalg_complex_lu_ldet (type(fgsl_matrix_complex), intent(in) lu)`
- 41.16.1.22 `integer(fgsl_int) function fgsl_linalg_complex_lu_refine (type(fgsl_matrix_complex), intent(in) a, type(fgsl_matrix_complex), intent(in) lu, type(fgsl_permutation), intent(in) p, type(fgsl_vector_complex), intent(in) b, type(fgsl_vector_complex), intent(inout) x, type(fgsl_vector_complex), intent(inout) residual)`
- 41.16.1.23 `complex(fgsl_double_complex) function fgsl_linalg_complex_lu_sgnDET (type(fgsl_matrix_complex), intent(in) lu, integer(fgsl_int), intent(in) signum)`
- 41.16.1.24 `integer(fgsl_int) function fgsl_linalg_complex_lu_solve (type(fgsl_matrix_complex), intent(in) lu, type(fgsl_permutation), intent(in) p, type(fgsl_vector_complex), intent(in) b, type(fgsl_vector_complex), intent(inout) x)`
- 41.16.1.25 `integer(fgsl_int) function fgsl_linalg_complex_lu_svx (type(fgsl_matrix_complex), intent(in) lu, type(fgsl_permutation), intent(in) p, type(fgsl_vector_complex), intent(inout) x)`
- 41.16.1.26 `integer(fgsl_int) function fgsl_linalg_hermtD_decomp (type(fgsl_matrix_complex), intent(inout) a, type(fgsl_vector_complex), intent(inout) tau)`
- 41.16.1.27 `integer(fgsl_int) function fgsl_linalg_hermtD_unpack (type(fgsl_matrix_complex), intent(in) a, type(fgsl_vector_complex), intent(in) tau, type(fgsl_matrix_complex), intent(inout) q, type(fgsl_vector), intent(inout) diag, type(fgsl_vector), intent(inout) subdiag)`
- 41.16.1.28 `integer(fgsl_int) function fgsl_linalg_hermtD_unpack_t (type(fgsl_matrix_complex), intent(in) a, type(fgsl_vector), intent(inout) diag, type(fgsl_vector), intent(inout) subdiag)`
- 41.16.1.29 `integer(fgsl_int) function fgsl_linalg_hessenberg_decomp (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(inout) tau)`
- 41.16.1.30 `integer(fgsl_int) function fgsl_linalg_hessenberg_set_zero (type(fgsl_matrix), intent(inout) h)`
- 41.16.1.31 `integer(fgsl_int) function fgsl_linalg_hessenberg_unpack (type(fgsl_matrix), intent(in) h, type(fgsl_vector), intent(in) tau, type(fgsl_matrix), intent(inout) u)`
- 41.16.1.32 `integer(fgsl_int) function fgsl_linalg_hessenberg_unpack_accum (type(fgsl_matrix), intent(in) h, type(fgsl_vector), intent(in) tau, type(fgsl_matrix), intent(inout) v)`
- 41.16.1.33 `integer(fgsl_int) function fgsl_linalg_hesstri_decomp (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) b, type(fgsl_matrix), intent(inout) u, type(fgsl_matrix), intent(inout) v, type(fgsl_vector), intent(inout) work)`
- 41.16.1.34 `integer(fgsl_int) function fgsl_linalg_hh_solve (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(in) b, type(fgsl_vector), intent(inout) x)`
- 41.16.1.35 `integer(fgsl_int) function fgsl_linalg_hh_svx (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(inout) x)`
- 41.16.1.36 `integer(fgsl_int) function fgsl_linalg_householder_hm (real(fgsl_double), intent(in) tau, type(fgsl_vector), intent(in) v, type(fgsl_matrix), intent(inout) a)`
- 41.16.1.37 `integer(fgsl_int) function fgsl_linalg_householder_hv (real(fgsl_double), intent(in) tau, type(fgsl_vector), intent(in) v, type(fgsl_vector), intent(inout) w)`

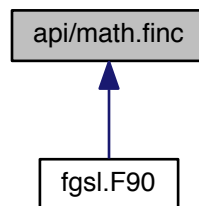
- 41.16.1.38 integer(fgsl_int) function fgsl_linalg_householder_mh (real(fgsl_double), intent(in) *tau*, type(fgsl_vector), intent(in) *v*, type(fgsl_matrix), intent(inout) *a*)
- 41.16.1.39 real(fgsl_double) function fgsl_linalg_householder_transform (type(fgsl_vector), intent(inout) *v*)
- 41.16.1.40 integer(fgsl_int) function fgsl_linalg_lu_decomp (type(fgsl_matrix) *a*, type(fgsl_permutation) *p*, integer(fgsl_int) *signum*)
- 41.16.1.41 real(fgsl_double) function fgsl_linalg_lu_det (type(fgsl_matrix), intent(in) *lu*, integer(fgsl_int), intent(in) *signum*)
- 41.16.1.42 integer(fgsl_int) function fgsl_linalg_lu_invert (type(fgsl_matrix), intent(in) *lu*, type(fgsl_permutation), intent(in) *p*, type(fgsl_matrix), intent(inout) *inverse*)
- 41.16.1.43 real(fgsl_double) function fgsl_linalg_lu_lndet (type(fgsl_matrix), intent(in) *lu*)
- 41.16.1.44 integer(fgsl_int) function fgsl_linalg_lu_refine (type(fgsl_matrix), intent(in) *a*, type(fgsl_matrix), intent(in) *lu*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*, type(fgsl_vector), intent(inout) *residual*)
- 41.16.1.45 integer(fgsl_int) function fgsl_linalg_lu_sgndet (type(fgsl_matrix), intent(in) *lu*, integer(fgsl_int), intent(in) *signum*)
- 41.16.1.46 integer(fgsl_int) function fgsl_linalg_lu_solve (type(fgsl_matrix), intent(in) *lu*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.47 integer(fgsl_int) function fgsl_linalg_lu_svx (type(fgsl_matrix), intent(in) *lu*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.48 integer(fgsl_int) function fgsl_linalg_qr_decomp (type(fgsl_matrix), intent(inout) *a*, type(fgsl_vector), intent(inout) *tau*)
- 41.16.1.49 integer(fgsl_int) function fgsl_linalg_qr_issolve (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*, type(fgsl_vector), intent(inout) *residual*)
- 41.16.1.50 integer(fgsl_int) function fgsl_linalg_qr_qrsolve (type(fgsl_matrix), intent(in) *q*, type(fgsl_matrix), intent(in) *r*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.51 integer(fgsl_int) function fgsl_linalg_qr_qtmat (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_matrix), intent(inout) *a*)
- 41.16.1.52 integer(fgsl_int) function fgsl_linalg_qr_qtvec (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_vector), intent(inout) *v*)
- 41.16.1.53 integer(fgsl_int) function fgsl_linalg_qr_qvec (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_vector), intent(inout) *v*)
- 41.16.1.54 integer(fgsl_int) function fgsl_linalg_qr_rsolve (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.55 integer(fgsl_int) function fgsl_linalg_qr_rsvx (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.56 integer(fgsl_int) function fgsl_linalg_qr_solve (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.57 integer(fgsl_int) function fgsl_linalg_qr_svx (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_vector), intent(inout) *x*)

- 41.16.1.58 integer(fgsl_int) function fgsl_linalg_qr_unpack (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_matrix), intent(inout) *q*, type(fgsl_matrix), intent(inout) *r*)
- 41.16.1.59 integer(fgsl_int) function fgsl_linalg_qr_update (type(fgsl_matrix), intent(inout) *q*, type(fgsl_matrix), intent(inout) *r*, type(fgsl_vector), intent(inout) *w*, type(fgsl_vector), intent(in) *v*)
- 41.16.1.60 integer(fgsl_int) function fgsl_linalg_qrpt_decomp (type(fgsl_matrix), intent(inout) *a*, type(fgsl_vector), intent(inout) *tau*, type(fgsl_permutation), intent(inout) *p*, integer(fgsl_int), intent(out) *signum*, type(fgsl_vector), intent(inout) *norm*)
- 41.16.1.61 integer(fgsl_int) function fgsl_linalg_qrpt_decomp2 (type(fgsl_matrix), intent(in) *a*, type(fgsl_matrix), intent(inout) *q*, type(fgsl_matrix), intent(inout) *r*, type(fgsl_vector), intent(inout) *tau*, type(fgsl_permutation), intent(inout) *p*, integer(fgsl_int), intent(out) *signum*, type(fgsl_vector), intent(inout) *norm*)
- 41.16.1.62 integer(fgsl_int) function fgsl_linalg_qrpt_qrsolve (type(fgsl_matrix), intent(in) *q*, type(fgsl_matrix), intent(in) *r*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.63 integer(fgsl_int) function fgsl_linalg_qrpt_rsolve (type(fgsl_matrix), intent(in) *qr*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.64 integer(fgsl_int) function fgsl_linalg_qrpt_rsvx (type(fgsl_matrix), intent(in) *qr*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.65 integer(fgsl_int) function fgsl_linalg_qrpt_solve (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.66 integer(fgsl_int) function fgsl_linalg_qrpt_svx (type(fgsl_matrix), intent(in) *qr*, type(fgsl_vector), intent(in) *tau*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.67 integer(fgsl_int) function fgsl_linalg_qrpt_update (type(fgsl_matrix), intent(inout) *q*, type(fgsl_matrix), intent(inout) *r*, type(fgsl_permutation), intent(in) *p*, type(fgsl_vector), intent(inout) *w*, type(fgsl_vector), intent(in) *v*)
- 41.16.1.68 integer(fgsl_int) function fgsl_linalg_r_solve (type(fgsl_matrix), intent(in) *r*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.69 integer(fgsl_int) function fgsl_linalg_r_svx (type(fgsl_matrix), intent(in) *r*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.70 integer(c_int) function fgsl_linalg_solve_cyc_tridiag (type(fgsl_vector), intent(in) *diag*, type(fgsl_vector), intent(in) *e*, type(fgsl_vector), intent(in) *f*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.71 integer(c_int) function fgsl_linalg_solve_symm_cyc_tridiag (type(fgsl_vector), intent(in) *diag*, type(fgsl_vector), intent(in) *e*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.72 integer(c_int) function fgsl_linalg_solve_symm_tridiag (type(fgsl_vector), intent(in) *diag*, type(fgsl_vector), intent(in) *e*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.73 integer(c_int) function fgsl_linalg_solve_tridiag (type(fgsl_vector), intent(in) *diag*, type(fgsl_vector), intent(in) *e*, type(fgsl_vector), intent(in) *f*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.74 integer(fgsl_int) function fgsl_linalg_sv_decomp (type(fgsl_matrix), intent(inout) *a*, type(fgsl_matrix), intent(inout) *v*, type(fgsl_vector), intent(inout) *s*, type(fgsl_vector), intent(inout) *work*)
- 41.16.1.75 integer(fgsl_int) function fgsl_linalg_sv_decomp_jacobi (type(fgsl_matrix), intent(inout) *a*, type(fgsl_matrix), intent(inout) *v*, type(fgsl_vector), intent(inout) *s*)

- 41.16.1.76 integer(fgsl_int) function `fgsl_linalg_sv_decomp_mod` (type(fgsl_matrix), intent(inout) *a*, type(fgsl_matrix), intent(inout) *x*, type(fgsl_matrix), intent(inout) *v*, type(fgsl_vector), intent(inout) *s*, type(fgsl_vector), intent(inout) *work*)
- 41.16.1.77 integer(fgsl_int) function `fgsl_linalg_sv_leverage` (type(fgsl_matrix), intent(in) *u*, type(fgsl_vector), intent(inout) *h*)
- 41.16.1.78 integer(fgsl_int) function `fgsl_linalg_sv_solve` (type(fgsl_matrix), intent(in) *u*, type(fgsl_matrix), intent(in) *v*, type(fgsl_vector), intent(in) *s*, type(fgsl_vector), intent(in) *b*, type(fgsl_vector), intent(inout) *x*)
- 41.16.1.79 integer(fgsl_int) function `fgsl_linalg_symmtd_decomp` (type(fgsl_matrix), intent(inout) *a*, type(fgsl_vector), intent(inout) *tau*)
- 41.16.1.80 integer(fgsl_int) function `fgsl_linalg_symmtd_unpack` (type(fgsl_matrix), intent(in) *a*, type(fgsl_vector), intent(in) *tau*, type(fgsl_matrix), intent(inout) *q*, type(fgsl_vector), intent(inout) *diag*, type(fgsl_vector), intent(inout) *subdiag*)
- 41.16.1.81 integer(fgsl_int) function `fgsl_linalg_symmtd_unpack_t` (type(fgsl_matrix), intent(in) *a*, type(fgsl_vector), intent(inout) *diag*, type(fgsl_vector), intent(inout) *subdiag*)

41.17 api/math.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- integer(fgsl_int) function [fgsl_isnan](#) (*x*)
- integer(fgsl_int) function [fgsl_isinf](#) (*x*)
- integer(fgsl_int) function [fgsl_finite](#) (*x*)
- real(fgsl_double) function [fgsl_log1p](#) (*x*)
- real(fgsl_double) function [fgsl_expm1](#) (*x*)
- real(fgsl_double) function [fgsl_hypot](#) (*x*)
- real(fgsl_double) function [fgsl_acosh](#) (*x*)
- real(fgsl_double) function [fgsl_asinh](#) (*x*)
- real(fgsl_double) function [fgsl_atanh](#) (*x*)
- real(fgsl_double) function [fgsl_ldexp](#) (*x*, *e*)
- real(fgsl_double) function [fgsl_frexp](#) (*x*, *e*)
- integer(fgsl_int) function [fgsl_fcmp](#) (*x*, *y*, *eps*)
- type(fgsl_function) function [fgsl_function_init](#) (*func*, *params*)
Constructor for an FGSL function type.
- type(fgsl_function_fdf) function [fgsl_function_fdf_init](#) (*f*, *df*, *fdf*, *params*)
Constructor for an FGSL function type including a derivative.

- subroutine [fgsl_function_free](#) (sfunc)
Free resources associated with a FGSL function object.
- subroutine [fgsl_function_fdf_free](#) (sfunc)
Free resources associated with a FGSL function with derivative object.
- real(fgsl_double) function [fgsl_fn_eval](#) (sfunc, x)
Evaluate a function value for a FGSL function object.
- real(fgsl_double) function [fgsl_fn_fdf_eval_f](#) (sfunc, x)
Evaluate a function value for a FGSL function with derivative object.
- real(fgsl_double) function [fgsl_fn_fdf_eval_df](#) (sfunc, x)
Evaluate a derivative value for a FGSL function with derivative object.
- subroutine [fgsl_fn_fdf_eval_f_df](#) (sfunc, x, y, dy)
Evaluate function as well as derivative value for a FGSL function with derivative object.

41.17.1 Function/Subroutine Documentation

41.17.1.1 real(fgsl_double) function [fgsl_acosh](#) (real(fgsl_double), intent(in) x)

41.17.1.2 real(fgsl_double) function [fgsl_asinh](#) (real(fgsl_double), intent(in) x)

41.17.1.3 real(fgsl_double) function [fgsl_atanh](#) (real(fgsl_double), intent(in) x)

41.17.1.4 real(fgsl_double) function [fgsl_expm1](#) (real(fgsl_double), intent(in) x)

41.17.1.5 integer(fgsl_int) function [fgsl_fcmp](#) (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) eps)

41.17.1.6 integer(fgsl_int) function [fgsl_finite](#) (real(fgsl_double), intent(in) x)

41.17.1.7 real(fgsl_double) function [fgsl_fn_eval](#) (type(fgsl_function), intent(inout) sfunc, real(fgsl_double), intent(in) x)

Evaluate a function value for a FGSL function object.

Parameters

<i>sfunc</i>	- function object.
<i>x</i>	- argument value

Returns

Function value

41.17.1.8 real(fgsl_double) function [fgsl_fn_fdf_eval_df](#) (type(fgsl_function_fdf), intent(inout) sfunc, real(fgsl_double), intent(in) x)

Evaluate a derivative value for a FGSL function with derivative object.

Parameters

<i>sfunc</i>	- function with derivative object.
<i>x</i>	- argument value

Returns

Derivative value

41.17.1.9 `real(fgsl_double) function fgsl_fn_fdf_eval_f (type(fgsl_function_fdf), intent(inout) sfunc, real(fgsl_double), intent(in) x)`

Evaluate a function value for a FGSL function with derivative object.

Parameters

<i>sfunc</i>	- function with derivative object.
<i>x</i>	- argument value

Returns

Function value

41.17.1.10 subroutine `fgsl_fn_fdf_eval_f_df` (`type(fgsl_function_fdf)`, `intent(inout) sfunc`, `real(fgsl_double)`, `intent(in) x`, `real(fgsl_double)`, `intent(out) y`, `real(fgsl_double)`, `intent(out) dy`)

Evaluate function as well as derivative value for a FGSL function with derivative object.

Parameters

<i>sfunc</i>	- function with derivative object.
<i>x</i>	- argument value
<i>y</i>	- function value
<i>dy</i>	- derivative value

41.17.1.11 `real(fgsl_double)` function `fgsl_frexpl` (`real(fgsl_double)`, `intent(in) x`, `integer(fgsl_int)`, `intent(out) e`)

41.17.1.12 subroutine `fgsl_function_fdf_free` (`type(fgsl_function_fdf)`, `intent(inout) sfunc`)

Free resources associated with a FGSL function with derivative object.

41.17.1.13 `type(fgsl_function_fdf)` function `fgsl_function_fdf_init` (*f*, *df*, *fdf*, `type(c_ptr)`, `intent(in) params`)

Constructor for an FGSL function type including a derivative.

Parameters

<i>f</i>	- interface for a double precision valued function with a parameter of arbitrary type
<i>df</i>	- interface for a function evaluating the derivative of <i>f</i>
<i>fdf</i>	- interface for a subroutine evaluating <i>f</i> as well as its derivative given an argument and a parameter.
<i>params</i>	- parameter of arbitrary type

Returns

FGSL function with derivative object.

41.17.1.14 subroutine `fgsl_function_free` (`type(fgsl_function)`, `intent(inout) sfunc`)

Free resources associated with a FGSL function object.

41.17.1.15 `type(fgsl_function)` function `fgsl_function_init` (*func*, `type(c_ptr)`, `intent(in) params`)

Constructor for an FGSL function type.

Parameters

<i>func</i>	- interface for a double precision valued function with a parameter of arbitrary type
<i>params</i>	- parameter of arbitrary type

Returns

FGSL function object.

41.17.1.16 `real(fgsl_double) function fgsl_hypot (real(fgsl_double), intent(in) x)`

41.17.1.17 `integer(fgsl_int) function fgsl_isinf (real(fgsl_double), intent(in) x)`

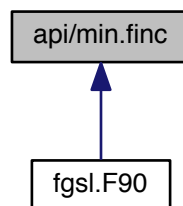
41.17.1.18 `integer(fgsl_int) function fgsl_isnan (real(fgsl_double), intent(in) x)`

41.17.1.19 `real(fgsl_double) function fgsl_ldexp (real(fgsl_double), intent(in) x, integer(fgsl_int), intent(in) e)`

41.17.1.20 `real(fgsl_double) function fgsl_log1p (real(fgsl_double), intent(in) x)`

41.18 `api/min.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

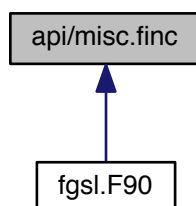
- `type(fgsl_min_fminimizer) function fgsl_min_fminimizer_alloc (t)`
- `subroutine fgsl_min_fminimizer_free (s)`
- `integer(fgsl_int) function fgsl_min_fminimizer_set (s, f, x_minimum, x_lower, x_upper)`
- `integer(fgsl_int) function fgsl_min_fminimizer_set_with_values (s, f, x_minimum, f_minimum, x_lower, f_lower, x_upper, f_upper)`
- `integer(fgsl_int) function fgsl_min_fminimizer_iterate (s)`
- `character(kind=fgsl_char, len=fgsl_strmax) function fgsl_min_fminimizer_name (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_x_minimum (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_x_lower (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_x_upper (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_f_minimum (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_f_lower (s)`
- `real(fgsl_double) function fgsl_min_fminimizer_f_upper (s)`
- `integer(fgsl_int) function fgsl_min_test_interval (x_lower, x_upper, epsabs, epsrel)`
- `logical function fgsl_min_fminimizer_status (s)`

41.18.1 Function/Subroutine Documentation

- 41.18.1.1 `type(fgsl_min_fminimizer) function fgsl_min_fminimizer_alloc (type(fgsl_min_fminimizer_type), intent(in) t)`
- 41.18.1.2 `real(fgsl_double) function fgsl_min_fminimizer_f_lower (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.3 `real(fgsl_double) function fgsl_min_fminimizer_f_minimum (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.4 `real(fgsl_double) function fgsl_min_fminimizer_f_upper (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.5 `subroutine fgsl_min_fminimizer_free (type(fgsl_min_fminimizer), intent(inout) s)`
- 41.18.1.6 `integer(fgsl_int) function fgsl_min_fminimizer_iterate (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.7 `character(kind=fgsl_char,len=fgsl_strmax) function fgsl_min_fminimizer_name (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.8 `integer(fgsl_int) function fgsl_min_fminimizer_set (type(fgsl_min_fminimizer), intent(inout) s, type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) x_minimum, real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper)`
- 41.18.1.9 `integer(fgsl_int) function fgsl_min_fminimizer_set_with_values (type(fgsl_min_fminimizer), intent(inout) s, type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) x_minimum, real(fgsl_double), intent(in) f_minimum, real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) f_lower, real(fgsl_double), intent(in) x_upper, real(fgsl_double), intent(in) f_upper)`
- 41.18.1.10 `logical function fgsl_min_fminimizer_status (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.11 `real(fgsl_double) function fgsl_min_fminimizer_x_lower (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.12 `real(fgsl_double) function fgsl_min_fminimizer_x_minimum (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.13 `real(fgsl_double) function fgsl_min_fminimizer_x_upper (type(fgsl_min_fminimizer), intent(in) s)`
- 41.18.1.14 `integer(fgsl_int) function fgsl_min_test_interval (real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)`

41.19 api/misc.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `character(kind=fgsl_char, len=fgsl_strmax)`
function `fgsl_name` (`c_name`)
C string to Fortran string conversion.
- `integer(fgsl_size_t)` function `fgsl_sizeof_double` (`x`)
size of intrinsic double precision type
- `integer(fgsl_size_t)` function `fgsl_sizeof_float` (`x`)
size of intrinsic single precision type
- `integer(fgsl_size_t)` function `fgsl_sizeof_int` (`x`)
size of intrinsic integer type
- `integer(fgsl_size_t)` function `fgsl_sizeof_long` (`x`)
size of intrinsic long integer type
- `integer(fgsl_size_t)` function `fgsl_sizeof_size_t` (`x`)
size of intrinsic size_t integer type
- `integer(fgsl_size_t)` function `fgsl_sizeof_char` (`x`)
size of intrinsic character type

41.19.1 Function/Subroutine Documentation

41.19.1.1 `character(kind=fgsl_char, len=fgsl_strmax)` function `fgsl_name` (`type(c_ptr)`, `intent(in) c_name`)

C string to Fortran string conversion.

41.19.1.2 `integer(fgsl_size_t)` function `fgsl_sizeof_char` (`character(fgsl_char)`, `intent(in) x`)

size of intrinsic character type

41.19.1.3 `integer(fgsl_size_t)` function `fgsl_sizeof_double` (`real(fgsl_double)`, `intent(in) x`)

size of intrinsic double precision type

41.19.1.4 `integer(fgsl_size_t)` function `fgsl_sizeof_float` (`real(fgsl_float)`, `intent(in) x`)

size of intrinsic single precision type

41.19.1.5 `integer(fgsl_size_t)` function `fgsl_sizeof_int` (`integer(fgsl_int)`, `intent(in) x`)

size of intrinsic integer type

41.19.1.6 `integer(fgsl_size_t)` function `fgsl_sizeof_long` (`integer(fgsl_long)`, `intent(in) x`)

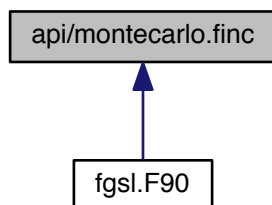
size of intrinsic long integer type

41.19.1.7 `integer(fgsl_size_t)` function `fgsl_sizeof_size_t` (`integer(fgsl_size_t)`, `intent(in) x`)

size of intrinsic size_t integer type

41.20 api/montecarlo.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_monte_function) function [fgsl_monte_function_init](#) (func, dim, params)
- subroutine [fgsl_monte_function_free](#) (func)
- type(fgsl_monte_plain_state)
function [fgsl_monte_plain_alloc](#) (dim)
- integer(fgsl_int) function [fgsl_monte_plain_init](#) (s)
- integer(fgsl_int) function [fgsl_monte_plain_integrate](#) (f, xl, xu, dim, calls, r, s, result, abserr)
- subroutine [fgsl_monte_plain_free](#) (s)
- type(fgsl_monte_miser_state)
function [fgsl_monte_miser_alloc](#) (dim)
- integer(fgsl_int) function [fgsl_monte_miser_init](#) (s)
- integer(fgsl_int) function [fgsl_monte_miser_integrate](#) (f, xl, xu, dim, calls, r, s, result, abserr)
- subroutine [fgsl_monte_miser_free](#) (s)
- type(fgsl_monte_vegas_state)
function [fgsl_monte_vegas_alloc](#) (dim)
- integer(fgsl_int) function [fgsl_monte_vegas_init](#) (s)
- integer(fgsl_int) function [fgsl_monte_vegas_integrate](#) (f, xl, xu, dim, calls, r, s, result, abserr)
- subroutine [fgsl_monte_vegas_free](#) (s)
- real(fgsl_double) function [fgsl_monte_vegas_chisq](#) (s)
- subroutine [fgsl_monte_vegas_runval](#) (s, result, sigma)
- logical function [fgsl_monte_function_status](#) (monte_function)
- logical function [fgsl_monte_plain_status](#) (monte_plain)
- logical function [fgsl_monte_miser_status](#) (monte_miser)
- logical function [fgsl_monte_vegas_status](#) (monte_vegas)
- subroutine [fgsl_monte_miser_setparams](#) (s, estimate_frac, min_calls, min_calls_per_bisection, alpha, dither)
Accessor routine for setting the parameters for the MISER algorithm.
- subroutine [fgsl_monte_miser_getparams](#) (s, estimate_frac, min_calls, min_calls_per_bisection, alpha, dither)
Accessor routine for reading out the parameters for the MISER algorithm.
- subroutine [fgsl_monte_vegas_setparams](#) (s, result, sigma, chisq, alpha, iterations, stage, mode, verbose, ostream)
Accessor routine for setting the parameters for the VEGAS algorithm.
- subroutine [fgsl_monte_vegas_getparams](#) (s, result, sigma, chisq, alpha, iterations, stage, mode, verbose, ostream)
Accessor routine for reading out the parameters for the VEGAS algorithm.

41.20.1 Function/Subroutine Documentation

- 41.20.1.1 subroutine `fgsl_monte_function_free` (`type(fgsl_monte_function)`, `intent(inout) func`)
- 41.20.1.2 `type(fgsl_monte_function)` function `fgsl_monte_function_init` (`func`, `integer(fgsl_size_t)`, `intent(in) dim`, `type(c_ptr)`, `intent(in) params`)
- 41.20.1.3 logical function `fgsl_monte_function_status` (`type(fgsl_monte_function)`, `intent(in) monte_function`)
- 41.20.1.4 `type(fgsl_monte_miser_state)` function `fgsl_monte_miser_alloc` (`integer(fgsl_size_t) dim`)
- 41.20.1.5 subroutine `fgsl_monte_miser_free` (`type(fgsl_monte_miser_state)`, `intent(inout) s`)
- 41.20.1.6 subroutine `fgsl_monte_miser_getparams` (`type(fgsl_monte_miser_state)`, `intent(in) s`, `real(fgsl_double)`, `intent(out) estimate_frac`, `integer(fgsl_size_t)`, `intent(out) min_calls`, `integer(fgsl_size_t)`, `intent(out) min_calls_per_bisection`, `real(fgsl_double)`, `intent(out) alpha`, `real(fgsl_double)`, `intent(out) dither`)

Accessor routine for reading out the parameters for the MISER algorithm.

- 41.20.1.7 `integer(fgsl_int)` function `fgsl_monte_miser_init` (`type(fgsl_monte_miser_state)`, `intent(in) s`)
- 41.20.1.8 `integer(fgsl_int)` function `fgsl_monte_miser_integrate` (`type(fgsl_monte_function)`, `intent(in) f`, `real(fgsl_double)`, `dimension(dim)`, `intent(in) xl`, `real(fgsl_double)`, `dimension(dim)`, `intent(in) xu`, `integer(fgsl_size_t)`, `intent(in) dim`, `integer(fgsl_size_t)`, `intent(in) calls`, `type(fgsl_rng)`, `intent(in) r`, `type(fgsl_monte_miser_state)`, `intent(in) s`, `real(fgsl_double)`, `intent(out) result`, `real(fgsl_double)`, `intent(out) abserr`)
- 41.20.1.9 subroutine `fgsl_monte_miser_setparams` (`type(fgsl_monte_miser_state)`, `intent(inout) s`, `real(fgsl_double)`, `intent(in) estimate_frac`, `integer(fgsl_size_t)`, `intent(in) min_calls`, `integer(fgsl_size_t)`, `intent(in) min_calls_per_bisection`, `real(fgsl_double)`, `intent(in) alpha`, `real(fgsl_double)`, `intent(in) dither`)

Accessor routine for setting the parameters for the MISER algorithm.

- 41.20.1.10 logical function `fgsl_monte_miser_status` (`type(fgsl_monte_miser_state)`, `intent(in) monte_miser`)
- 41.20.1.11 `type(fgsl_monte_plain_state)` function `fgsl_monte_plain_alloc` (`integer(fgsl_size_t)`, `intent(in) dim`)
- 41.20.1.12 subroutine `fgsl_monte_plain_free` (`type(fgsl_monte_plain_state)`, `intent(inout) s`)
- 41.20.1.13 `integer(fgsl_int)` function `fgsl_monte_plain_init` (`type(fgsl_monte_plain_state)`, `intent(in) s`)
- 41.20.1.14 `integer(fgsl_int)` function `fgsl_monte_plain_integrate` (`type(fgsl_monte_function)`, `intent(in) f`, `real(fgsl_double)`, `dimension(dim)`, `intent(in) xl`, `real(fgsl_double)`, `dimension(dim)`, `intent(in) xu`, `integer(fgsl_size_t)`, `intent(in) dim`, `integer(fgsl_size_t)`, `intent(in) calls`, `type(fgsl_rng)`, `intent(in) r`, `type(fgsl_monte_plain_state)`, `intent(in) s`, `real(fgsl_double)`, `intent(out) result`, `real(fgsl_double)`, `intent(out) abserr`)
- 41.20.1.15 logical function `fgsl_monte_plain_status` (`type(fgsl_monte_plain_state)`, `intent(in) monte_plain`)
- 41.20.1.16 `type(fgsl_monte_vegas_state)` function `fgsl_monte_vegas_alloc` (`integer(fgsl_size_t) dim`)
- 41.20.1.17 `real(fgsl_double)` function `fgsl_monte_vegas_chisq` (`type(fgsl_monte_vegas_state)`, `intent(in) s`)
- 41.20.1.18 subroutine `fgsl_monte_vegas_free` (`type(fgsl_monte_vegas_state)`, `intent(inout) s`)

41.20.1.19 subroutine `fgsl_monte_vegas_getparams` (type(`fgsl_monte_vegas_state`), intent(in) *s*, real(`fgsl_double`), intent(out) *result*, real(`fgsl_double`), intent(out) *sigma*, real(`fgsl_double`), intent(out) *chisq*, real(`fgsl_double`), intent(out) *alpha*, integer(`fgsl_size_t`), intent(out) *iterations*, integer(`fgsl_int`), intent(out) *stage*, integer(`fgsl_int`), intent(out) *mode*, integer(`fgsl_int`), intent(out) *verbose*, type(`fgsl_file`), intent(out) *ostream*)

Accessor routine for reading out the parameters for the VEGAS algorithm.

41.20.1.20 integer(`fgsl_int`) function `fgsl_monte_vegas_init` (type(`fgsl_monte_vegas_state`), intent(in) *s*)

41.20.1.21 integer(`fgsl_int`) function `fgsl_monte_vegas_integrate` (type(`fgsl_monte_function`), intent(in) *f*, real(`fgsl_double`), dimension(dim), intent(in) *xl*, real(`fgsl_double`), dimension(dim), intent(in) *xu*, integer(`fgsl_size_t`), intent(in) *dim*, integer(`fgsl_size_t`), intent(in) *calls*, type(`fgsl_rng`), intent(in) *r*, type(`fgsl_monte_vegas_state`), intent(in) *s*, real(`fgsl_double`), intent(out) *result*, real(`fgsl_double`), intent(out) *abserr*)

41.20.1.22 subroutine `fgsl_monte_vegas_runval` (type(`fgsl_monte_vegas_state`), intent(in) *s*, real(`fgsl_double`), intent(out) *result*, real(`fgsl_double`), intent(out) *sigma*)

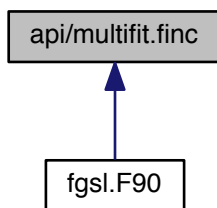
41.20.1.23 subroutine `fgsl_monte_vegas_setparams` (type(`fgsl_monte_vegas_state`), intent(inout) *s*, real(`fgsl_double`), intent(in) *result*, real(`fgsl_double`), intent(in) *sigma*, real(`fgsl_double`), intent(in) *chisq*, real(`fgsl_double`), intent(in) *alpha*, integer(`fgsl_size_t`), intent(in) *iterations*, integer(`fgsl_int`), intent(in) *stage*, integer(`fgsl_int`), intent(in) *mode*, integer(`fgsl_int`), intent(in) *verbose*, type(`fgsl_file`), intent(in) *ostream*)

Accessor routine for setting the parameters for the VEGAS algorithm.

41.20.1.24 logical function `fgsl_monte_vegas_status` (type(`fgsl_monte_vegas_state`), intent(in) *monte_vegas*)

41.21 api/multifit.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(`fgsl_multifit_function`)
function [fgsl_multifit_function_init](#) (func, ndim, p, params)
- type(`fgsl_multifit_function_fdf`)
function [fgsl_multifit_function_fdf_init](#) (func, dfunc, fdfunc, ndim, p, params)
- subroutine [fgsl_multifit_function_free](#) (fun)
- subroutine [fgsl_multifit_function_fdf_free](#) (fun)
- type(`fgsl_multifit_solver`)
function [fgsl_multifit_solver_alloc](#) (t, n, p)

- type(`fgsl_multifit_fdfsolver`)
function `fgsl_multifit_fdfsolver_alloc` (`t`, `n`, `p`)
- subroutine `fgsl_multifit_fsolver_free` (`s`)
- subroutine `fgsl_multifit_fdfsolver_free` (`s`)
- integer(`fgsl_int`) function `fgsl_multifit_fsolver_set` (`s`, `f`, `x`)
- integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_set` (`s`, `fdf`, `x`)
- character(`kind=fgsl_char`, `len=fgsl_strmax`)
function `fgsl_multifit_fsolver_name` (`s`)
- character(`kind=fgsl_char`, `len=fgsl_strmax`)
function `fgsl_multifit_fdfsolver_name` (`s`)
- integer(`fgsl_int`) function `fgsl_multifit_fsolver_iterate` (`s`)
- integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_iterate` (`s`)
- type(`fgsl_vector`) function `fgsl_multifit_fsolver_position` (`s`)
- type(`fgsl_vector`) function `fgsl_multifit_fdfsolver_position` (`s`)
- type(`fgsl_vector`) function `fgsl_multifit_fdfsolver_dx` (`s`)
- type(`fgsl_vector`) function `fgsl_multifit_fdfsolver_f` (`s`)
- type(`fgsl_matrix`) function `fgsl_multifit_fdfsolver_jac` (`s`)
- integer(`fgsl_int`) function `fgsl_multifit_test_delta` (`dx`, `x`, `epsabs`, `epsrel`)
- integer(`fgsl_int`) function `fgsl_multifit_test_gradient` (`g`, `epsabs`)
- integer(`fgsl_int`) function `fgsl_multifit_gradient` (`j`, `f`, `g`)
- integer(`fgsl_int`) function `fgsl_multifit_covar` (`j`, `epsrel`, `covar`)
- logical function `fgsl_multifit_fsolver_status` (`s`)
- logical function `fgsl_multifit_fdfsolver_status` (`s`)
- integer(`fgsl_int`) function `fgsl_multifit_fsolver_driver` (`s`, `maxiter`, `epsabs`, `epsrel`)
- integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_driver` (`s`, `maxiter`, `epsabs`, `epsrel`)
- integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_dif_df` (`x`, `fdf`, `f`, `J`)
- integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_dif_fdf` (`x`, `fdf`, `f`, `J`)
- type(`fgsl_multifit_robust_workspace`)
function `fgsl_multifit_robust_alloc` (`t`, `n`, `p`)
- subroutine `fgsl_multifit_robust_free` (`w`)
- integer(`fgsl_int`) function `fgsl_multifit_robust_tune` (`tune`, `w`)
- character(`kind=fgsl_char`, `len=fgsl_strmax`)
function `fgsl_multifit_robust_name` (`w`)
- type(`fgsl_multifit_robust_stats`)
function `fgsl_multifit_robust_statistics` (`w`)
- integer(`c_int`) function `fgsl_multifit_robust` (`X`, `y`, `c`, `cov`, `w`)
- integer(`c_int`) function `fgsl_multifit_robust_est` (`x`, `c`, `cov`, `y`, `y_err`)

41.21.1 Function/Subroutine Documentation

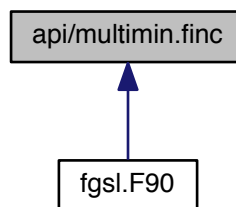
- 41.21.1.1 integer(`fgsl_int`) function `fgsl_multifit_covar` (type(`fgsl_matrix`), intent(in) *j*, real(`fgsl_double`), intent(in) *epsrel*, type(`fgsl_matrix`), intent(inout) *covar*)
- 41.21.1.2 type(`fgsl_multifit_fdfsolver`) function `fgsl_multifit_fdfsolver_alloc` (type(`fgsl_multifit_fdfsolver_type`), intent(in) *t*, integer(`fgsl_size_t`), intent(in) *n*, integer(`fgsl_size_t`), intent(in) *p*)
- 41.21.1.3 integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_dif_df` (type(`fgsl_vector`), intent(in) *x*, type(`fgsl_multifit_function_fdf`), intent(inout) *fdf*, type(`fgsl_vector`), intent(in) *f*, type(`fgsl_matrix`), intent(inout) *J*)
- 41.21.1.4 integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_dif_fdf` (type(`fgsl_vector`), intent(in) *x*, type(`fgsl_multifit_function_fdf`), intent(inout) *fdf*, type(`fgsl_vector`), intent(in) *f*, type(`fgsl_matrix`), intent(inout) *J*)
- 41.21.1.5 integer(`fgsl_int`) function `fgsl_multifit_fdfsolver_driver` (type(`fgsl_multifit_fdfsolver`), intent(inout) *s*, integer(`fgsl_size_t`), intent(in) *maxiter*, real(`fgsl_double`), intent(in) *epsabs*, real(`fgsl_double`), intent(in) *epsrel*)

- 41.21.1.6 type(fgsl_vector) function fgsl_multifit_fdfsolver_dx (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.7 type(fgsl_vector) function fgsl_multifit_fdfsolver_f (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.8 subroutine fgsl_multifit_fdfsolver_free (type(fgsl_multifit_fdfsolver), intent(inout) s)
- 41.21.1.9 integer(fgsl_int) function fgsl_multifit_fdfsolver_iterate (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.10 type(fgsl_matrix) function fgsl_multifit_fdfsolver_jac (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.11 character(kind=fgsl_char,len=fgsl_strmax) function fgsl_multifit_fdfsolver_name (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.12 type(fgsl_vector) function fgsl_multifit_fdfsolver_position (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.13 integer(fgsl_int) function fgsl_multifit_fdfsolver_set (type(fgsl_multifit_fdfsolver), intent(inout) s, type(fgsl_multifit_function_fdf), intent(in) fdf, type(fgsl_vector), intent(in) x)
- 41.21.1.14 logical function fgsl_multifit_fdfsolver_status (type(fgsl_multifit_fdfsolver), intent(in) s)
- 41.21.1.15 type(fgsl_multifit_fsolver) function fgsl_multifit_fsolver_alloc (type(fgsl_multifit_fsolver_type), intent(in) t, integer(fgsl_size_t), intent(in) n, integer(fgsl_size_t), intent(in) p)
- 41.21.1.16 integer(fgsl_int) function fgsl_multifit_fsolver_driver (type(fgsl_multifit_fsolver), intent(inout) s, integer(fgsl_size_t), intent(in) maxiter, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)
- 41.21.1.17 subroutine fgsl_multifit_fsolver_free (type(fgsl_multifit_fsolver), intent(inout) s)
- 41.21.1.18 integer(fgsl_int) function fgsl_multifit_fsolver_iterate (type(fgsl_multifit_fsolver), intent(in) s)
- 41.21.1.19 character(kind=fgsl_char,len=fgsl_strmax) function fgsl_multifit_fsolver_name (type(fgsl_multifit_fsolver), intent(in) s)
- 41.21.1.20 type(fgsl_vector) function fgsl_multifit_fsolver_position (type(fgsl_multifit_fsolver), intent(in) s)
- 41.21.1.21 integer(fgsl_int) function fgsl_multifit_fsolver_set (type(fgsl_multifit_fsolver), intent(inout) s, type(fgsl_multifit_function), intent(in) f, type(fgsl_vector), intent(in) x)
- 41.21.1.22 logical function fgsl_multifit_fsolver_status (type(fgsl_multifit_fsolver), intent(in) s)
- 41.21.1.23 subroutine fgsl_multifit_function_fdf_free (type(fgsl_multifit_function_fdf), intent(inout) fun)
- 41.21.1.24 type(fgsl_multifit_function_fdf) function fgsl_multifit_function_fdf_init (func, dfunc, fdfunc, integer(fgsl_size_t), intent(in) ndim, integer(fgsl_size_t), intent(in) p, type(c_ptr), intent(in) params)
- 41.21.1.25 subroutine fgsl_multifit_function_free (type(fgsl_multifit_function), intent(inout) fun)
- 41.21.1.26 type(fgsl_multifit_function) function fgsl_multifit_function_init (func, integer(fgsl_size_t), intent(in) ndim, integer(fgsl_size_t), intent(in) p, type(c_ptr), intent(in) params)
- 41.21.1.27 integer(fgsl_int) function fgsl_multifit_gradient (type(fgsl_matrix), intent(in) j, type(fgsl_vector), intent(in) f, type(fgsl_vector), intent(inout) g)
- 41.21.1.28 integer(c_int) function fgsl_multifit_robust (type(fgsl_matrix), intent(in) X, type(fgsl_vector), intent(in) y, type(fgsl_vector), intent(inout) c, type(fgsl_matrix), intent(inout) cov, type(fgsl_multifit_robust_workspace), intent(inout) w)

- 41.21.1.29 `type(fgsl_multifit_robust_workspace)` function `fgsl_multifit_robust_alloc` (`type(fgsl_multifit_robust_type)`, `intent(in) t`, `integer(fgsl_size_t)`, `intent(in) n`, `integer(fgsl_size_t)`, `intent(in) p`)
- 41.21.1.30 `integer(c_int)` function `fgsl_multifit_robust_est` (`type(fgsl_vector)`, `intent(in) x`, `type(fgsl_vector)`, `intent(in) c`, `type(fgsl_matrix)`, `intent(in) cov`, `real(c_double)`, `intent(out) y`, `real(c_double)`, `intent(out) y_err`)
- 41.21.1.31 subroutine `fgsl_multifit_robust_free` (`type(fgsl_multifit_robust_workspace)`, `intent(inout) w`)
- 41.21.1.32 `character(kind=fgsl_char,len=fgsl_strmax)` function `fgsl_multifit_robust_name` (`type(fgsl_multifit_robust_workspace)`, `intent(in) w`)
- 41.21.1.33 `type(fgsl_multifit_robust_stats)` function `fgsl_multifit_robust_statistics` (`type(fgsl_multifit_robust_workspace)`, `intent(in) w`)
- 41.21.1.34 `integer(fgsl_int)` function `fgsl_multifit_robust_tune` (`real(fgsl_double)`, `intent(in) tune`, `type(fgsl_multifit_robust_workspace)`, `intent(in) w`)
- 41.21.1.35 `integer(fgsl_int)` function `fgsl_multifit_test_delta` (`type(fgsl_vector)`, `intent(in) dx`, `type(fgsl_vector)`, `intent(in) x`, `real(fgsl_double)`, `intent(in) epsabs`, `real(fgsl_double)`, `intent(in) epsrel`)
- 41.21.1.36 `integer(fgsl_int)` function `fgsl_multifit_test_gradient` (`type(fgsl_vector)`, `intent(in) g`, `real(fgsl_double)`, `intent(in) epsabs`)

41.22 api/multimin.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_multimin_function)`
function [fgsl_multimin_function_init](#) (func, ndim, params)
- `type(fgsl_multimin_function_fdf)`
function [fgsl_multimin_function_fdf_init](#) (func, dfunc, fdfunc, ndim, params)
- subroutine [fgsl_multimin_function_free](#) (fun)
- subroutine [fgsl_multimin_function_fdf_free](#) (fun)
- `type(fgsl_multimin_fminimizer)`
function [fgsl_multimin_fminimizer_alloc](#) (t, n)
- `type(fgsl_multimin_fdfminimizer)`
function [fgsl_multimin_fdfminimizer_alloc](#) (t, n)
- subroutine [fgsl_multimin_fminimizer_free](#) (s)
- subroutine [fgsl_multimin_fdfminimizer_free](#) (s)

- integer(fgsl_int) function [fgsl_multimin_fminimizer_set](#) (s, f, x, step)
- integer(fgsl_int) function [fgsl_multimin_fdfminimizer_set](#) (s, fdf, x, step, tol)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_multimin_fminimizer_name](#) (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_multimin_fdfminimizer_name](#) (s)
- integer(fgsl_int) function [fgsl_multimin_fminimizer_iterate](#) (s)
- integer(fgsl_int) function [fgsl_multimin_fdfminimizer_iterate](#) (s)
- type(fgsl_vector) function [fgsl_multimin_fminimizer_x](#) (s)
- type(fgsl_vector) function [fgsl_multimin_fdfminimizer_x](#) (s)
- real(fgsl_double) function [fgsl_multimin_fminimizer_minimum](#) (s)
- real(fgsl_double) function [fgsl_multimin_fdfminimizer_minimum](#) (s)
- type(fgsl_vector) function [fgsl_multimin_fdfminimizer_gradient](#) (s)
- real(fgsl_double) function [fgsl_multimin_fminimizer_size](#) (s)
- integer(fgsl_int) function [fgsl_multimin_fdfminimizer_restart](#) (s)
- integer(fgsl_int) function [fgsl_multimin_test_gradient](#) (g, epsabs)
- integer(fgsl_int) function [fgsl_multimin_test_size](#) (size, epsabs)
- logical function [fgsl_multimin_fminimizer_status](#) (s)
- logical function [fgsl_multimin_fdfminimizer_status](#) (s)

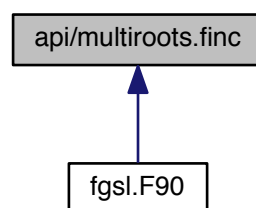
41.22.1 Function/Subroutine Documentation

- 41.22.1.1 `type(fgsl_multimin_fdfminimizer)` function [fgsl_multimin_fdfminimizer_alloc](#) (`type(fgsl_multimin_fdfminimizer_type)`, `intent(in) t`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.22.1.2 subroutine [fgsl_multimin_fdfminimizer_free](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(inout) s`)
- 41.22.1.3 `type(fgsl_vector)` function [fgsl_multimin_fdfminimizer_gradient](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.4 `integer(fgsl_int)` function [fgsl_multimin_fdfminimizer_iterate](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.5 `real(fgsl_double)` function [fgsl_multimin_fdfminimizer_minimum](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.6 `character(kind=fgsl_char, len=fgsl_strmax)` function [fgsl_multimin_fdfminimizer_name](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.7 `integer(fgsl_int)` function [fgsl_multimin_fdfminimizer_restart](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.8 `integer(fgsl_int)` function [fgsl_multimin_fdfminimizer_set](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(inout) s`, `type(fgsl_multimin_function_fdf)`, `intent(in) fdf`, `type(fgsl_vector)`, `intent(in) x`, `real(fgsl_double)`, `intent(in) step`, `real(fgsl_double)`, `intent(in) tol`)
- 41.22.1.9 logical function [fgsl_multimin_fdfminimizer_status](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.10 `type(fgsl_vector)` function [fgsl_multimin_fdfminimizer_x](#) (`type(fgsl_multimin_fdfminimizer)`, `intent(in) s`)
- 41.22.1.11 `type(fgsl_multimin_fminimizer)` function [fgsl_multimin_fminimizer_alloc](#) (`type(fgsl_multimin_fminimizer_type)`, `intent(in) t`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.22.1.12 subroutine [fgsl_multimin_fminimizer_free](#) (`type(fgsl_multimin_fminimizer)`, `intent(inout) s`)
- 41.22.1.13 `integer(fgsl_int)` function [fgsl_multimin_fminimizer_iterate](#) (`type(fgsl_multimin_fminimizer)`, `intent(in) s`)
- 41.22.1.14 `real(fgsl_double)` function [fgsl_multimin_fminimizer_minimum](#) (`type(fgsl_multimin_fminimizer)`, `intent(in) s`)

- 41.22.1.15 `character(kind=fgsl_char,len=fgsl_strmax) function fgsl_multimin_fminimizer_name (type(fgsl_multimin_fminimizer), intent(in) s)`
- 41.22.1.16 `integer(fgsl_int) function fgsl_multimin_fminimizer_set (type(fgsl_multimin_fminimizer), intent(inout) s, type(fgsl_multimin_function), intent(in) f, type(fgsl_vector), intent(in) x, type(fgsl_vector), intent(in) step)`
- 41.22.1.17 `real(fgsl_double) function fgsl_multimin_fminimizer_size (type(fgsl_multimin_fminimizer), intent(in) s)`
- 41.22.1.18 `logical function fgsl_multimin_fminimizer_status (type(fgsl_multimin_fminimizer), intent(in) s)`
- 41.22.1.19 `type(fgsl_vector) function fgsl_multimin_fminimizer_x (type(fgsl_multimin_fminimizer), intent(in) s)`
- 41.22.1.20 `subroutine fgsl_multimin_function_fdf_free (type(fgsl_multimin_function_fdf), intent(inout) fun)`
- 41.22.1.21 `type(fgsl_multimin_function_fdf) function fgsl_multimin_function_fdf_init (func, dfunc, fdfunc, integer(fgsl_size_t), intent(in) ndim, type(c_ptr), intent(in) params)`
- 41.22.1.22 `subroutine fgsl_multimin_function_free (type(fgsl_multimin_function), intent(inout) fun)`
- 41.22.1.23 `type(fgsl_multimin_function) function fgsl_multimin_function_init (func, integer(fgsl_size_t), intent(in) ndim, type(c_ptr), intent(in) params)`
- 41.22.1.24 `integer(fgsl_int) function fgsl_multimin_test_gradient (type(fgsl_vector), intent(in) g, real(fgsl_double), intent(in) epsabs)`
- 41.22.1.25 `integer(fgsl_int) function fgsl_multimin_test_size (real(fgsl_double), intent(in) size, real(fgsl_double), intent(in) epsabs)`

41.23 api/multiroots.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_multiroot_function)`
function [fgsl_multiroot_function_init](#) (func, ndim, params)
- `type(fgsl_multiroot_function_fdf)`
function [fgsl_multiroot_function_fdf_init](#) (func, dfunc, fdfunc, ndim, params)
- subroutine [fgsl_multiroot_function_free](#) (fun)
- subroutine [fgsl_multiroot_function_fdf_free](#) (fun)

- type(fgsl_multiroot_fsolver)
function [fgsl_multiroot_fsolver_alloc](#) (t, n)
- type(fgsl_multiroot_fdfsolver)
function [fgsl_multiroot_fdfsolver_alloc](#) (t, n)
- subroutine [fgsl_multiroot_fsolver_free](#) (s)
- subroutine [fgsl_multiroot_fdfsolver_free](#) (s)
- integer(fgsl_int) function [fgsl_multiroot_fsolver_set](#) (s, f, x)
- integer(fgsl_int) function [fgsl_multiroot_fdfsolver_set](#) (s, fdf, x)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_multiroot_fsolver_name](#) (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_multiroot_fdfsolver_name](#) (s)
- integer(fgsl_int) function [fgsl_multiroot_fsolver_iterate](#) (s)
- integer(fgsl_int) function [fgsl_multiroot_fdfsolver_iterate](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fsolver_root](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fdfsolver_root](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fsolver_f](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fdfsolver_f](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fsolver_dx](#) (s)
- type(fgsl_vector) function [fgsl_multiroot_fdfsolver_dx](#) (s)
- integer(fgsl_int) function [fgsl_multiroot_test_delta](#) (dx, x, epsabs, epsrel)
- integer(fgsl_int) function [fgsl_multiroot_test_residual](#) (f, epsabs)
- logical function [fgsl_multiroot_fsolver_status](#) (s)
- logical function [fgsl_multiroot_fdfsolver_status](#) (s)

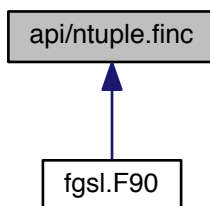
41.23.1 Function/Subroutine Documentation

- 41.23.1.1 type(fgsl_multiroot_fdfsolver) function [fgsl_multiroot_fdfsolver_alloc](#) (type(fgsl_multiroot_fdfsolver_type), intent(in) t, integer(fgsl_size_t), intent(in) n)
- 41.23.1.2 type(fgsl_vector) function [fgsl_multiroot_fdfsolver_dx](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.3 type(fgsl_vector) function [fgsl_multiroot_fdfsolver_f](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.4 subroutine [fgsl_multiroot_fdfsolver_free](#) (type(fgsl_multiroot_fdfsolver), intent(inout) s)
- 41.23.1.5 integer(fgsl_int) function [fgsl_multiroot_fdfsolver_iterate](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.6 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_multiroot_fdfsolver_name](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.7 type(fgsl_vector) function [fgsl_multiroot_fdfsolver_root](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.8 integer(fgsl_int) function [fgsl_multiroot_fdfsolver_set](#) (type(fgsl_multiroot_fdfsolver), intent(inout) s, type(fgsl_multiroot_function_fdf), intent(in) fdf, type(fgsl_vector), intent(in) x)
- 41.23.1.9 logical function [fgsl_multiroot_fdfsolver_status](#) (type(fgsl_multiroot_fdfsolver), intent(in) s)
- 41.23.1.10 type(fgsl_multiroot_fsolver) function [fgsl_multiroot_fsolver_alloc](#) (type(fgsl_multiroot_fsolver_type), intent(in) t, integer(fgsl_size_t), intent(in) n)
- 41.23.1.11 type(fgsl_vector) function [fgsl_multiroot_fsolver_dx](#) (type(fgsl_multiroot_fsolver), intent(in) s)
- 41.23.1.12 type(fgsl_vector) function [fgsl_multiroot_fsolver_f](#) (type(fgsl_multiroot_fsolver), intent(in) s)

- 41.23.1.13 subroutine `fgsl_multiroot_fsolver_free` (`type(fgsl_multiroot_fsolver)`, `intent(inout) s`)
- 41.23.1.14 `integer(fgsl_int)` function `fgsl_multiroot_fsolver_iterate` (`type(fgsl_multiroot_fsolver)`, `intent(in) s`)
- 41.23.1.15 `character(kind=fgsl_char,len=fgsl_strmax)` function `fgsl_multiroot_fsolver_name` (`type(fgsl_multiroot_fsolver)`, `intent(in) s`)
- 41.23.1.16 `type(fgsl_vector)` function `fgsl_multiroot_fsolver_root` (`type(fgsl_multiroot_fsolver)`, `intent(in) s`)
- 41.23.1.17 `integer(fgsl_int)` function `fgsl_multiroot_fsolver_set` (`type(fgsl_multiroot_fsolver)`, `intent(inout) s`, `type(fgsl_multiroot_function)`, `intent(in) f`, `type(fgsl_vector)`, `intent(in) x`)
- 41.23.1.18 logical function `fgsl_multiroot_fsolver_status` (`type(fgsl_multiroot_fsolver)`, `intent(in) s`)
- 41.23.1.19 subroutine `fgsl_multiroot_function_fdf_free` (`type(fgsl_multiroot_function_fdf)`, `intent(inout) fun`)
- 41.23.1.20 `type(fgsl_multiroot_function_fdf)` function `fgsl_multiroot_function_fdf_init` (`func`, `dfunc`, `fdfunc`, `integer(fgsl_size_t)`, `intent(in) ndim`, `type(c_ptr)`, `intent(in) params`)
- 41.23.1.21 subroutine `fgsl_multiroot_function_free` (`type(fgsl_multiroot_function)`, `intent(inout) fun`)
- 41.23.1.22 `type(fgsl_multiroot_function)` function `fgsl_multiroot_function_init` (`func`, `integer(fgsl_size_t)`, `intent(in) ndim`, `type(c_ptr)`, `intent(in) params`)
- 41.23.1.23 `integer(fgsl_int)` function `fgsl_multiroot_test_delta` (`type(fgsl_vector)`, `intent(in) dx`, `type(fgsl_vector)`, `intent(in) x`, `real(fgsl_double)`, `intent(in) epsabs`, `real(fgsl_double)`, `intent(in) epsrel`)
- 41.23.1.24 `integer(fgsl_int)` function `fgsl_multiroot_test_residual` (`type(fgsl_vector)`, `intent(in) f`, `real(fgsl_double)`, `intent(in) epsabs`)

41.24 `api/ntuple.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_ntuple)` function [fgsl_ntuple_create](#) (fname, data, size)
- `type(fgsl_ntuple)` function [fgsl_ntuple_open](#) (fname, data, size)
- `integer(fgsl_int)` function [fgsl_ntuple_write](#) (ntuple)
- `integer(fgsl_int)` function [fgsl_ntuple_bookdata](#) (ntuple)
- `integer(fgsl_int)` function [fgsl_ntuple_read](#) (ntuple)

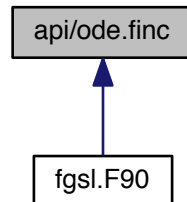
- integer(fgsl_int) function [fgsl_ntuple_close](#) (ntuple)
- type(fgsl_ntuple_select_fn)
function [fgsl_ntuple_select_fn_init](#) (func, params)
- type(fgsl_ntuple_value_fn) function [fgsl_ntuple_value_fn_init](#) (func, params)
- subroutine [fgsl_ntuple_select_fn_free](#) (sfunc)
- subroutine [fgsl_ntuple_value_fn_free](#) (sfunc)
- integer(fgsl_int) function [fgsl_ntuple_project](#) (h, ntuple, value_func, select_func)
- type(c_ptr) function [fgsl_ntuple_data](#) (ntuple)
- integer(fgsl_size_t) function [fgsl_ntuple_size](#) (ntuple)
- logical function [fgsl_ntuple_status](#) (ntuple)
- logical function [fgsl_ntuple_value_fn_status](#) (ntuple_value_fn)
- logical function [fgsl_ntuple_select_fn_status](#) (ntuple_select_fn)

41.24.1 Function/Subroutine Documentation

- 41.24.1.1 integer(fgsl_int) function [fgsl_ntuple_bookdata](#) (type(fgsl_ntuple), intent(in) *ntuple*)
- 41.24.1.2 integer(fgsl_int) function [fgsl_ntuple_close](#) (type(fgsl_ntuple), intent(inout) *ntuple*)
- 41.24.1.3 type(fgsl_ntuple) function [fgsl_ntuple_create](#) (character(kind=fgsl_char, len=*), intent(in) *fname*, type(c_ptr), intent(in) *data*, integer(fgsl_size_t), intent(in) *size*)
- 41.24.1.4 type(c_ptr) function [fgsl_ntuple_data](#) (type(fgsl_ntuple), intent(in) *ntuple*)
- 41.24.1.5 type(fgsl_ntuple) function [fgsl_ntuple_open](#) (character(kind=fgsl_char, len=*), intent(in) *fname*, type(c_ptr), intent(in) *data*, integer(fgsl_size_t), intent(in) *size*)
- 41.24.1.6 integer(fgsl_int) function [fgsl_ntuple_project](#) (type(fgsl_histogram), intent(inout) *h*, type(fgsl_ntuple), intent(in) *ntuple*, type(fgsl_ntuple_value_fn), intent(in) *value_func*, type(fgsl_ntuple_select_fn), intent(in) *select_func*)
- 41.24.1.7 integer(fgsl_int) function [fgsl_ntuple_read](#) (type(fgsl_ntuple), intent(inout) *ntuple*)
- 41.24.1.8 subroutine [fgsl_ntuple_select_fn_free](#) (type(fgsl_ntuple_select_fn), intent(inout) *sfunc*)
- 41.24.1.9 type(fgsl_ntuple_select_fn) function [fgsl_ntuple_select_fn_init](#) (*func*, type(c_ptr), intent(in) *params*)
- 41.24.1.10 logical function [fgsl_ntuple_select_fn_status](#) (type(fgsl_ntuple_select_fn), intent(in) *ntuple_select_fn*)
- 41.24.1.11 integer(fgsl_size_t) function [fgsl_ntuple_size](#) (type(fgsl_ntuple), intent(in) *ntuple*)
- 41.24.1.12 logical function [fgsl_ntuple_status](#) (type(fgsl_ntuple), intent(in) *ntuple*)
- 41.24.1.13 subroutine [fgsl_ntuple_value_fn_free](#) (type(fgsl_ntuple_value_fn), intent(inout) *sfunc*)
- 41.24.1.14 type(fgsl_ntuple_value_fn) function [fgsl_ntuple_value_fn_init](#) (*func*, type(c_ptr), intent(in) *params*)
- 41.24.1.15 logical function [fgsl_ntuple_value_fn_status](#) (type(fgsl_ntuple_value_fn), intent(in) *ntuple_value_fn*)
- 41.24.1.16 integer(fgsl_int) function [fgsl_ntuple_write](#) (type(fgsl_ntuple), intent(in) *ntuple*)

41.25 `api/ode.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_odeiv2_system)` function [fgsl_odeiv2_system_init](#) (func, dimension, params, jacobian)
Constructor for an ODE system object.
- subroutine [fgsl_odeiv2_system_free](#) (system)
- `type(fgsl_odeiv2_step)` function [fgsl_odeiv2_step_alloc](#) (t, dim)
- `integer(fgsl_int)` function [fgsl_odeiv2_step_reset](#) (s)
- subroutine [fgsl_odeiv2_step_free](#) (s)
- `character(kind=fgsl_char, len=fgsl_strmax)`
 function [fgsl_odeiv2_step_name](#) (s)
- `integer(fgsl_int)` function [fgsl_odeiv2_step_order](#) (s)
- `integer(c_int)` function [fgsl_odeiv2_step_set_driver](#) (s, d)
- `integer(fgsl_int)` function [fgsl_odeiv2_step_apply](#) (s, t, h, y, yerr, dydt_in, dydt_out, sys)
- `type(fgsl_odeiv2_control)` function [fgsl_odeiv2_control_standard_new](#) (eps_abs, eps_rel, a_y, a_dydt)
- `type(fgsl_odeiv2_control)` function [fgsl_odeiv2_control_y_new](#) (eps_abs, eps_rel)
- `type(fgsl_odeiv2_control)` function [fgsl_odeiv2_control_yp_new](#) (eps_abs, eps_rel)
- `type(fgsl_odeiv2_control)` function [fgsl_odeiv2_control_scaled_new](#) (eps_abs, eps_rel, a_y, a_dydt, scale_abs, dim)
- `type(fgsl_odeiv2_control)` function [fgsl_odeiv2_control_alloc](#) (t)
Note: use of `fgsl_odeiv2_control_alloc` requires an initializer for the `t` object written in C.
- `integer(fgsl_int)` function [fgsl_odeiv2_control_init](#) (c, eps_abs, eps_rel, a_y, a_dydt)
- subroutine [fgsl_odeiv2_control_free](#) (c)
- logical function [fgsl_odeiv2_control_status](#) (s)
- `integer(fgsl_int)` function [fgsl_odeiv2_control_hadjust](#) (c, s, y0, yerr, dydt, h)
- `character(kind=fgsl_char, len=fgsl_strmax)`
 function [fgsl_odeiv2_control_name](#) (c)
- `integer(fgsl_int)` function [fgsl_odeiv2_control_errlevel](#) (c, y, dydt, h, ind, errlev)
- `integer(fgsl_int)` function [fgsl_odeiv2_control_set_driver](#) (c, d)
- `type(fgsl_odeiv2_evolve)` function [fgsl_odeiv2_evolve_alloc](#) (dim)
- `integer(fgsl_int)` function [fgsl_odeiv2_evolve_apply](#) (e, con, step, sys, t, t1, h, y)
- `integer(fgsl_int)` function [fgsl_odeiv2_evolve_apply_fixed_step](#) (e, con, step, sys, t, h, y)
- `integer(c_int)` function [fgsl_odeiv2_evolve_reset](#) (s)
- subroutine [fgsl_odeiv2_evolve_free](#) (s)
- logical function [fgsl_odeiv2_evolve_status](#) (s)
- logical function [fgsl_odeiv2_step_status](#) (s)
- logical function [fgsl_odeiv2_system_status](#) (s)

- integer(fgsl_int) function [fgsl_odeiv2_evolve_set_driver](#) (c, d)
- type(fgsl_odeiv2_driver) function [fgsl_odeiv2_driver_alloc_y_new](#) (sys, t, hstart, epsabs, epsrel)
- type(fgsl_odeiv2_driver) function [fgsl_odeiv2_driver_alloc_yp_new](#) (sys, t, hstart, epsabs, epsrel)
- type(fgsl_odeiv2_driver) function [fgsl_odeiv2_driver_alloc_standard_new](#) (sys, t, hstart, epsabs, epsrel, a_y, a_dydt)
- type(fgsl_odeiv2_driver) function [fgsl_odeiv2_driver_alloc_scaled_new](#) (sys, t, hstart, epsabs, epsrel, a_y, a_dydt, scale_abs)
- integer(fgsl_int) function [fgsl_odeiv2_driver_set_hmin](#) (d, hmin)
- integer(fgsl_int) function [fgsl_odeiv2_driver_set_hmax](#) (d, hmax)
- integer(fgsl_int) function [fgsl_odeiv2_driver_set_nmax](#) (d, nmax)
- integer(fgsl_int) function [fgsl_odeiv2_driver_apply](#) (d, t, t1, y)
- integer(fgsl_int) function [fgsl_odeiv2_driver_apply_fixed_step](#) (d, t, h, n, y)
- integer(fgsl_int) function [fgsl_odeiv2_driver_reset](#) (d)
- subroutine [fgsl_odeiv2_driver_free](#) (d)
- logical function [fgsl_odeiv2_driver_status](#) (s)
- integer(fgsl_int) function [fgsl_odeiv2_driver_reset_hstart](#) (d, hstart)
- type(fgsl_odeiv_system) function [fgsl_odeiv_system_init](#) (func, dimension, params, jacobian)

Constructor for an ODE system object.

- subroutine [fgsl_odeiv_system_free](#) (system)
- type(fgsl_odeiv_step) function [fgsl_odeiv_step_alloc](#) (t, dim)
- integer(fgsl_int) function [fgsl_odeiv_step_reset](#) (s)
- subroutine [fgsl_odeiv_step_free](#) (s)
- character(kind=fgsl_char, len=fgsl_strmax) function [fgsl_odeiv_step_name](#) (s)
- integer(fgsl_int) function [fgsl_odeiv_step_order](#) (s)
- integer(fgsl_int) function [fgsl_odeiv_step_apply](#) (s, t, h, y, yerr, dydt_in, dydt_out, dydt)
- type(fgsl_odeiv_control) function [fgsl_odeiv_control_standard_new](#) (eps_abs, eps_rel, a_y, a_dydt)
- type(fgsl_odeiv_control) function [fgsl_odeiv_control_y_new](#) (eps_abs, eps_rel)
- type(fgsl_odeiv_control) function [fgsl_odeiv_control_yp_new](#) (eps_abs, eps_rel)
- type(fgsl_odeiv_control) function [fgsl_odeiv_control_scaled_new](#) (eps_abs, eps_rel, a_y, a_dydt, scale_abs, dim)
- type(fgsl_odeiv_control) function [fgsl_odeiv_control_alloc](#) (t)

Note: Use of [fgsl_odeiv_control_alloc](#) requires an initializer for the t object written in C.

- integer(fgsl_int) function [fgsl_odeiv_control_init](#) (c, eps_abs, eps_rel, a_y, a_dydt)
- subroutine [fgsl_odeiv_control_free](#) (c)
- integer(fgsl_int) function [fgsl_odeiv_control_hadjust](#) (c, s, y0, yerr, dydt, h)
- character(kind=fgsl_char, len=fgsl_strmax) function [fgsl_odeiv_control_name](#) (c)
- type(fgsl_odeiv_evolve) function [fgsl_odeiv_evolve_alloc](#) (dim)
- integer(fgsl_int) function [fgsl_odeiv_evolve_apply](#) (e, con, step, dydt, t, t1, h, y)
- integer(c_int) function [fgsl_odeiv_evolve_reset](#) (s)
- subroutine [fgsl_odeiv_evolve_free](#) (s)
- logical function [fgsl_odeiv_evolve_status](#) (s)
- logical function [fgsl_odeiv_control_status](#) (s)
- logical function [fgsl_odeiv_step_status](#) (s)
- logical function [fgsl_odeiv_system_status](#) (s)

41.25.1 Function/Subroutine Documentation

41.25.1.1 type(fgsl_odeiv2_control) function [fgsl_odeiv2_control_alloc](#) (type(fgsl_odeiv2_control_type), intent(in) t)

Note: use of [fgsl_odeiv2_control_alloc](#) requires an initializer for the t object written in C.

- 41.25.1.2 integer(fgsl_int) function fgsl_odeiv2_control_errlevel (type(fgsl_odeiv2_control) *c*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *dydt*, real(fgsl_double), intent(in) *h*, integer(fgsl_size_t), intent(in) *ind*, real(fgsl_double), intent(inout) *errlev*)
- 41.25.1.3 subroutine fgsl_odeiv2_control_free (type(fgsl_odeiv2_control), intent(inout) *c*)
- 41.25.1.4 integer(fgsl_int) function fgsl_odeiv2_control_hadjust (type(fgsl_odeiv2_control), intent(in) *c*, type(fgsl_odeiv2_step), intent(in) *s*, real(fgsl_double), dimension(:), intent(in) *y0*, real(fgsl_double), dimension(:), intent(in) *yerr*, real(fgsl_double), dimension(:), intent(in) *dydt*, real(fgsl_double), dimension(:), intent(inout) *h*)
- 41.25.1.5 integer(fgsl_int) function fgsl_odeiv2_control_init (type(fgsl_odeiv2_control), intent(in) *c*, real(fgsl_double), intent(in) *eps_abs*, real(fgsl_double), intent(in) *eps_rel*, real(fgsl_double), intent(in) *a_y*, real(fgsl_double), intent(in) *a_dydt*)
- 41.25.1.6 character(kind=fgsl_char, len=fgsl_strmax) function fgsl_odeiv2_control_name (type(fgsl_odeiv2_control), intent(in) *c*)
- 41.25.1.7 type(fgsl_odeiv2_control) function fgsl_odeiv2_control_scaled_new (real(fgsl_double), intent(in) *eps_abs*, real(fgsl_double), intent(in) *eps_rel*, real(fgsl_double), intent(in) *a_y*, real(fgsl_double), intent(in) *a_dydt*, real(fgsl_double), dimension(:), intent(in) *scale_abs*, integer(fgsl_size_t), intent(in) *dim*)
- 41.25.1.8 integer(fgsl_int) function fgsl_odeiv2_control_set_driver (type(fgsl_odeiv2_control), intent(inout) *c*, type(fgsl_odeiv2_driver), intent(in) *d*)
- 41.25.1.9 type(fgsl_odeiv2_control) function fgsl_odeiv2_control_standard_new (real(fgsl_double), intent(in) *eps_abs*, real(fgsl_double), intent(in) *eps_rel*, real(fgsl_double), intent(in) *a_y*, real(fgsl_double), intent(in) *a_dydt*)
- 41.25.1.10 logical function fgsl_odeiv2_control_status (type(fgsl_odeiv2_control), intent(in) *s*)
- 41.25.1.11 type(fgsl_odeiv2_control) function fgsl_odeiv2_control_y_new (real(fgsl_double), intent(in) *eps_abs*, real(fgsl_double), intent(in) *eps_rel*)
- 41.25.1.12 type(fgsl_odeiv2_control) function fgsl_odeiv2_control_yp_new (real(fgsl_double), intent(in) *eps_abs*, real(fgsl_double), intent(in) *eps_rel*)
- 41.25.1.13 type(fgsl_odeiv2_driver) function fgsl_odeiv2_driver_alloc_scaled_new (type(fgsl_odeiv2_system), intent(in) *sys*, type(fgsl_odeiv2_step_type), intent(in) *t*, real(c_double), intent(in) *hstart*, real(c_double), intent(in) *epsabs*, real(c_double), intent(in) *epsrel*, real(c_double), intent(in) *a_y*, real(c_double), intent(in) *a_dydt*, real(c_double), dimension(:) *scale_abs*)
- 41.25.1.14 type(fgsl_odeiv2_driver) function fgsl_odeiv2_driver_alloc_standard_new (type(fgsl_odeiv2_system), intent(in) *sys*, type(fgsl_odeiv2_step_type), intent(in) *t*, real(c_double), intent(in) *hstart*, real(c_double), intent(in) *epsabs*, real(c_double), intent(in) *epsrel*, real(c_double), intent(in) *a_y*, real(c_double), intent(in) *a_dydt*)
- 41.25.1.15 type(fgsl_odeiv2_driver) function fgsl_odeiv2_driver_alloc_y_new (type(fgsl_odeiv2_system), intent(in) *sys*, type(fgsl_odeiv2_step_type), intent(in) *t*, real(c_double), intent(in) *hstart*, real(c_double), intent(in) *epsabs*, real(c_double), intent(in) *epsrel*)
- 41.25.1.16 type(fgsl_odeiv2_driver) function fgsl_odeiv2_driver_alloc_yp_new (type(fgsl_odeiv2_system), intent(in) *sys*, type(fgsl_odeiv2_step_type), intent(in) *t*, real(c_double), intent(in) *hstart*, real(c_double), intent(in) *epsabs*, real(c_double), intent(in) *epsrel*)
- 41.25.1.17 integer(fgsl_int) function fgsl_odeiv2_driver_apply (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double), intent(inout) *t*, real(fgsl_double), intent(in) *t1*, real(fgsl_double), dimension(:), intent(inout) *y*)

- 41.25.1.18 integer(fgsl_int) function fgsl_odeiv2_driver_apply_fixed_step (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double), intent(inout) *t*, real(fgsl_double), intent(in) *h*, integer(fgsl_long), intent(in) *n*, real(fgsl_double), dimension(:), intent(inout) *y*)
- 41.25.1.19 subroutine fgsl_odeiv2_driver_free (type(fgsl_odeiv2_driver), intent(inout) *d*)
- 41.25.1.20 integer(fgsl_int) function fgsl_odeiv2_driver_reset (type(fgsl_odeiv2_driver), intent(inout) *d*)
- 41.25.1.21 integer(fgsl_int) function fgsl_odeiv2_driver_reset_hstart (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double), intent(in) *hstart*)
- 41.25.1.22 integer(fgsl_int) function fgsl_odeiv2_driver_set_hmax (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double) *hmax*)
- 41.25.1.23 integer(fgsl_int) function fgsl_odeiv2_driver_set_hmin (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double) *hmin*)
- 41.25.1.24 integer(fgsl_int) function fgsl_odeiv2_driver_set_nmax (type(fgsl_odeiv2_driver), intent(inout) *d*, integer(fgsl_long) *nmax*)
- 41.25.1.25 logical function fgsl_odeiv2_driver_status (type(fgsl_odeiv2_driver), intent(in) *s*)
- 41.25.1.26 type(fgsl_odeiv2_evolve) function fgsl_odeiv2_evolve_alloc (integer(fgsl_size_t), intent(in) *dim*)
- 41.25.1.27 integer(fgsl_int) function fgsl_odeiv2_evolve_apply (type(fgsl_odeiv2_evolve), intent(inout) *e*, type(fgsl_odeiv2_control), intent(inout) *con*, type(fgsl_odeiv2_step), intent(inout) *step*, type(fgsl_odeiv2_system), intent(in) *sys*, real(fgsl_double), intent(inout) *t*, real(fgsl_double), intent(in) *t1*, real(fgsl_double), intent(inout) *h*, real(fgsl_double), dimension(:), intent(inout) *y*)
- 41.25.1.28 integer(fgsl_int) function fgsl_odeiv2_evolve_apply_fixed_step (type(fgsl_odeiv2_evolve), intent(inout) *e*, type(fgsl_odeiv2_control), intent(inout) *con*, type(fgsl_odeiv2_step), intent(inout) *step*, type(fgsl_odeiv2_system), intent(in) *sys*, real(fgsl_double), intent(inout) *t*, real(fgsl_double), intent(inout) *h*, real(fgsl_double), dimension(:), intent(inout) *y*)
- 41.25.1.29 subroutine fgsl_odeiv2_evolve_free (type(fgsl_odeiv2_evolve), intent(inout) *s*)
- 41.25.1.30 integer(c_int) function fgsl_odeiv2_evolve_reset (type(fgsl_odeiv2_evolve), intent(inout) *s*)
- 41.25.1.31 integer(fgsl_int) function fgsl_odeiv2_evolve_set_driver (type(fgsl_odeiv2_evolve), intent(inout) *c*, type(fgsl_odeiv2_driver), intent(in) *d*)
- 41.25.1.32 logical function fgsl_odeiv2_evolve_status (type(fgsl_odeiv2_evolve), intent(in) *s*)
- 41.25.1.33 type(fgsl_odeiv2_step) function fgsl_odeiv2_step_alloc (type(fgsl_odeiv2_step_type), intent(in) *t*, integer(fgsl_size_t), intent(in) *dim*)
- 41.25.1.34 integer(fgsl_int) function fgsl_odeiv2_step_apply (type(fgsl_odeiv2_step), intent(in) *s*, real(fgsl_double), intent(in) *t*, real(fgsl_double), intent(in) *h*, real(fgsl_double), dimension(:), intent(inout) *y*, real(fgsl_double), dimension(:), intent(inout) *yerr*, real(fgsl_double), dimension(:), intent(in) *dydt_in*, real(fgsl_double), dimension(:), intent(inout) *dydt_out*, type(fgsl_odeiv2_system), intent(in) *sys*)
- 41.25.1.35 subroutine fgsl_odeiv2_step_free (type(fgsl_odeiv2_step), intent(inout) *s*)
- 41.25.1.36 character(kind=fgsl_char, len=fgsl_strmax) function fgsl_odeiv2_step_name (type(fgsl_odeiv2_step), intent(in) *s*)
- 41.25.1.37 integer(fgsl_int) function fgsl_odeiv2_step_order (type(fgsl_odeiv2_step), intent(in) *s*)

- 41.25.1.38 integer(fgsl_int) function fgsl_odeiv2_step_reset (type(fgsl_odeiv2_step), intent(inout) s)
- 41.25.1.39 integer(c_int) function fgsl_odeiv2_step_set_driver (type(fgsl_odeiv2_step) s, type(fgsl_odeiv2_driver), intent(in) d)
- 41.25.1.40 logical function fgsl_odeiv2_step_status (type(fgsl_odeiv2_step), intent(in) s)
- 41.25.1.41 subroutine fgsl_odeiv2_system_free (type(fgsl_odeiv2_system), intent(inout) system)
- 41.25.1.42 type(fgsl_odeiv2_system) function fgsl_odeiv2_system_init (func, integer(fgsl_size_t) dimension, type(c_ptr), intent(in), optional params, optional jacobian)

Constructor for an ODE system object.

Parameters

<i>func</i>	- interface for a double precision vector valued function with derivatives and a parameter of arbitrary type
<i>dimension</i>	- number of components of the vector function
<i>params</i>	- parameter of arbitrary type
<i>jacobian</i>	- interface for the jacobian of func

Returns

ODE system object.

- 41.25.1.43 logical function fgsl_odeiv2_system_status (type(fgsl_odeiv2_system), intent(in) s)
- 41.25.1.44 type(fgsl_odeiv_control) function fgsl_odeiv_control_alloc (type(fgsl_odeiv_control_type), intent(in) t)

Note: Use of fgsl_odeiv_control_alloc requires an initializer for the t object written in C.

- 41.25.1.45 subroutine fgsl_odeiv_control_free (type(fgsl_odeiv_control), intent(inout) c)
- 41.25.1.46 integer(fgsl_int) function fgsl_odeiv_control_hadjust (type(fgsl_odeiv_control), intent(in) c, type(fgsl_odeiv_step), intent(in) s, real(fgsl_double), dimension(:), intent(in) y0, real(fgsl_double), dimension(:), intent(in) yerr, real(fgsl_double), dimension(:), intent(in) dydt, real(fgsl_double), dimension(:), intent(inout) h)
- 41.25.1.47 integer(fgsl_int) function fgsl_odeiv_control_init (type(fgsl_odeiv_control), intent(in) c, real(fgsl_double), intent(in) eps_abs, real(fgsl_double), intent(in) eps_rel, real(fgsl_double), intent(in) a_y, real(fgsl_double), intent(in) a_dydt)
- 41.25.1.48 character(kind=fgsl_char, len=fgsl_strmax) function fgsl_odeiv_control_name (type(fgsl_odeiv_control), intent(in) c)
- 41.25.1.49 type(fgsl_odeiv_control) function fgsl_odeiv_control_scaled_new (real(fgsl_double), intent(in) eps_abs, real(fgsl_double), intent(in) eps_rel, real(fgsl_double), intent(in) a_y, real(fgsl_double), intent(in) a_dydt, real(fgsl_double), dimension(:), intent(in) scale_abs, integer(fgsl_size_t), intent(in) dim)
- 41.25.1.50 type(fgsl_odeiv_control) function fgsl_odeiv_control_standard_new (real(fgsl_double), intent(in) eps_abs, real(fgsl_double), intent(in) eps_rel, real(fgsl_double), intent(in) a_y, real(fgsl_double), intent(in) a_dydt)
- 41.25.1.51 logical function fgsl_odeiv_control_status (type(fgsl_odeiv_control), intent(in) s)
- 41.25.1.52 type(fgsl_odeiv_control) function fgsl_odeiv_control_y_new (real(fgsl_double), intent(in) eps_abs, real(fgsl_double), intent(in) eps_rel)

- 41.25.1.53 `type(fgsl_odeiv_control) function fgsl_odeiv_control_yp_new (real(fgsl_double), intent(in) eps_abs, real(fgsl_double), intent(in) eps_rel)`
- 41.25.1.54 `type(fgsl_odeiv_evolve) function fgsl_odeiv_evolve_alloc (integer(fgsl_size_t), intent(in) dim)`
- 41.25.1.55 `integer(fgsl_int) function fgsl_odeiv_evolve_apply (type(fgsl_odeiv_evolve), intent(inout) e, type(fgsl_odeiv_control), intent(inout) con, type(fgsl_odeiv_step), intent(inout) step, type(fgsl_odeiv_system), intent(in) dydt, real(fgsl_double), intent(inout) t, real(fgsl_double), intent(in) t1, real(fgsl_double), intent(inout) h, real(fgsl_double), dimension(:), intent(inout) y)`
- 41.25.1.56 `subroutine fgsl_odeiv_evolve_free (type(fgsl_odeiv_evolve), intent(inout) s)`
- 41.25.1.57 `integer(c_int) function fgsl_odeiv_evolve_reset (type(fgsl_odeiv_evolve), intent(inout) s)`
- 41.25.1.58 `logical function fgsl_odeiv_evolve_status (type(fgsl_odeiv_evolve), intent(in) s)`
- 41.25.1.59 `type(fgsl_odeiv_step) function fgsl_odeiv_step_alloc (type(fgsl_odeiv_step_type), intent(in) t, integer(fgsl_size_t), intent(in) dim)`
- 41.25.1.60 `integer(fgsl_int) function fgsl_odeiv_step_apply (type(fgsl_odeiv_step), intent(in) s, real(fgsl_double), intent(in) t, real(fgsl_double), intent(in) h, real(fgsl_double), dimension(:), intent(inout) y, real(fgsl_double), dimension(:), intent(inout) yerr, real(fgsl_double), dimension(:), intent(inout) dydt_in, real(fgsl_double), dimension(:), intent(inout) dydt_out, type(fgsl_odeiv_system), intent(in) dydt)`
- 41.25.1.61 `subroutine fgsl_odeiv_step_free (type(fgsl_odeiv_step), intent(inout) s)`
- 41.25.1.62 `character(kind=fgsl_char, len=fgsl_strmax) function fgsl_odeiv_step_name (type(fgsl_odeiv_step), intent(in) s)`
- 41.25.1.63 `integer(fgsl_int) function fgsl_odeiv_step_order (type(fgsl_odeiv_step), intent(in) s)`
- 41.25.1.64 `integer(fgsl_int) function fgsl_odeiv_step_reset (type(fgsl_odeiv_step), intent(inout) s)`
- 41.25.1.65 `logical function fgsl_odeiv_step_status (type(fgsl_odeiv_step), intent(in) s)`
- 41.25.1.66 `subroutine fgsl_odeiv_system_free (type(fgsl_odeiv_system), intent(inout) system)`
- 41.25.1.67 `type(fgsl_odeiv_system) function fgsl_odeiv_system_init (func, integer(fgsl_size_t) dimension, type(c_ptr), intent(in), optional params, optional jacobian)`

Constructor for an ODE system object.

Parameters

<i>func</i>	- interface for a double precision vector valued function with derivatives and a parameter of arbitrary type
<i>dimension</i>	- number of components of the vector function
<i>params</i>	- parameter of arbitrary type
<i>jacobian</i>	- interface for the jacobian of <i>func</i>

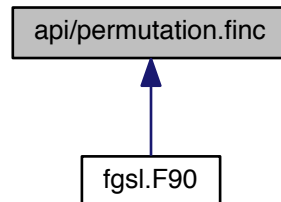
Returns

ODE system object.

- 41.25.1.68 `logical function fgsl_odeiv_system_status (type(fgsl_odeiv_system), intent(in) s)`

41.26 api/permutation.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_permutation) function [fgsl_permutation_alloc](#) (n)
- type(fgsl_permutation) function [fgsl_permutation_calloc](#) (n)
- subroutine [fgsl_permutation_init](#) (p)
- subroutine [fgsl_permutation_free](#) (p)
- integer(fgsl_int) function [fgsl_permutation_memcpy](#) (dest, src)
- integer(fgsl_size_t) function [fgsl_permutation_get](#) (p, i)
- integer(fgsl_int) function [fgsl_permutation_swap](#) (p, i, j)
- integer(fgsl_size_t) function [fgsl_permutation_size](#) (p)
- integer(fgsl_size_t) function, dimension(:), pointer [fgsl_permutation_data](#) (p)
- integer(fgsl_int) function [fgsl_permutation_valid](#) (p)
- subroutine [fgsl_permutation_reverse](#) (p)
- integer(fgsl_int) function [fgsl_permutation_inverse](#) (inv, p)
- integer(fgsl_int) function [fgsl_permutation_next](#) (p)
- integer(fgsl_int) function [fgsl_permutation_prev](#) (p)
- integer(fgsl_int) function [fgsl_permute](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_permute_long](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_permute_inverse](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_permute_long_inverse](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_permute_vector](#) (p, v)
- integer(fgsl_int) function [fgsl_permute_vector_inverse](#) (p, v)
- integer(fgsl_int) function [fgsl_permutation_mul](#) (p, pa, pb)
- integer(fgsl_int) function [fgsl_permutation_fwrite](#) (stream, p)
- integer(fgsl_int) function [fgsl_permutation_fread](#) (stream, p)
- integer(fgsl_int) function [fgsl_permutation_fprintf](#) (stream, p, format)
- integer(fgsl_int) function [fgsl_permutation_fscanf](#) (stream, p)
- integer(fgsl_int) function [fgsl_permutation_linear_to_canonical](#) (q, p)
- integer(fgsl_int) function [fgsl_permutation_canonical_to_linear](#) (p, q)
- integer(fgsl_size_t) function [fgsl_permutation_inversions](#) (p)
- integer(fgsl_size_t) function [fgsl_permutation_linear_cycles](#) (p)
- integer(fgsl_size_t) function [fgsl_permutation_canonical_cycles](#) (p)
- type(fgsl_combination) function [fgsl_combination_alloc](#) (n, k)
- type(fgsl_combination) function [fgsl_combination_calloc](#) (n, k)
- subroutine [fgsl_combination_init_first](#) (c)

- subroutine [fgsl_combination_init_last](#) (c)
- subroutine [fgsl_combination_free](#) (c)
- integer([fgsl_int](#)) function [fgsl_combination_memcpy](#) (dest, src)
- integer([fgsl_size_t](#)) function [fgsl_combination_get](#) (c, i)
- integer([fgsl_size_t](#)) function [fgsl_combination_n](#) (c)
- integer([fgsl_size_t](#)) function [fgsl_combination_k](#) (c)
- integer([fgsl_size_t](#)) function,
dimension(:), pointer [fgsl_combination_data](#) (c)
- integer([fgsl_int](#)) function [fgsl_combination_valid](#) (c)
- integer([fgsl_int](#)) function [fgsl_combination_next](#) (c)
- integer([fgsl_int](#)) function [fgsl_combination_prev](#) (c)
- integer([fgsl_int](#)) function [fgsl_combination_fwrite](#) (stream, c)
- integer([fgsl_int](#)) function [fgsl_combination_fread](#) (stream, c)
- integer([fgsl_int](#)) function [fgsl_combination_fprintf](#) (stream, c, format)
- integer([fgsl_int](#)) function [fgsl_combination_fscanf](#) (stream, c)
- type([fgsl_multiset](#)) function [fgsl_multiset_alloc](#) (n, k)
- type([fgsl_multiset](#)) function [fgsl_multiset_calloc](#) (n, k)
- subroutine [fgsl_multiset_init_first](#) (c)
- subroutine [fgsl_multiset_init_last](#) (c)
- subroutine [fgsl_multiset_free](#) (c)
- integer([fgsl_int](#)) function [fgsl_multiset_memcpy](#) (dest, src)
- integer([fgsl_size_t](#)) function [fgsl_multiset_get](#) (c, i)
- integer([fgsl_size_t](#)) function [fgsl_multiset_n](#) (c)
- integer([fgsl_size_t](#)) function [fgsl_multiset_k](#) (c)
- integer([fgsl_size_t](#)) function,
dimension(:), pointer [fgsl_multiset_data](#) (c)
- integer([fgsl_int](#)) function [fgsl_multiset_valid](#) (c)
- integer([fgsl_int](#)) function [fgsl_multiset_next](#) (c)
- integer([fgsl_int](#)) function [fgsl_multiset_prev](#) (c)
- integer([fgsl_int](#)) function [fgsl_multiset_fwrite](#) (stream, c)
- integer([fgsl_int](#)) function [fgsl_multiset_fread](#) (stream, c)
- integer([fgsl_int](#)) function [fgsl_multiset_fprintf](#) (stream, c, format)
- integer([fgsl_int](#)) function [fgsl_multiset_fscanf](#) (stream, c)
- logical function [fgsl_permutation_status](#) (permutation)
- logical function [fgsl_combination_status](#) (combination)
- logical function [fgsl_multiset_status](#) (multiset)
- integer([fgsl_size_t](#)) function [fgsl_sizeof_permutation](#) (p)
- integer([fgsl_size_t](#)) function [fgsl_sizeof_combination](#) (c)
- integer([fgsl_size_t](#)) function [fgsl_sizeof_multiset](#) (c)

41.26.1 Function/Subroutine Documentation

- 41.26.1.1 [type\(\[fgsl_combination\]\(#\)\) function \[fgsl_combination_alloc\]\(#\) \(integer\(\[fgsl_size_t\]\(#\)\), intent\(in\) *n*, integer\(\[fgsl_size_t\]\(#\)\), intent\(in\) *k* \)](#)
- 41.26.1.2 [type\(\[fgsl_combination\]\(#\)\) function \[fgsl_combination_calloc\]\(#\) \(integer\(\[fgsl_size_t\]\(#\)\), intent\(in\) *n*, integer\(\[fgsl_size_t\]\(#\)\), intent\(in\) *k* \)](#)
- 41.26.1.3 [integer\(\[fgsl_size_t\]\(#\)\) function, dimension\(:\), pointer \[fgsl_combination_data\]\(#\) \(type\(\[fgsl_combination\]\(#\)\), intent\(in\) *c* \)](#)
- 41.26.1.4 [integer\(\[fgsl_int\]\(#\)\) function \[fgsl_combination_fprintf\]\(#\) \(type\(\[fgsl_file\]\(#\)\), intent\(in\) *stream*, type\(\[fgsl_combination\]\(#\)\), intent\(in\) *c*, character\(kind=\[fgsl_char\]\(#\), len=*\) , intent\(in\) *format* \)](#)

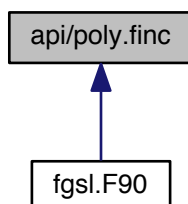
- 41.26.1.5 integer(*fgsl_int*) function *fgsl_combination_fread* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_combination*), intent(inout) *c*)
- 41.26.1.6 subroutine *fgsl_combination_free* (type(*fgsl_combination*), intent(inout) *c*)
- 41.26.1.7 integer(*fgsl_int*) function *fgsl_combination_fscanf* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_combination*), intent(inout) *c*)
- 41.26.1.8 integer(*fgsl_int*) function *fgsl_combination_fwrite* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.9 integer(*fgsl_size_t*) function *fgsl_combination_get* (type(*fgsl_combination*), intent(inout) *c*, integer(*fgsl_size_t*), intent(in) *i*)
- 41.26.1.10 subroutine *fgsl_combination_init_first* (type(*fgsl_combination*), intent(inout) *c*)
- 41.26.1.11 subroutine *fgsl_combination_init_last* (type(*fgsl_combination*), intent(inout) *c*)
- 41.26.1.12 integer(*fgsl_size_t*) function *fgsl_combination_k* (type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.13 integer(*fgsl_int*) function *fgsl_combination_memcpy* (type(*fgsl_combination*), intent(inout) *dest*, type(*fgsl_combination*), intent(in) *src*)
- 41.26.1.14 integer(*fgsl_size_t*) function *fgsl_combination_n* (type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.15 integer(*fgsl_int*) function *fgsl_combination_next* (type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.16 integer(*fgsl_int*) function *fgsl_combination_prev* (type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.17 logical function *fgsl_combination_status* (type(*fgsl_combination*), intent(in) *combination*)
- 41.26.1.18 integer(*fgsl_int*) function *fgsl_combination_valid* (type(*fgsl_combination*), intent(in) *c*)
- 41.26.1.19 type(*fgsl_multiset*) function *fgsl_multiset_alloc* (integer(*fgsl_size_t*), intent(in) *n*, integer(*fgsl_size_t*), intent(in) *k*)
- 41.26.1.20 type(*fgsl_multiset*) function *fgsl_multiset_calloc* (integer(*fgsl_size_t*), intent(in) *n*, integer(*fgsl_size_t*), intent(in) *k*)
- 41.26.1.21 integer(*fgsl_size_t*) function, dimension(:), pointer *fgsl_multiset_data* (type(*fgsl_multiset*), intent(in) *c*)
- 41.26.1.22 integer(*fgsl_int*) function *fgsl_multiset_fprintf* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_multiset*), intent(in) *c*, character(kind=*fgsl_char*, len=*) , intent(in) *format*)
- 41.26.1.23 integer(*fgsl_int*) function *fgsl_multiset_fread* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_multiset*), intent(inout) *c*)
- 41.26.1.24 subroutine *fgsl_multiset_free* (type(*fgsl_multiset*), intent(inout) *c*)
- 41.26.1.25 integer(*fgsl_int*) function *fgsl_multiset_fscanf* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_multiset*), intent(inout) *c*)
- 41.26.1.26 integer(*fgsl_int*) function *fgsl_multiset_fwrite* (type(*fgsl_file*), intent(in) *stream*, type(*fgsl_multiset*), intent(in) *c*)
- 41.26.1.27 integer(*fgsl_size_t*) function *fgsl_multiset_get* (type(*fgsl_multiset*), intent(inout) *c*, integer(*fgsl_size_t*), intent(in) *i*)
- 41.26.1.28 subroutine *fgsl_multiset_init_first* (type(*fgsl_multiset*), intent(inout) *c*)
- 41.26.1.29 subroutine *fgsl_multiset_init_last* (type(*fgsl_multiset*), intent(inout) *c*)

- 41.26.1.30 integer(fgsl_size_t) function fgsl_multiset_k (type(fgsl_multiset), intent(in) *c*)
- 41.26.1.31 integer(fgsl_int) function fgsl_multiset_memcpy (type(fgsl_multiset), intent(inout) *dest*, type(fgsl_multiset), intent(in) *src*)
- 41.26.1.32 integer(fgsl_size_t) function fgsl_multiset_n (type(fgsl_multiset), intent(in) *c*)
- 41.26.1.33 integer(fgsl_int) function fgsl_multiset_next (type(fgsl_multiset), intent(in) *c*)
- 41.26.1.34 integer(fgsl_int) function fgsl_multiset_prev (type(fgsl_multiset), intent(in) *c*)
- 41.26.1.35 logical function fgsl_multiset_status (type(fgsl_multiset), intent(in) *multiset*)
- 41.26.1.36 integer(fgsl_int) function fgsl_multiset_valid (type(fgsl_multiset), intent(in) *c*)
- 41.26.1.37 type(fgsl_permutation) function fgsl_permutation_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.26.1.38 type(fgsl_permutation) function fgsl_permutation_calloc (integer(fgsl_size_t), intent(in) *n*)
- 41.26.1.39 integer(fgsl_size_t) function fgsl_permutation_canonical_cycles (type(fgsl_permutation), intent(in) *p*)
- 41.26.1.40 integer(fgsl_int) function fgsl_permutation_canonical_to_linear (type(fgsl_permutation), intent(inout) *p*, type(fgsl_permutation), intent(in) *q*)
- 41.26.1.41 integer(fgsl_size_t) function, dimension(:), pointer fgsl_permutation_data (type(fgsl_permutation), intent(in) *p*)
- 41.26.1.42 integer(fgsl_int) function fgsl_permutation_fprintf (type(fgsl_file), intent(in) *stream*, type(fgsl_permutation), intent(in) *p*, character(kind=fgsl_char, len=*) intent(in) *format*)
- 41.26.1.43 integer(fgsl_int) function fgsl_permutation_fread (type(fgsl_file), intent(in) *stream*, type(fgsl_permutation), intent(inout) *p*)
- 41.26.1.44 subroutine fgsl_permutation_free (type(fgsl_permutation), intent(inout) *p*)
- 41.26.1.45 integer(fgsl_int) function fgsl_permutation_fscanf (type(fgsl_file), intent(in) *stream*, type(fgsl_permutation), intent(inout) *p*)
- 41.26.1.46 integer(fgsl_int) function fgsl_permutation_fwrite (type(fgsl_file), intent(in) *stream*, type(fgsl_permutation), intent(in) *p*)
- 41.26.1.47 integer(fgsl_size_t) function fgsl_permutation_get (type(fgsl_permutation), intent(inout) *p*, integer(fgsl_size_t), intent(in) *i*)
- 41.26.1.48 subroutine fgsl_permutation_init (type(fgsl_permutation), intent(inout) *p*)
- 41.26.1.49 integer(fgsl_int) function fgsl_permutation_inverse (type(fgsl_permutation), intent(inout) *inv*, type(fgsl_permutation), intent(in) *p*)
- 41.26.1.50 integer(fgsl_size_t) function fgsl_permutation_inversions (type(fgsl_permutation), intent(in) *p*)
- 41.26.1.51 integer(fgsl_size_t) function fgsl_permutation_linear_cycles (type(fgsl_permutation), intent(in) *p*)
- 41.26.1.52 integer(fgsl_int) function fgsl_permutation_linear_to_canonical (type(fgsl_permutation), intent(inout) *q*, type(fgsl_permutation), intent(in) *p*)

- 41.26.1.53 integer(*fgsl_int*) function `fgsl_permutation_memcpy` (*type*(*fgsl_permutation*), intent(inout) *dest*, *type*(*fgsl_permutation*), intent(in) *src*)
- 41.26.1.54 integer(*fgsl_int*) function `fgsl_permutation_mul` (*type*(*fgsl_permutation*), intent(inout) *p*, *type*(*fgsl_permutation*), intent(in) *pa*, *type*(*fgsl_permutation*), intent(in) *pb*)
- 41.26.1.55 integer(*fgsl_int*) function `fgsl_permutation_next` (*type*(*fgsl_permutation*), intent(in) *p*)
- 41.26.1.56 integer(*fgsl_int*) function `fgsl_permutation_prev` (*type*(*fgsl_permutation*), intent(in) *p*)
- 41.26.1.57 subroutine `fgsl_permutation_reverse` (*type*(*fgsl_permutation*), intent(inout) *p*)
- 41.26.1.58 integer(*fgsl_size_t*) function `fgsl_permutation_size` (*type*(*fgsl_permutation*), intent(in) *p*)
- 41.26.1.59 logical function `fgsl_permutation_status` (*type*(*fgsl_permutation*), intent(in) *permutation*)
- 41.26.1.60 integer(*fgsl_int*) function `fgsl_permutation_swap` (*type*(*fgsl_permutation*), intent(inout) *p*, integer(*fgsl_size_t*), intent(in) *i*, integer(*fgsl_size_t*), intent(in) *j*)
- 41.26.1.61 integer(*fgsl_int*) function `fgsl_permutation_valid` (*type*(*fgsl_permutation*), intent(in) *p*)
- 41.26.1.62 integer(*fgsl_int*) function `fgsl_permute` (integer(*fgsl_size_t*), dimension(:), intent(in) *p*, real(*fgsl_double*), dimension(:), intent(inout) *data*, integer(*fgsl_size_t*), intent(in) *stride*, integer(*fgsl_size_t*), intent(in) *n*)
- 41.26.1.63 integer(*fgsl_int*) function `fgsl_permute_inverse` (integer(*fgsl_size_t*), dimension(:), intent(in) *p*, real(*fgsl_double*), dimension(:), intent(inout) *data*, integer(*fgsl_size_t*), intent(in) *stride*, integer(*fgsl_size_t*), intent(in) *n*)
- 41.26.1.64 integer(*fgsl_int*) function `fgsl_permute_long` (integer(*fgsl_size_t*), dimension(:), intent(in) *p*, integer(*fgsl_long*), dimension(:), intent(inout) *data*, integer(*fgsl_size_t*), intent(in) *stride*, integer(*fgsl_size_t*), intent(in) *n*)
- 41.26.1.65 integer(*fgsl_int*) function `fgsl_permute_long_inverse` (integer(*fgsl_size_t*), dimension(:), intent(in) *p*, integer(*fgsl_long*), dimension(:), intent(inout) *data*, integer(*fgsl_size_t*), intent(in) *stride*, integer(*fgsl_size_t*), intent(in) *n*)
- 41.26.1.66 integer(*fgsl_int*) function `fgsl_permute_vector` (*type*(*fgsl_permutation*), intent(in) *p*, *type*(*fgsl_vector*), intent(inout) *v*)
- 41.26.1.67 integer(*fgsl_int*) function `fgsl_permute_vector_inverse` (*type*(*fgsl_permutation*), intent(in) *p*, *type*(*fgsl_vector*), intent(inout) *v*)
- 41.26.1.68 integer(*fgsl_size_t*) function `fgsl_sizeof_combination` (*type*(*fgsl_combination*), intent(in) *c*)
- 41.26.1.69 integer(*fgsl_size_t*) function `fgsl_sizeof_multiset` (*type*(*fgsl_multiset*), intent(in) *c*)
- 41.26.1.70 integer(*fgsl_size_t*) function `fgsl_sizeof_permutation` (*type*(*fgsl_permutation*), intent(in) *p*)

41.27 api/poly.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- real(fgsl_double) function [fgsl_poly_eval](#) (c, len, x)
- complex(fgsl_double_complex) function [fgsl_poly_complex_eval](#) (c, len, z)
- complex(fgsl_double_complex) function [fgsl_complex_poly_complex_eval](#) (c, len, z)
- integer(fgsl_int) function [fgsl_poly_eval_derivs](#) (c, lenc, x, res, lenres)
- integer(fgsl_int) function [fgsl_poly_dd_init](#) (dd, x, y, size)
- real(fgsl_double) function [fgsl_poly_dd_eval](#) (dd, xa, size, x)
- integer(fgsl_int) function [fgsl_poly_dd_taylor](#) (c, xp, dd, x, size, w)
- integer(fgsl_int) function [fgsl_poly_dd_hermite_init](#) (dd, z, xa, ya, dya, size)
- integer(fgsl_int) function [fgsl_poly_solve_quadratic](#) (a, b, c, x0, x1)
- integer(fgsl_int) function [fgsl_poly_complex_solve_quadratic](#) (a, b, c, x0, x1)
- integer(fgsl_int) function [fgsl_poly_solve_cubic](#) (a, b, c, x0, x1, x2)
- integer(fgsl_int) function [fgsl_poly_complex_solve_cubic](#) (a, b, c, x0, x1, x2)
- type(fgsl_poly_complex_workspace) function [fgsl_poly_complex_workspace_alloc](#) (n)
- subroutine [fgsl_poly_complex_workspace_free](#) (w)
- logical function [fgsl_poly_complex_workspace_stat](#) (w)
- integer(fgsl_int) function [fgsl_poly_complex_solve](#) (a, n, w, z)

41.27.1 Function/Subroutine Documentation

41.27.1.1 complex(fgsl_double_complex) function [fgsl_complex_poly_complex_eval](#) (complex(fgsl_double_complex), dimension(:), intent(in) c, integer(fgsl_int), intent(in) len, complex(fgsl_double_complex), intent(in) z)

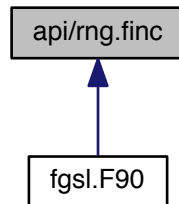
41.27.1.2 complex(fgsl_double_complex) function [fgsl_poly_complex_eval](#) (real(fgsl_double), dimension(:), intent(in) c, integer(fgsl_int), intent(in) len, complex(fgsl_double_complex), intent(in) z)

41.27.1.3 integer(fgsl_int) function [fgsl_poly_complex_solve](#) (real(fgsl_double), dimension(:), intent(in) a, integer(fgsl_size_t), intent(in) n, type(fgsl_poly_complex_workspace), intent(inout) w, complex(fgsl_double_complex), dimension(:), intent(out) z)

- 41.27.1.4 integer(fgsl_int) function fgsl_poly_complex_solve_cubic (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, complex(fgsl_double_complex), intent(out) *x0*, complex(fgsl_double_complex), intent(out) *x1*, complex(fgsl_double_complex), intent(out) *x2*)
- 41.27.1.5 integer(fgsl_int) function fgsl_poly_complex_solve_quadratic (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, complex(fgsl_double_complex), intent(out) *x0*, complex(fgsl_double_complex), intent(out) *x1*)
- 41.27.1.6 type(fgsl_poly_complex_workspace) function fgsl_poly_complex_workspace_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.27.1.7 subroutine fgsl_poly_complex_workspace_free (type(fgsl_poly_complex_workspace), intent(inout) *w*)
- 41.27.1.8 logical function fgsl_poly_complex_workspace_stat (type(fgsl_poly_complex_workspace), intent(in) *w*)
- 41.27.1.9 real(fgsl_double) function fgsl_poly_dd_eval (real(fgsl_double), dimension(:), intent(in) *dd*, real(fgsl_double), dimension(:), intent(in) *xa*, integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), intent(in) *x*)
- 41.27.1.10 integer(fgsl_int) function fgsl_poly_dd_hermite_init (real(fgsl_double), dimension(:), intent(inout) *dd*, real(fgsl_double), dimension(:), intent(inout) *z*, real(fgsl_double), dimension(:), intent(in) *xa*, real(fgsl_double), dimension(:), intent(in) *ya*, real(fgsl_double), dimension(:), intent(in) *dya*, integer(fgsl_size_t), intent(in) *size*)
- 41.27.1.11 integer(fgsl_int) function fgsl_poly_dd_init (real(fgsl_double), dimension(:), intent(inout) *dd*, real(fgsl_double), dimension(:), intent(in) *x*, real(fgsl_double), dimension(:), intent(in) *y*, integer(fgsl_size_t), intent(in) *size*)
- 41.27.1.12 integer(fgsl_int) function fgsl_poly_dd_taylor (real(fgsl_double), dimension(:), intent(inout) *c*, real(fgsl_double), intent(in) *xp*, real(fgsl_double), dimension(:), intent(in) *dd*, real(fgsl_double), dimension(:), intent(in) *x*, integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), dimension(:), intent(out) *w*)
- 41.27.1.13 real(fgsl_double) function fgsl_poly_eval (real(fgsl_double), dimension(:), intent(in) *c*, integer(fgsl_int), intent(in) *len*, real(fgsl_double), intent(in) *x*)
- 41.27.1.14 integer(fgsl_int) function fgsl_poly_eval_derivs (real(fgsl_double), dimension(:), intent(in) *c*, integer(fgsl_size_t), intent(in) *lenc*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:) *res*, integer(fgsl_size_t), intent(in) *lenres*)
- 41.27.1.15 integer(fgsl_int) function fgsl_poly_solve_cubic (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(out) *x0*, real(fgsl_double), intent(out) *x1*, real(fgsl_double), intent(out) *x2*)
- 41.27.1.16 integer(fgsl_int) function fgsl_poly_solve_quadratic (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(out) *x0*, real(fgsl_double), intent(out) *x1*)

41.28 api/rng.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_rng) function [fgsl_rng_alloc](#) (t)
- subroutine [fgsl_rng_set](#) (r, s)
- subroutine [fgsl_rng_free](#) (r)
- integer(fgsl_long) function [fgsl_rng_get](#) (r)
- real(fgsl_double) function [fgsl_rng_uniform](#) (r)
- real(fgsl_double) function [fgsl_rng_uniform_pos](#) (r)
- integer(fgsl_long) function [fgsl_rng_uniform_int](#) (r, n)
- character(kind=fgsl_char, len=fgsl_strmax) function [fgsl_rng_name](#) (r)
- integer(fgsl_long) function [fgsl_rng_max](#) (r)
- integer(fgsl_long) function [fgsl_rng_min](#) (r)
- type(fgsl_rng_type) function [fgsl_rng_env_setup](#) ()
- integer(fgsl_int) function [fgsl_rng_memcpy](#) (cpy, src)
- type(fgsl_rng) function [fgsl_rng_clone](#) (r)
- integer(fgsl_int) function [fgsl_rng_fwrite](#) (stream, r)
- integer(fgsl_int) function [fgsl_rng_fread](#) (stream, r)
- type(fgsl_qrng) function [fgsl_qrng_alloc](#) (t, d)
- subroutine [fgsl_qrng_free](#) (r)
- subroutine [fgsl_qrng_init](#) (r)
- integer(fgsl_int) function [fgsl_qrng_get](#) (q, x)
- character(kind=fgsl_char, len=fgsl_strmax) function [fgsl_qrng_name](#) (q)
- integer(fgsl_int) function [fgsl_qrng_memcpy](#) (cpy, src)
- type(fgsl_qrng) function [fgsl_qrng_clone](#) (q)
- real(fgsl_double) function [fgsl_ran_gaussian](#) (r, sigma)
- real(fgsl_double) function [fgsl_ran_gaussian_pdf](#) (x, sigma)
- real(fgsl_double) function [fgsl_ran_gaussian_ziggurat](#) (r, sigma)
- real(fgsl_double) function [fgsl_ran_gaussian_ratio_method](#) (r, sigma)
- real(fgsl_double) function [fgsl_ran_u gaussian](#) (r)
- real(fgsl_double) function [fgsl_ran_u gaussian_pdf](#) (x)
- real(fgsl_double) function [fgsl_ran_u gaussian_ratio_method](#) (r)
- real(fgsl_double) function [fgsl_cdf_gaussian_p](#) (x, sigma)
- real(fgsl_double) function [fgsl_cdf_gaussian_q](#) (x, sigma)
- real(fgsl_double) function [fgsl_cdf_gaussian_pinv](#) (p, sigma)

- real(fgsl_double) function [fgsl_cdf_gaussian_qinv](#) (q, sigma)
- real(fgsl_double) function [fgsl_cdf_ugaussian_p](#) (x)
- real(fgsl_double) function [fgsl_cdf_ugaussian_q](#) (x)
- real(fgsl_double) function [fgsl_cdf_ugaussian_pinv](#) (p)
- real(fgsl_double) function [fgsl_cdf_ugaussian_qinv](#) (q)
- real(fgsl_double) function [fgsl_ran_gaussian_tail](#) (r, a, sigma)
- real(fgsl_double) function [fgsl_ran_gaussian_tail_pdf](#) (x, a, sigma)
- real(fgsl_double) function [fgsl_ran_ugaussian_tail](#) (r, a)
- real(fgsl_double) function [fgsl_ran_ugaussian_tail_pdf](#) (x, a)
- subroutine [fgsl_ran_bivariate_gaussian](#) (r, sigma_x, sigma_y, rho, x, y)
- real(fgsl_double) function [fgsl_ran_bivariate_gaussian_pdf](#) (x, y, sigma_x, sigma_y, rho)
- real(fgsl_double) function [fgsl_ran_exponential](#) (r, mu)
- real(fgsl_double) function [fgsl_ran_exponential_pdf](#) (x, mu)
- real(fgsl_double) function [fgsl_cdf_exponential_p](#) (x, mu)
- real(fgsl_double) function [fgsl_cdf_exponential_q](#) (x, mu)
- real(fgsl_double) function [fgsl_cdf_exponential_pinv](#) (p, mu)
- real(fgsl_double) function [fgsl_cdf_exponential_qinv](#) (q, mu)
- real(fgsl_double) function [fgsl_ran_laplace](#) (r, a)
- real(fgsl_double) function [fgsl_ran_laplace_pdf](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_laplace_p](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_laplace_q](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_laplace_pinv](#) (p, a)
- real(fgsl_double) function [fgsl_cdf_laplace_qinv](#) (q, a)
- real(fgsl_double) function [fgsl_ran_exppow](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_exppow_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_exppow_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_exppow_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_ran_cauchy](#) (r, a)
- real(fgsl_double) function [fgsl_ran_cauchy_pdf](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_cauchy_p](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_cauchy_q](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_cauchy_pinv](#) (p, a)
- real(fgsl_double) function [fgsl_cdf_cauchy_qinv](#) (q, a)
- real(fgsl_double) function [fgsl_ran_rayleigh](#) (r, sigma)
- real(fgsl_double) function [fgsl_ran_rayleigh_pdf](#) (x, sigma)
- real(fgsl_double) function [fgsl_cdf_rayleigh_p](#) (x, sigma)
- real(fgsl_double) function [fgsl_cdf_rayleigh_q](#) (x, sigma)
- real(fgsl_double) function [fgsl_cdf_rayleigh_pinv](#) (p, sigma)
- real(fgsl_double) function [fgsl_cdf_rayleigh_qinv](#) (q, sigma)
- real(fgsl_double) function [fgsl_ran_rayleigh_tail](#) (r, a, sigma)
- real(fgsl_double) function [fgsl_ran_rayleigh_tail_pdf](#) (x, a, sigma)
- real(fgsl_double) function [fgsl_ran_landau](#) (r)
- real(fgsl_double) function [fgsl_ran_landau_pdf](#) (x)
- real(fgsl_double) function [fgsl_ran_levy](#) (r, c, alpha)
- real(fgsl_double) function [fgsl_ran_levy_skew](#) (r, c, alpha, beta)
- real(fgsl_double) function [fgsl_ran_gamma](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_gamma_mt](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_gamma_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gamma_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gamma_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gamma_pinv](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_gamma_qinv](#) (q, a, b)
- real(fgsl_double) function [fgsl_ran_flat](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_flat_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_flat_p](#) (x, a, b)

- real(fgsl_double) function [fgsl_cdf_flat_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_flat_pinv](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_flat_qinv](#) (q, a, b)
- real(fgsl_double) function [fgsl_ran_lognormal](#) (r, zeta, sigma)
- real(fgsl_double) function [fgsl_ran_lognormal_pdf](#) (x, zeta, sigma)
- real(fgsl_double) function [fgsl_cdf_lognormal_p](#) (x, zeta, sigma)
- real(fgsl_double) function [fgsl_cdf_lognormal_q](#) (x, zeta, sigma)
- real(fgsl_double) function [fgsl_cdf_lognormal_pinv](#) (p, zeta, sigma)
- real(fgsl_double) function [fgsl_cdf_lognormal_qinv](#) (q, zeta, sigma)
- real(fgsl_double) function [fgsl_ran_chisq](#) (r, nu)
- real(fgsl_double) function [fgsl_ran_chisq_pdf](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_chisq_p](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_chisq_q](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_chisq_pinv](#) (p, nu)
- real(fgsl_double) function [fgsl_cdf_chisq_qinv](#) (q, nu)
- real(fgsl_double) function [fgsl_ran_fdist](#) (r, nu1, nu2)
- real(fgsl_double) function [fgsl_ran_fdist_pdf](#) (x, nu1, nu2)
- real(fgsl_double) function [fgsl_cdf_fdist_p](#) (x, nu1, nu2)
- real(fgsl_double) function [fgsl_cdf_fdist_q](#) (x, nu1, nu2)
- real(fgsl_double) function [fgsl_cdf_fdist_pinv](#) (p, nu1, nu2)
- real(fgsl_double) function [fgsl_cdf_fdist_qinv](#) (q, nu1, nu2)
- real(fgsl_double) function [fgsl_ran_tdist](#) (r, nu)
- real(fgsl_double) function [fgsl_ran_tdist_pdf](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_tdist_p](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_tdist_q](#) (x, nu)
- real(fgsl_double) function [fgsl_cdf_tdist_pinv](#) (p, nu)
- real(fgsl_double) function [fgsl_cdf_tdist_qinv](#) (q, nu)
- real(fgsl_double) function [fgsl_ran_beta](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_beta_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_beta_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_beta_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_beta_pinv](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_beta_qinv](#) (q, a, b)
- real(fgsl_double) function [fgsl_ran_logistic](#) (r, a)
- real(fgsl_double) function [fgsl_ran_logistic_pdf](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_logistic_p](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_logistic_q](#) (x, a)
- real(fgsl_double) function [fgsl_cdf_logistic_pinv](#) (p, a)
- real(fgsl_double) function [fgsl_cdf_logistic_qinv](#) (q, a)
- real(fgsl_double) function [fgsl_ran_pareto](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_pareto_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_pareto_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_pareto_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_pareto_pinv](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_pareto_qinv](#) (q, a, b)
- subroutine [fgsl_ran_dir_2d](#) (r, x, y)
- subroutine [fgsl_ran_dir_2d_trig_method](#) (r, x, y)
- subroutine [fgsl_ran_dir_3d](#) (r, x, y, z)
- subroutine [fgsl_ran_dir_nd](#) (r, n, x)
- real(fgsl_double) function [fgsl_ran_weibull](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_weibull_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_weibull_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_weibull_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_weibull_pinv](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_weibull_qinv](#) (q, a, b)

- real(fgsl_double) function [fgsl_ran_gumbel1](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_gumbel1_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel1_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel1_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel1_pin](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel1_qinv](#) (q, a, b)
- real(fgsl_double) function [fgsl_ran_gumbel2](#) (r, a, b)
- real(fgsl_double) function [fgsl_ran_gumbel2_pdf](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel2_p](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel2_q](#) (x, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel2_pin](#) (p, a, b)
- real(fgsl_double) function [fgsl_cdf_gumbel2_qinv](#) (q, a, b)
- subroutine [fgsl_ran_dirichlet](#) (r, k, alpha, theta)
- real(fgsl_double) function [fgsl_ran_dirichlet_pdf](#) (k, alpha, theta)
- real(fgsl_double) function [fgsl_ran_dirichlet_lnpdf](#) (k, alpha, theta)
- type(fgsl_ran_discrete_t) function [fgsl_ran_discrete_preproc](#) (k, p)
- integer(fgsl_size_t) function [fgsl_ran_discrete](#) (r, g)
- real(fgsl_double) function [fgsl_ran_discrete_pdf](#) (k, g)
- subroutine [fgsl_ran_discrete_free](#) (g)
- integer(fgsl_int) function [fgsl_ran_poisson](#) (r, mu)
- real(fgsl_double) function [fgsl_ran_poisson_pdf](#) (k, mu)
- real(fgsl_double) function [fgsl_cdf_poisson_p](#) (k, mu)
- real(fgsl_double) function [fgsl_cdf_poisson_q](#) (k, mu)
- integer(fgsl_int) function [fgsl_ran_bernoulli](#) (r, p)
- real(fgsl_double) function [fgsl_ran_bernoulli_pdf](#) (k, p)
- real(fgsl_double) function [fgsl_ran_binomial](#) (r, p, n)
- real(fgsl_double) function [fgsl_ran_binomial_pdf](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_binomial_p](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_binomial_q](#) (k, p, n)
- subroutine [fgsl_ran_multinomial](#) (r, k, nn, p, n)
- real(fgsl_double) function [fgsl_ran_multinomial_pdf](#) (k, p, n)
- real(fgsl_double) function [fgsl_ran_multinomial_lnpdf](#) (k, p, n)
- integer(fgsl_int) function [fgsl_ran_negative_binomial](#) (r, p, n)
- real(fgsl_double) function [fgsl_ran_negative_binomial_pdf](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_negative_binomial_p](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_negative_binomial_q](#) (k, p, n)
- integer(fgsl_int) function [fgsl_ran_pascal](#) (r, p, n)
- real(fgsl_double) function [fgsl_ran_pascal_pdf](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_pascal_p](#) (k, p, n)
- real(fgsl_double) function [fgsl_cdf_pascal_q](#) (k, p, n)
- integer(fgsl_int) function [fgsl_ran_geometric](#) (r, p)
- real(fgsl_double) function [fgsl_ran_geometric_pdf](#) (k, p)
- real(fgsl_double) function [fgsl_cdf_geometric_p](#) (k, p)
- real(fgsl_double) function [fgsl_cdf_geometric_q](#) (k, p)
- integer(fgsl_int) function [fgsl_ran_hypergeometric](#) (r, n1, n2, t)
- real(fgsl_double) function [fgsl_ran_hypergeometric_pdf](#) (k, n1, n2, t)
- real(fgsl_double) function [fgsl_cdf_hypergeometric_p](#) (k, n1, n2, t)
- real(fgsl_double) function [fgsl_cdf_hypergeometric_q](#) (k, n1, n2, t)
- integer(fgsl_int) function [fgsl_ran_logarithmic](#) (r, p)
- real(fgsl_double) function [fgsl_ran_logarithmic_pdf](#) (k, p)
- subroutine [fgsl_ran_shuffle](#) (r, base, n, size)
- subroutine [fgsl_ran_shuffle_double](#) (r, base, n)
- subroutine [fgsl_ran_shuffle_size_t](#) (r, base, n)
- integer(fgsl_int) function [fgsl_ran_choose](#) (r, dest, k, src, n, size)
- subroutine [fgsl_ran_sample](#) (r, dest, k, src, n, size)

- subroutine [fgsl_rng_c_ptr](#) (res, src)
- logical function [fgsl_rng_status](#) (rng)
- logical function [fgsl_qrng_status](#) (qrng)
- logical function [fgsl_ran_discrete_t_status](#) (ran_discrete_t)

41.28.1 Function/Subroutine Documentation

- 41.28.1.1 `real(fgsl_double) function fgsl_cdf_beta_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.2 `real(fgsl_double) function fgsl_cdf_beta_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.3 `real(fgsl_double) function fgsl_cdf_beta_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.4 `real(fgsl_double) function fgsl_cdf_beta_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.5 `real(fgsl_double) function fgsl_cdf_binomial_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, integer(fgsl_int), intent(in) n)`
- 41.28.1.6 `real(fgsl_double) function fgsl_cdf_binomial_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, integer(fgsl_int), intent(in) n)`
- 41.28.1.7 `real(fgsl_double) function fgsl_cdf_cauchy_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.8 `real(fgsl_double) function fgsl_cdf_cauchy_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a)`
- 41.28.1.9 `real(fgsl_double) function fgsl_cdf_cauchy_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.10 `real(fgsl_double) function fgsl_cdf_cauchy_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a)`
- 41.28.1.11 `real(fgsl_double) function fgsl_cdf_chisq_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`
- 41.28.1.12 `real(fgsl_double) function fgsl_cdf_chisq_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) nu)`
- 41.28.1.13 `real(fgsl_double) function fgsl_cdf_chisq_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`
- 41.28.1.14 `real(fgsl_double) function fgsl_cdf_chisq_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) nu)`
- 41.28.1.15 `real(fgsl_double) function fgsl_cdf_exponential_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) mu)`
- 41.28.1.16 `real(fgsl_double) function fgsl_cdf_exponential_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) mu)`
- 41.28.1.17 `real(fgsl_double) function fgsl_cdf_exponential_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) mu)`
- 41.28.1.18 `real(fgsl_double) function fgsl_cdf_exponential_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) mu)`
- 41.28.1.19 `real(fgsl_double) function fgsl_cdf_exppow_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`

- 41.28.1.20 `real(fgsl_double) function fgsl_cdf_exppow_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.21 `real(fgsl_double) function fgsl_cdf_fdist_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.22 `real(fgsl_double) function fgsl_cdf_fdist_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.23 `real(fgsl_double) function fgsl_cdf_fdist_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.24 `real(fgsl_double) function fgsl_cdf_fdist_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.25 `real(fgsl_double) function fgsl_cdf_flat_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.26 `real(fgsl_double) function fgsl_cdf_flat_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.27 `real(fgsl_double) function fgsl_cdf_flat_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.28 `real(fgsl_double) function fgsl_cdf_flat_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.29 `real(fgsl_double) function fgsl_cdf_gamma_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.30 `real(fgsl_double) function fgsl_cdf_gamma_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.31 `real(fgsl_double) function fgsl_cdf_gamma_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.32 `real(fgsl_double) function fgsl_cdf_gamma_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.33 `real(fgsl_double) function fgsl_cdf_gaussian_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.34 `real(fgsl_double) function fgsl_cdf_gaussian_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) sigma)`
- 41.28.1.35 `real(fgsl_double) function fgsl_cdf_gaussian_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.36 `real(fgsl_double) function fgsl_cdf_gaussian_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) sigma)`
- 41.28.1.37 `real(fgsl_double) function fgsl_cdf_geometric_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.38 `real(fgsl_double) function fgsl_cdf_geometric_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.39 `real(fgsl_double) function fgsl_cdf_gumbel1_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`

- 41.28.1.40 `real(fgsl_double) function fgsl_cdf_gumbel1_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.41 `real(fgsl_double) function fgsl_cdf_gumbel1_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.42 `real(fgsl_double) function fgsl_cdf_gumbel1_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.43 `real(fgsl_double) function fgsl_cdf_gumbel2_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.44 `real(fgsl_double) function fgsl_cdf_gumbel2_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.45 `real(fgsl_double) function fgsl_cdf_gumbel2_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.46 `real(fgsl_double) function fgsl_cdf_gumbel2_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.47 `real(fgsl_double) function fgsl_cdf_hypergeometric_p (integer(fgsl_int), intent(in) k, integer(fgsl_int), intent(in) n1, integer(fgsl_int), intent(in) n2, integer(fgsl_int), intent(in) t)`
- 41.28.1.48 `real(fgsl_double) function fgsl_cdf_hypergeometric_q (integer(fgsl_int), intent(in) k, integer(fgsl_int), intent(in) n1, integer(fgsl_int), intent(in) n2, integer(fgsl_int), intent(in) t)`
- 41.28.1.49 `real(fgsl_double) function fgsl_cdf_laplace_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.50 `real(fgsl_double) function fgsl_cdf_laplace_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a)`
- 41.28.1.51 `real(fgsl_double) function fgsl_cdf_laplace_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.52 `real(fgsl_double) function fgsl_cdf_laplace_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a)`
- 41.28.1.53 `real(fgsl_double) function fgsl_cdf_logistic_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.54 `real(fgsl_double) function fgsl_cdf_logistic_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a)`
- 41.28.1.55 `real(fgsl_double) function fgsl_cdf_logistic_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.56 `real(fgsl_double) function fgsl_cdf_logistic_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a)`
- 41.28.1.57 `real(fgsl_double) function fgsl_cdf_lognormal_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`
- 41.28.1.58 `real(fgsl_double) function fgsl_cdf_lognormal_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`
- 41.28.1.59 `real(fgsl_double) function fgsl_cdf_lognormal_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`
- 41.28.1.60 `real(fgsl_double) function fgsl_cdf_lognormal_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`

- 41.28.1.61 `real(fgsl_double) function fgsl_cdf_negative_binomial_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.62 `real(fgsl_double) function fgsl_cdf_negative_binomial_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.63 `real(fgsl_double) function fgsl_cdf_pareto_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.64 `real(fgsl_double) function fgsl_cdf_pareto_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.65 `real(fgsl_double) function fgsl_cdf_pareto_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.66 `real(fgsl_double) function fgsl_cdf_pareto_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.67 `real(fgsl_double) function fgsl_cdf_pascal_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.68 `real(fgsl_double) function fgsl_cdf_pascal_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.69 `real(fgsl_double) function fgsl_cdf_poisson_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) mu)`
- 41.28.1.70 `real(fgsl_double) function fgsl_cdf_poisson_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) mu)`
- 41.28.1.71 `real(fgsl_double) function fgsl_cdf_rayleigh_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.72 `real(fgsl_double) function fgsl_cdf_rayleigh_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) sigma)`
- 41.28.1.73 `real(fgsl_double) function fgsl_cdf_rayleigh_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.74 `real(fgsl_double) function fgsl_cdf_rayleigh_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) sigma)`
- 41.28.1.75 `real(fgsl_double) function fgsl_cdf_tdist_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`
- 41.28.1.76 `real(fgsl_double) function fgsl_cdf_tdist_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) nu)`
- 41.28.1.77 `real(fgsl_double) function fgsl_cdf_tdist_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`
- 41.28.1.78 `real(fgsl_double) function fgsl_cdf_tdist_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) nu)`
- 41.28.1.79 `real(fgsl_double) function fgsl_cdf_ugaussian_p (real(fgsl_double), intent(in) x)`
- 41.28.1.80 `real(fgsl_double) function fgsl_cdf_ugaussian_pinv (real(fgsl_double), intent(in) p)`
- 41.28.1.81 `real(fgsl_double) function fgsl_cdf_ugaussian_q (real(fgsl_double), intent(in) x)`
- 41.28.1.82 `real(fgsl_double) function fgsl_cdf_ugaussian_qinv (real(fgsl_double), intent(in) q)`
- 41.28.1.83 `real(fgsl_double) function fgsl_cdf_weibull_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`

- 41.28.1.84 `real(fgsl_double) function fgsl_cdf_weibull_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.85 `real(fgsl_double) function fgsl_cdf_weibull_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.86 `real(fgsl_double) function fgsl_cdf_weibull_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.87 `type(fgsl_qrng) function fgsl_qrng_alloc (type(fgsl_qrng_type), intent(in) t, integer(fgsl_int), intent(in) d)`
- 41.28.1.88 `type(fgsl_qrng) function fgsl_qrng_clone (type(fgsl_qrng), intent(in) q)`
- 41.28.1.89 `subroutine fgsl_qrng_free (type(fgsl_qrng), intent(inout) r)`
- 41.28.1.90 `integer(fgsl_int) function fgsl_qrng_get (type(fgsl_qrng), intent(in) q, real(fgsl_double), dimension(:), intent(out) x)`
- 41.28.1.91 `subroutine fgsl_qrng_init (type(fgsl_qrng), intent(inout) r)`
- 41.28.1.92 `integer(fgsl_int) function fgsl_qrng_memcpy (type(fgsl_qrng), intent(inout) cpy, type(fgsl_qrng), intent(in) src)`
- 41.28.1.93 `character(kind=fgsl_char, len=fgsl_strmax) function fgsl_qrng_name (type(fgsl_qrng), intent(in) q)`
- 41.28.1.94 `logical function fgsl_qrng_status (type(fgsl_qrng), intent(in) qrng)`
- 41.28.1.95 `integer(fgsl_int) function fgsl_ran_bernoulli (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p)`
- 41.28.1.96 `real(fgsl_double) function fgsl_ran_bernoulli_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.97 `real(fgsl_double) function fgsl_ran_beta (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.98 `real(fgsl_double) function fgsl_ran_beta_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.99 `real(fgsl_double) function fgsl_ran_binomial (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p, integer(fgsl_int), intent(in) n)`
- 41.28.1.100 `real(fgsl_double) function fgsl_ran_binomial_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, integer(fgsl_int), intent(in) n)`
- 41.28.1.101 `subroutine fgsl_ran_bivariate_gaussian (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) sigma_x, real(fgsl_double), intent(in) sigma_y, real(fgsl_double), intent(in) rho, real(fgsl_double), intent(out) x, real(fgsl_double), intent(out) y)`
- 41.28.1.102 `real(fgsl_double) function fgsl_ran_bivariate_gaussian_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) sigma_x, real(fgsl_double), intent(in) sigma_y, real(fgsl_double), intent(in) rho)`
- 41.28.1.103 `real(fgsl_double) function fgsl_ran_cauchy (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a)`
- 41.28.1.104 `real(fgsl_double) function fgsl_ran_cauchy_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.105 `real(fgsl_double) function fgsl_ran_chisq (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) nu)`
- 41.28.1.106 `real(fgsl_double) function fgsl_ran_chisq_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`

- 41.28.1.107 integer(fgsl_int) function fgsl_ran_choose (type(fgsl_rng), intent(in) *r*, type(c_ptr), intent(in) *dest*, integer(fgsl_size_t), intent(in) *k*, type(c_ptr), intent(in) *src*, integer(fgsl_size_t), intent(in) *n*, integer(fgsl_size_t), intent(in) *size*)
- 41.28.1.108 subroutine fgsl_ran_dir_2d (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*)
- 41.28.1.109 subroutine fgsl_ran_dir_2d_trig_method (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*)
- 41.28.1.110 subroutine fgsl_ran_dir_3d (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*, real(fgsl_double), intent(out) *z*)
- 41.28.1.111 subroutine fgsl_ran_dir_nd (type(fgsl_rng), intent(in) *r*, integer(fgsl_size_t), intent(in) *n*, real(fgsl_double), intent(out) *x*)
- 41.28.1.112 subroutine fgsl_ran_dirichlet (type(fgsl_rng), intent(in) *r*, integer(fgsl_size_t), intent(in) *k*, real(fgsl_double), dimension(:), intent(in) *alpha*, real(fgsl_double), dimension(:), intent(out) *theta*)
- 41.28.1.113 real(fgsl_double) function fgsl_ran_dirichlet_lnpdf (integer(fgsl_size_t), intent(in) *k*, real(fgsl_double), dimension(:), intent(in) *alpha*, real(fgsl_double), dimension(:), intent(in) *theta*)
- 41.28.1.114 real(fgsl_double) function fgsl_ran_dirichlet_pdf (integer(fgsl_size_t), intent(in) *k*, real(fgsl_double), dimension(:), intent(in) *alpha*, real(fgsl_double), dimension(:), intent(in) *theta*)
- 41.28.1.115 integer(fgsl_size_t) function fgsl_ran_discrete (type(fgsl_rng), intent(in) *r*, type(fgsl_ran_discrete_t), intent(in) *g*)
- 41.28.1.116 subroutine fgsl_ran_discrete_free (type(fgsl_ran_discrete_t), intent(inout) *g*)
- 41.28.1.117 real(fgsl_double) function fgsl_ran_discrete_pdf (integer(fgsl_size_t), intent(in) *k*, type(fgsl_ran_discrete_t), intent(in) *g*)
- 41.28.1.118 type(fgsl_ran_discrete_t) function fgsl_ran_discrete_preproc (integer(fgsl_size_t), intent(in) *k*, real(fgsl_double), dimension(:), intent(in) *p*)
- 41.28.1.119 logical function fgsl_ran_discrete_t_status (type(fgsl_ran_discrete_t), intent(in) *ran_discrete_t*)
- 41.28.1.120 real(fgsl_double) function fgsl_ran_exponential (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(in) *mu*)
- 41.28.1.121 real(fgsl_double) function fgsl_ran_exponential_pdf (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *mu*)
- 41.28.1.122 real(fgsl_double) function fgsl_ran_exppow (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*)
- 41.28.1.123 real(fgsl_double) function fgsl_ran_exppow_pdf (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*)
- 41.28.1.124 real(fgsl_double) function fgsl_ran_fdist (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(in) *nu1*, real(fgsl_double), intent(in) *nu2*)
- 41.28.1.125 real(fgsl_double) function fgsl_ran_fdist_pdf (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *nu1*, real(fgsl_double), intent(in) *nu2*)
- 41.28.1.126 real(fgsl_double) function fgsl_ran_flat (type(fgsl_rng), intent(in) *r*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*)

- 41.28.1.127 `real(fgsl_double) function fgsl_ran_flat_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.128 `real(fgsl_double) function fgsl_ran_gamma (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.129 `real(fgsl_double) function fgsl_ran_gamma_mt (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.130 `real(fgsl_double) function fgsl_ran_gamma_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.131 `real(fgsl_double) function fgsl_ran_gaussian (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) sigma)`
- 41.28.1.132 `real(fgsl_double) function fgsl_ran_gaussian_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.133 `real(fgsl_double) function fgsl_ran_gaussian_ratio_method (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) sigma)`
- 41.28.1.134 `real(fgsl_double) function fgsl_ran_gaussian_tail (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) sigma)`
- 41.28.1.135 `real(fgsl_double) function fgsl_ran_gaussian_tail_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) sigma)`
- 41.28.1.136 `real(fgsl_double) function fgsl_ran_gaussian_ziggurat (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) sigma)`
- 41.28.1.137 `integer(fgsl_int) function fgsl_ran_geometric (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p)`
- 41.28.1.138 `real(fgsl_double) function fgsl_ran_geometric_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.139 `real(fgsl_double) function fgsl_ran_gumbel1 (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.140 `real(fgsl_double) function fgsl_ran_gumbel1_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.141 `real(fgsl_double) function fgsl_ran_gumbel2 (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.142 `real(fgsl_double) function fgsl_ran_gumbel2_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.143 `integer(fgsl_int) function fgsl_ran_hypergeometric (type(fgsl_rng), intent(in) r, integer(fgsl_int), intent(in) n1, integer(fgsl_int), intent(in) n2, integer(fgsl_int), intent(in) t)`
- 41.28.1.144 `real(fgsl_double) function fgsl_ran_hypergeometric_pdf (integer(fgsl_int), intent(in) k, integer(fgsl_int), intent(in) n1, integer(fgsl_int), intent(in) n2, integer(fgsl_int), intent(in) t)`
- 41.28.1.145 `real(fgsl_double) function fgsl_ran_landau (type(fgsl_rng), intent(in) r)`
- 41.28.1.146 `real(fgsl_double) function fgsl_ran_landau_pdf (real(fgsl_double), intent(in) x)`
- 41.28.1.147 `real(fgsl_double) function fgsl_ran_laplace (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a)`

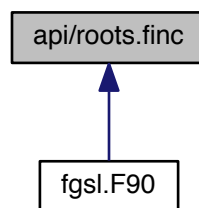
- 41.28.1.148 `real(fgsl_double) function fgsl_ran_laplace_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.149 `real(fgsl_double) function fgsl_ran_levy (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) alpha)`
- 41.28.1.150 `real(fgsl_double) function fgsl_ran_levy_skew (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) alpha, real(fgsl_double), intent(in) beta)`
- 41.28.1.151 `integer(fgsl_int) function fgsl_ran_logarithmic (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p)`
- 41.28.1.152 `real(fgsl_double) function fgsl_ran_logarithmic_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.153 `real(fgsl_double) function fgsl_ran_logistic (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a)`
- 41.28.1.154 `real(fgsl_double) function fgsl_ran_logistic_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.155 `real(fgsl_double) function fgsl_ran_lognormal (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`
- 41.28.1.156 `real(fgsl_double) function fgsl_ran_lognormal_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) zeta, real(fgsl_double), intent(in) sigma)`
- 41.28.1.157 `subroutine fgsl_ran_multinomial (type(fgsl_rng), intent(in) r, integer(fgsl_size_t), intent(in) k, integer(fgsl_int), intent(in) nn, real(fgsl_double), dimension(:), intent(in) p, integer(fgsl_int), dimension(:), intent(out) n)`
- 41.28.1.158 `real(fgsl_double) function fgsl_ran_multinomial_lnpdf (integer(fgsl_size_t), intent(in) k, real(fgsl_double), dimension(:), intent(in) p, integer(fgsl_int), dimension(:), intent(in) n)`
- 41.28.1.159 `real(fgsl_double) function fgsl_ran_multinomial_pdf (integer(fgsl_size_t), intent(in) k, real(fgsl_double), dimension(:), intent(in) p, integer(fgsl_int), dimension(:), intent(in) n)`
- 41.28.1.160 `integer(fgsl_int) function fgsl_ran_negative_binomial (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.161 `real(fgsl_double) function fgsl_ran_negative_binomial_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.162 `real(fgsl_double) function fgsl_ran_pareto (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.163 `real(fgsl_double) function fgsl_ran_pareto_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.164 `integer(fgsl_int) function fgsl_ran_pascal (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.165 `real(fgsl_double) function fgsl_ran_pascal_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) n)`
- 41.28.1.166 `integer(fgsl_int) function fgsl_ran_poisson (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) mu)`
- 41.28.1.167 `real(fgsl_double) function fgsl_ran_poisson_pdf (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) mu)`
- 41.28.1.168 `real(fgsl_double) function fgsl_ran_rayleigh (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) sigma)`

- 41.28.1.169 `real(fgsl_double) function fgsl_ran_rayleigh_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.170 `real(fgsl_double) function fgsl_ran_rayleigh_tail (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) sigma)`
- 41.28.1.171 `real(fgsl_double) function fgsl_ran_rayleigh_tail_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) sigma)`
- 41.28.1.172 `subroutine fgsl_ran_sample (type(fgsl_rng), intent(in) r, type(c_ptr), intent(in) dest, integer(fgsl_size_t), intent(in) k, type(c_ptr), intent(in) src, integer(fgsl_size_t), intent(in) n, integer(fgsl_size_t), intent(in) size)`
- 41.28.1.173 `subroutine fgsl_ran_shuffle (type(fgsl_rng), intent(in) r, type(c_ptr), intent(in) base, integer(fgsl_size_t), intent(in) n, integer(fgsl_size_t), intent(in) size)`
- 41.28.1.174 `subroutine fgsl_ran_shuffle_double (type(fgsl_rng), intent(in) r, real(fgsl_double), dimension(n), intent(in), target base, integer(fgsl_size_t), intent(in) n)`
- 41.28.1.175 `subroutine fgsl_ran_shuffle_size_t (type(fgsl_rng), intent(in) r, integer(fgsl_size_t), dimension(n), intent(in), target base, integer(fgsl_size_t), intent(in) n)`
- 41.28.1.176 `real(fgsl_double) function fgsl_ran_tdist (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) nu)`
- 41.28.1.177 `real(fgsl_double) function fgsl_ran_tdist_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu)`
- 41.28.1.178 `real(fgsl_double) function fgsl_ran_ugaussian (type(fgsl_rng), intent(in) r)`
- 41.28.1.179 `real(fgsl_double) function fgsl_ran_ugaussian_pdf (real(fgsl_double), intent(in) x)`
- 41.28.1.180 `real(fgsl_double) function fgsl_ran_ugaussian_ratio_method (type(fgsl_rng), intent(in) r)`
- 41.28.1.181 `real(fgsl_double) function fgsl_ran_ugaussian_tail (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a)`
- 41.28.1.182 `real(fgsl_double) function fgsl_ran_ugaussian_tail_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a)`
- 41.28.1.183 `real(fgsl_double) function fgsl_ran_weibull (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.184 `real(fgsl_double) function fgsl_ran_weibull_pdf (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.185 `type(fgsl_rng) function fgsl_rng_alloc (type(fgsl_rng_type), intent(inout) t)`
- 41.28.1.186 `subroutine fgsl_rng_c_ptr (type(fgsl_rng), intent(out) res, type(c_ptr), intent(in) src)`
- 41.28.1.187 `type(fgsl_rng) function fgsl_rng_clone (type(fgsl_rng), intent(in) r)`
- 41.28.1.188 `type(fgsl_rng_type) function fgsl_rng_env_setup ()`
- 41.28.1.189 `integer(fgsl_int) function fgsl_rng_fread (type(fgsl_file), intent(in) stream, type(fgsl_rng), intent(inout) r)`
- 41.28.1.190 `subroutine fgsl_rng_free (type(fgsl_rng), intent(inout) r)`
- 41.28.1.191 `integer(fgsl_int) function fgsl_rng_fwrite (type(fgsl_file), intent(in) stream, type(fgsl_rng), intent(in) r)`

- 41.28.1.192 integer(fgsl_long) function `fgsl_rng_get` (type(fgsl_rng), intent(in) *r*)
- 41.28.1.193 integer(fgsl_long) function `fgsl_rng_max` (type(fgsl_rng), intent(in) *r*)
- 41.28.1.194 integer(fgsl_int) function `fgsl_rng_memcpy` (type(fgsl_rng), intent(inout) *cpy*, type(fgsl_rng), intent(in) *src*)
- 41.28.1.195 integer(fgsl_long) function `fgsl_rng_min` (type(fgsl_rng), intent(in) *r*)
- 41.28.1.196 character(kind=fgsl_char, len=fgsl_strmax) function `fgsl_rng_name` (type(fgsl_rng), intent(in) *r*)
- 41.28.1.197 subroutine `fgsl_rng_set` (type(fgsl_rng), intent(inout) *r*, integer(fgsl_long), intent(in) *s*)
- 41.28.1.198 logical function `fgsl_rng_status` (type(fgsl_rng), intent(in) *rng*)
- 41.28.1.199 real(fgsl_double) function `fgsl_rng_uniform` (type(fgsl_rng), intent(in) *r*)
- 41.28.1.200 integer(fgsl_long) function `fgsl_rng_uniform_int` (type(fgsl_rng), intent(in) *r*, integer(fgsl_long), intent(in) *n*)
- 41.28.1.201 real(fgsl_double) function `fgsl_rng_uniform_pos` (type(fgsl_rng), intent(in) *r*)

41.29 `api/roots.finc` File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- type(fgsl_root_fsolver) function `fgsl_root_fsolver_alloc` (t)
- type(fgsl_root_fdfsolver) function `fgsl_root_fdfsolver_alloc` (t)
- integer(fgsl_int) function `fgsl_root_fsolver_set` (s, f, x_lower, x_upper)
- integer(fgsl_int) function `fgsl_root_fdfsolver_set` (s, fdf, x)
- subroutine `fgsl_root_fsolver_free` (s)
- subroutine `fgsl_root_fdfsolver_free` (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function `fgsl_root_fsolver_name` (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function `fgsl_root_fdfsolver_name` (s)
- integer(fgsl_int) function `fgsl_root_fsolver_iterate` (s)
- integer(fgsl_int) function `fgsl_root_fdfsolver_iterate` (s)
- real(fgsl_double) function `fgsl_root_fsolver_root` (s)
- real(fgsl_double) function `fgsl_root_fdfsolver_root` (s)

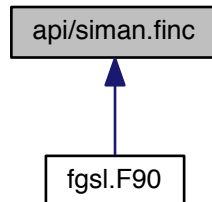
- real(fgsl_double) function [fgsl_root_fsolver_x_lower](#) (s)
- real(fgsl_double) function [fgsl_root_fsolver_x_upper](#) (s)
- integer(fgsl_int) function [fgsl_root_test_interval](#) (x_lower, x_upper, epsabs, epsrel)
- integer(fgsl_int) function [fgsl_root_test_delta](#) (x1, x0, epsabs, epsrel)
- integer(fgsl_int) function [fgsl_root_test_residual](#) (f, epsabs)
- logical function [fgsl_root_fsolver_status](#) (s)
- logical function [fgsl_root_fdfsolver_status](#) (s)

41.29.1 Function/Subroutine Documentation

- 41.29.1.1 type(fgsl_root_fdfsolver) function [fgsl_root_fdfsolver_alloc](#) (type(fgsl_root_fdfsolver_type), intent(in) t)
- 41.29.1.2 subroutine [fgsl_root_fdfsolver_free](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.3 integer(fgsl_int) function [fgsl_root_fdfsolver_iterate](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.4 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_root_fdfsolver_name](#) (type(fgsl_root_fdfsolver), intent(in) s)
- 41.29.1.5 real(fgsl_double) function [fgsl_root_fdfsolver_root](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.6 integer(fgsl_int) function [fgsl_root_fdfsolver_set](#) (type(fgsl_root_fdfsolver), intent(in) s, type(fgsl_function_fdf), intent(in) fdf, real(fgsl_double), intent(in) x)
- 41.29.1.7 logical function [fgsl_root_fdfsolver_status](#) (type(fgsl_root_fdfsolver), intent(in) s)
- 41.29.1.8 type(fgsl_root_fsolver) function [fgsl_root_fsolver_alloc](#) (type(fgsl_root_fsolver_type), intent(in) t)
- 41.29.1.9 subroutine [fgsl_root_fsolver_free](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.10 integer(fgsl_int) function [fgsl_root_fsolver_iterate](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.11 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_root_fsolver_name](#) (type(fgsl_root_fsolver), intent(in) s)
- 41.29.1.12 real(fgsl_double) function [fgsl_root_fsolver_root](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.13 integer(fgsl_int) function [fgsl_root_fsolver_set](#) (type(fgsl_root_fsolver), intent(in) s, type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper)
- 41.29.1.14 logical function [fgsl_root_fsolver_status](#) (type(fgsl_root_fsolver), intent(in) s)
- 41.29.1.15 real(fgsl_double) function [fgsl_root_fsolver_x_lower](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.16 real(fgsl_double) function [fgsl_root_fsolver_x_upper](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.17 integer(fgsl_int) function [fgsl_root_test_delta](#) (real(fgsl_double), intent(in) x1, real(fgsl_double), intent(in) x0, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)
- 41.29.1.18 integer(fgsl_int) function [fgsl_root_test_interval](#) (real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)
- 41.29.1.19 integer(fgsl_int) function [fgsl_root_test_residual](#) (real(fgsl_double), intent(in) f, real(fgsl_double), intent(in) epsabs)

41.30 api/siman.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- subroutine [fgsl_siman_params_init](#) (params, n_tries, iters_fixed_t, step_size, k, t_initial, mu_t, t_min)
- subroutine [fgsl_siman_params_free](#) (params)
- subroutine [fgsl_siman_solve](#) (rng, x0_p, ef, take_step, distance, print_position, copy_func, copy_constructor, destructor, element_size, params)
- logical function [fgsl_siman_params_t_status](#) (siman_params_t)

41.30.1 Function/Subroutine Documentation

41.30.1.1 subroutine [fgsl_siman_params_free](#) (type(fgsl_siman_params_t), intent(inout) *params*)

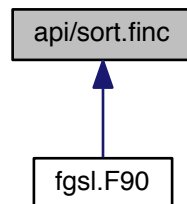
41.30.1.2 subroutine [fgsl_siman_params_init](#) (type(fgsl_siman_params_t), intent(inout) *params*, integer(fgsl_int) *n_tries*, integer(fgsl_int) *iters_fixed_t*, real(fgsl_double) *step_size*, real(fgsl_double) *k*, real(fgsl_double) *t_initial*, real(fgsl_double) *mu_t*, real(fgsl_double) *t_min*)

41.30.1.3 logical function [fgsl_siman_params_t_status](#) (type(fgsl_siman_params_t), intent(in) *siman_params_t*)

41.30.1.4 subroutine [fgsl_siman_solve](#) (type(fgsl_rng), intent(in) *rng*, type(c_ptr), intent(inout) *x0_p*, *ef*, *take_step*, *distance*, optional *print_position*, optional *copy_func*, optional *copy_constructor*, optional *destructor*, integer(fgsl_size_t), intent(in), optional *element_size*, type(fgsl_siman_params_t), intent(in) *params*)

41.31 api/sort.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- subroutine [fgsl_heapsort](#) (array, count, size, compare)
- integer(fgsl_int) function [fgsl_heapsort_index](#) (p, array, count, size, compare)
- subroutine [fgsl_sort_double](#) (data, stride, n)
- subroutine [fgsl_sort_double_index](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_smallest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_smallest_index](#) (p, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_largest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_largest_index](#) (p, k, src, stride, n)
- subroutine [fgsl_sort_long](#) (data, stride, n)
- subroutine [fgsl_sort_long_index](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_smallest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_smallest_index](#) (p, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_largest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_largest_index](#) (p, k, src, stride, n)
- subroutine [fgsl_sort_vector](#) (v)
- subroutine [fgsl_sort_vector2](#) (v1, v2)
- subroutine [fgsl_sort_vector_index](#) (p, v)
- integer(fgsl_int) function [fgsl_sort_vector_smallest](#) (dest, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_largest](#) (dest, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_smallest_index](#) (p, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_largest_index](#) (p, k, v)

41.31.1 Function/Subroutine Documentation

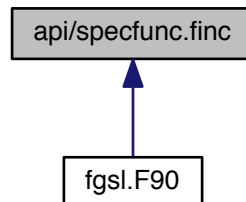
- 41.31.1.1 subroutine [fgsl_heapsort](#) (type(c_ptr) array, integer(fgsl_size_t), intent(in) count, integer(fgsl_size_t), intent(in) size, compare)
- 41.31.1.2 integer(fgsl_int) function [fgsl_heapsort_index](#) (integer(fgsl_size_t), dimension(count), intent(out) p, type(c_ptr) array, integer(fgsl_size_t), intent(in) count, integer(fgsl_size_t), intent(in) size, compare)
- 41.31.1.3 subroutine [fgsl_sort_double](#) (real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)

- 41.31.1.4 subroutine `fgsl_sort_double_index` (`integer(fgsl_size_t)`, `dimension(:)`, `intent(out) p`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.5 `integer(fgsl_int)` function `fgsl_sort_double_largest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.6 `integer(fgsl_int)` function `fgsl_sort_double_largest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.7 `integer(fgsl_int)` function `fgsl_sort_double_smallest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.8 `integer(fgsl_int)` function `fgsl_sort_double_smallest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.9 subroutine `fgsl_sort_long` (`integer(fgsl_long)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.10 subroutine `fgsl_sort_long_index` (`integer(fgsl_size_t)`, `dimension(:)`, `intent(out) p`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.11 `integer(fgsl_int)` function `fgsl_sort_long_largest` (`integer(fgsl_long)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.12 `integer(fgsl_int)` function `fgsl_sort_long_largest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.13 `integer(fgsl_int)` function `fgsl_sort_long_smallest` (`integer(fgsl_long)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.14 `integer(fgsl_int)` function `fgsl_sort_long_smallest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.15 subroutine `fgsl_sort_vector` (`type(fgsl_vector)`, `intent(inout) v`)
- 41.31.1.16 subroutine `fgsl_sort_vector2` (`type(fgsl_vector)`, `intent(inout) v1`, `type(fgsl_vector)`, `intent(inout) v2`)
- 41.31.1.17 subroutine `fgsl_sort_vector_index` (`type(fgsl_permutation)`, `intent(inout) p`, `type(fgsl_vector)`, `intent(in) v`)
- 41.31.1.18 `integer(fgsl_int)` function `fgsl_sort_vector_largest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `type(fgsl_vector)`, `intent(inout) v`)
- 41.31.1.19 `integer(fgsl_int)` function `fgsl_sort_vector_largest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `type(fgsl_vector)`, `intent(inout) v`)
- 41.31.1.20 `integer(fgsl_int)` function `fgsl_sort_vector_smallest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `type(fgsl_vector)`, `intent(inout) v`)

41.31.1.21 integer(fgsl_int) function fgsl_sort_vector_smallest_index (integer(fgsl_size_t), dimension(k), intent(out) p, integer(fgsl_size_t), intent(in) k, type(fgsl_vector), intent(inout) v)

41.32 api/specfunc.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- real(fgsl_double) function [fgsl_sf_airy_ai](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_deriv](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_deriv](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_deriv_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_deriv_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_deriv_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_deriv_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_ai](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_ai_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_bi](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_bi_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_ai_deriv](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_ai_deriv_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_bi_deriv](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_bi_deriv_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_bessel_jc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_jc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jc1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_jc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jcn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_jcn_e](#) (n, x, result)

- integer(fgsl_int) function [fgsl_sf_bessel_jcn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_yc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_yc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_yc1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_yc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ycn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ycn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_ycn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_icn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_icn_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_scaled_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kcn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kcn_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_scaled_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js2](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jsl](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_array](#) (lmax, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_stepped_array](#) (lmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys2](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ysl](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ysl_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_ysl_array](#) (lmax, x, result)

- real(fgsl_double) function [fgsl_sf_bessel_is0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_is0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_is1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_is1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_is2_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_is2_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_isl_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_isl_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_isl_scaled_array](#) (lmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ks0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ks0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ks1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ks1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ks2_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ks2_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ksl_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ksl_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_ksl_scaled_array](#) (lmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jnu](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_jnu_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_sequence_jnu_e](#) (nu, mode, size, v)
- real(fgsl_double) function [fgsl_sf_bessel_ynu](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ynu_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_inu](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_inu_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_inu_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_inu_scaled_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_knu](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_knu_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_lnknu](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_lnknu_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_knu_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_knu_scaled_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_zero_jc0](#) (s)
- integer(fgsl_int) function [fgsl_sf_bessel_zero_jc0_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_bessel_zero_jc1](#) (s)
- integer(fgsl_int) function [fgsl_sf_bessel_zero_jc1_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_bessel_zero_jnu](#) (nu, s)
- integer(fgsl_int) function [fgsl_sf_bessel_zero_jnu_e](#) (nu, s, result)
- real(fgsl_double) function [fgsl_sf_clausen](#) (x)
- integer(fgsl_int) function [fgsl_sf_clausen_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_hydrogenicr_1](#) (z, r)
- integer(fgsl_int) function [fgsl_sf_hydrogenicr_1_e](#) (z, r, result)
- real(fgsl_double) function [fgsl_sf_hydrogenicr](#) (n, l, z, r)
- integer(fgsl_int) function [fgsl_sf_hydrogenicr_e](#) (n, l, z, r, result)
- integer(fgsl_int) function [fgsl_sf_coulomb_wave_fg_e](#) (eta, x, l_f, k, f, fp, g, gp, exp_f, exp_g)
- integer(fgsl_int) function [fgsl_sf_coulomb_wave_f_array](#) (l_min, kmax, eta, x, fc_array, f_exponent)
- integer(fgsl_int) function [fgsl_sf_coulomb_wave_fg_array](#) (l_min, kmax, eta, x, fc_array, gc_array, f_exponent, g_exponent)
- integer(fgsl_int) function [fgsl_sf_coulomb_wave_fgp_array](#) (l_min, kmax, eta, x, fc_array, fcp_array, gc_array, gcp_array, f_exponent, g_exponent)
- integer(fgsl_int) function [fgsl_sf_coulomb_wave_sphf_array](#) (l_min, kmax, eta, x, fc_array, f_exponent)
- integer(fgsl_int) function [fgsl_sf_coulomb_cl_e](#) (l, eta, result)
- integer(fgsl_int) function [fgsl_sf_coulomb_cl_array](#) (l_min, kmax, eta, cl)
- real(fgsl_double) function [fgsl_sf_coupling_3j](#) (two_ja, two_jb, two_jc, two_ma, two_mb, two_mc)

- integer(fgsl_int) function [fgsl_sf_coupling_3j_e](#) (two_ja, two_jb, two_jc, two_ma, two_mb, two_mc, result)
- real(fgsl_double) function [fgsl_sf_coupling_6j](#) (two_ja, two_jb, two_jc, two_jd, two_je, two_jf)
- integer(fgsl_int) function [fgsl_sf_coupling_6j_e](#) (two_ja, two_jb, two_jc, two_jd, two_je, two_jf, result)
- real(fgsl_double) function [fgsl_sf_coupling_9j](#) (two_ja, two_jb, two_jc, two_jd, two_je, two_jf, two_jg, two_jh, two_ji)
- integer(fgsl_int) function [fgsl_sf_coupling_9j_e](#) (two_ja, two_jb, two_jc, two_jd, two_je, two_jf, two_jg, two_jh, two_ji, result)
- real(fgsl_double) function [fgsl_sf_dawson](#) (x)
- integer(fgsl_int) function [fgsl_sf_dawson_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_1](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_2](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_3](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_3_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_4](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_4_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_5](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_5_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_debye_6](#) (x)
- integer(fgsl_int) function [fgsl_sf_debye_6_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_dilog](#) (x)
- integer(fgsl_int) function [fgsl_sf_dilog_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_complex_dilog_e](#) (r, theta, result_re, result_im)
- integer(fgsl_int) function [fgsl_sf_multiply_e](#) (x, y, result)
- integer(fgsl_int) function [fgsl_sf_multiply_err_e](#) (x, dx, y, dy, result)
- real(fgsl_double) function [fgsl_sf_ellint_kcomp](#) (k, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_kcomp_e](#) (k, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_ecomp](#) (k, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_ecomp_e](#) (k, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_pcomp](#) (k, n, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_pcomp_e](#) (k, n, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_f](#) (phi, k, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_f_e](#) (phi, k, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_e](#) (phi, k, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_e_e](#) (phi, k, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_p](#) (phi, k, n, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_p_e](#) (phi, k, n, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_d](#) (phi, k, n, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_d_e](#) (phi, k, n, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_rc](#) (x, y, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_rc_e](#) (x, y, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_rd](#) (x, y, z, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_rd_e](#) (x, y, z, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_rf](#) (x, y, z, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_rf_e](#) (x, y, z, mode, result)
- real(fgsl_double) function [fgsl_sf_ellint_rj](#) (x, y, z, p, mode)
- integer(fgsl_int) function [fgsl_sf_ellint_rj_e](#) (x, y, z, p, mode, result)
- integer(fgsl_int) function [fgsl_sf_elljac_e](#) (u, m, sn, cn, dn)
- real(fgsl_double) function [fgsl_sf_erf](#) (x)
- integer(fgsl_int) function [fgsl_sf_erf_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_erfc](#) (x)
- integer(fgsl_int) function [fgsl_sf_erfc_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_log_erfc](#) (x)
- integer(fgsl_int) function [fgsl_sf_log_erfc_e](#) (x, result)

- real(fgsl_double) function [fgsl_sf_erf_z](#) (x)
- integer(fgsl_int) function [fgsl_sf_erf_z_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_erf_q](#) (x)
- integer(fgsl_int) function [fgsl_sf_erf_q_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_hazard](#) (x)
- integer(fgsl_int) function [fgsl_sf_hazard_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_exp](#) (x)
- integer(fgsl_int) function [fgsl_sf_exp_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_exp_e10_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_exp_mult](#) (x, y)
- integer(fgsl_int) function [fgsl_sf_exp_mult_e](#) (x, y, result)
- integer(fgsl_int) function [fgsl_sf_exp_mult_e10_e](#) (x, y, result)
- real(fgsl_double) function [fgsl_sf_expm1](#) (x)
- integer(fgsl_int) function [fgsl_sf_expm1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_exprel](#) (x)
- integer(fgsl_int) function [fgsl_sf_exprel_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_exprel_2](#) (x)
- integer(fgsl_int) function [fgsl_sf_exprel_2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_exprel_n](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_exprel_n_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_exp_err_e](#) (x, dx, result)
- integer(fgsl_int) function [fgsl_sf_exp_err_e10_e](#) (x, dx, result)
- integer(fgsl_int) function [fgsl_sf_exp_mult_err_e](#) (x, dx, y, dy, result)
- integer(fgsl_int) function [fgsl_sf_exp_mult_err_e10_e](#) (x, dx, y, dy, result)
- real(fgsl_double) function [fgsl_sf_expint_e1](#) (x)
- integer(fgsl_int) function [fgsl_sf_expint_e1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_expint_e2](#) (x)
- integer(fgsl_int) function [fgsl_sf_expint_e2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_expint_en](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_expint_en_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_expint_ei](#) (x)
- integer(fgsl_int) function [fgsl_sf_expint_ei_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_shi](#) (x)
- integer(fgsl_int) function [fgsl_sf_shi_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_chi](#) (x)
- integer(fgsl_int) function [fgsl_sf_chi_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_expint_3](#) (x)
- integer(fgsl_int) function [fgsl_sf_expint_3_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_si](#) (x)
- integer(fgsl_int) function [fgsl_sf_si_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_ci](#) (x)
- integer(fgsl_int) function [fgsl_sf_ci_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_atanint](#) (x)
- integer(fgsl_int) function [fgsl_sf_atanint_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_m1](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_m1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_0](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_1](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_2](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_int](#) (i, x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_int_e](#) (i, x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_mhalf](#) (x)

- integer(fgsl_int) function [fgsl_sf_fermi_dirac_mhalf_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_half](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_half_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_3half](#) (x)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_3half_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_fermi_dirac_inc_0](#) (x, b)
- integer(fgsl_int) function [fgsl_sf_fermi_dirac_inc_0_e](#) (x, b, result)
- real(fgsl_double) function [fgsl_sf_gamma](#) (x)
- integer(fgsl_int) function [fgsl_sf_gamma_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_lngamma](#) (x)
- integer(fgsl_int) function [fgsl_sf_lngamma_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_lngamma_sgn_e](#) (x, result_lg, sgn)
- real(fgsl_double) function [fgsl_sf_gammastar](#) (x)
- integer(fgsl_int) function [fgsl_sf_gammastar_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_gammainv](#) (x)
- integer(fgsl_int) function [fgsl_sf_gammainv_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_lngamma_complex_e](#) (zr, zi, lnr, arg)
- real(fgsl_double) function [fgsl_sf_fact](#) (n)
- integer(fgsl_int) function [fgsl_sf_fact_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_doublefact](#) (n)
- integer(fgsl_int) function [fgsl_sf_doublefact_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_lfact](#) (n)
- integer(fgsl_int) function [fgsl_sf_lfact_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_indoublefact](#) (n)
- integer(fgsl_int) function [fgsl_sf_indoublefact_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_choose](#) (n, m)
- integer(fgsl_int) function [fgsl_sf_choose_e](#) (n, m, result)
- real(fgsl_double) function [fgsl_sf_lchoose](#) (n, m)
- integer(fgsl_int) function [fgsl_sf_lchoose_e](#) (n, m, result)
- real(fgsl_double) function [fgsl_sf_taylorcoeff](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_taylorcoeff_e](#) (n, x, result)
- real(fgsl_double) function [fgsl_sf_poch](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_poch_e](#) (a, x, result)
- real(fgsl_double) function [fgsl_sf_lnpoch](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_lnpoch_e](#) (a, x, result)
- integer(fgsl_int) function [fgsl_sf_lnpoch_sgn_e](#) (a, x, result_lg, sgn)
- real(fgsl_double) function [fgsl_sf_pochrel](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_pochrel_e](#) (a, x, result)
- real(fgsl_double) function [fgsl_sf_gamma_inc](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_gamma_inc_e](#) (a, x, result)
- real(fgsl_double) function [fgsl_sf_gamma_inc_q](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_gamma_inc_q_e](#) (a, x, result)
- real(fgsl_double) function [fgsl_sf_gamma_inc_p](#) (a, x)
- integer(fgsl_int) function [fgsl_sf_gamma_inc_p_e](#) (a, x, result)
- real(fgsl_double) function [fgsl_sf_beta](#) (a, b)
- integer(fgsl_int) function [fgsl_sf_beta_e](#) (a, b, result)
- real(fgsl_double) function [fgsl_sf_lnbeta](#) (a, b)
- integer(fgsl_int) function [fgsl_sf_lnbeta_e](#) (a, b, result)
- real(fgsl_double) function [fgsl_sf_beta_inc](#) (a, b, x)
- integer(fgsl_int) function [fgsl_sf_beta_inc_e](#) (a, b, x, result)
- real(fgsl_double) function [fgsl_sf_gegenpoly_1](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_1_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_gegenpoly_2](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_2_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_gegenpoly_3](#) (lambda, x)

- integer(fgsl_int) function [fgsl_sf_gegenpoly_3_e](#) (λ , x , result)
- real(fgsl_double) function [fgsl_sf_gegenpoly_n](#) (n , λ , x)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_n_e](#) (n , λ , x , result)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_array](#) (n_{\max} , λ , x , result_array)
- real(fgsl_double) function [fgsl_sf_hyperg_0f1](#) (c , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_0f1_e](#) (c , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_1f1_int](#) (m , n , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_1f1_int_e](#) (m , n , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_1f1](#) (a , b , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_1f1_e](#) (a , b , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_u_int](#) (m , n , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_int_e](#) (m , n , x , result)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_int_e10_e](#) (m , n , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_u](#) (a , b , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_e](#) (a , b , x , result)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_e10_e](#) (a , b , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1](#) (a , b , c , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_e](#) (a , b , c , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1_conj](#) (a_r , a_i , c , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_conj_e](#) (a_r , a_i , c , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1_renorm](#) (a , b , c , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_renorm_e](#) (a , b , c , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1_conj_renorm](#) (a_r , a_i , c , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_conj_renorm_e](#) (a_r , a_i , c , x , result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f0](#) (a , b , x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f0_e](#) (a , b , x , result)
- real(fgsl_double) function [fgsl_sf_laguerre_1](#) (a , x)
- integer(fgsl_int) function [fgsl_sf_laguerre_1_e](#) (a , x , result)
- real(fgsl_double) function [fgsl_sf_laguerre_2](#) (a , x)
- integer(fgsl_int) function [fgsl_sf_laguerre_2_e](#) (a , x , result)
- real(fgsl_double) function [fgsl_sf_laguerre_3](#) (a , x)
- integer(fgsl_int) function [fgsl_sf_laguerre_3_e](#) (a , x , result)
- real(fgsl_double) function [fgsl_sf_laguerre_n](#) (n , a , x)
- integer(fgsl_int) function [fgsl_sf_laguerre_n_e](#) (n , a , x , result)
- real(fgsl_double) function [fgsl_sf_lambert_w0](#) (x)
- integer(fgsl_int) function [fgsl_sf_lambert_w0_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_lambert_wm1](#) (x)
- integer(fgsl_int) function [fgsl_sf_lambert_wm1_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_p1](#) (x)
- integer(fgsl_int) function [fgsl_sf_legendre_p1_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_p2](#) (x)
- integer(fgsl_int) function [fgsl_sf_legendre_p2_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_p3](#) (x)
- integer(fgsl_int) function [fgsl_sf_legendre_p3_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_pl](#) (l , x)
- integer(fgsl_int) function [fgsl_sf_legendre_pl_e](#) (l , x , result)
- real(fgsl_double) function [fgsl_sf_legendre_pl_array](#) (l_{\max} , x , result_array)
- real(fgsl_double) function [fgsl_sf_legendre_pl_deriv_array](#) (l_{\max} , x , result_array, deriv_array)
- real(fgsl_double) function [fgsl_sf_legendre_q0](#) (x)
- integer(fgsl_int) function [fgsl_sf_legendre_q0_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_q1](#) (x)
- integer(fgsl_int) function [fgsl_sf_legendre_q1_e](#) (x , result)
- real(fgsl_double) function [fgsl_sf_legendre_ql](#) (l , x)
- integer(fgsl_int) function [fgsl_sf_legendre_ql_e](#) (l , x , result)
- real(fgsl_double) function [fgsl_sf_legendre_plm](#) (l , m , x)

- integer(fgsl_int) function [fgsl_sf_legendre_plm_e](#) (l, m, x, result)
- real(fgsl_double) function [fgsl_sf_legendre_plm_array](#) (lmax, m, x, result_array)
- real(fgsl_double) function [fgsl_sf_legendre_plm_deriv_array](#) (lmax, m, x, result_array, deriv_array)
- real(fgsl_double) function [fgsl_sf_legendre_sphplm](#) (l, m, x)
- integer(fgsl_int) function [fgsl_sf_legendre_sphplm_e](#) (l, m, x, result)
- real(fgsl_double) function [fgsl_sf_legendre_sphplm_array](#) (lmax, m, x, result_array)
- real(fgsl_double) function [fgsl_sf_legendre_sphplm_deriv_array](#) (lmax, m, x, result_array, deriv_array)
- integer(c_int) function [fgsl_sf_legendre_array_size](#) (lmax, m)
- real(fgsl_double) function [fgsl_sf_conicalp_half](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_half_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_conicalp_mhalf](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_mhalf_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_conicalp_0](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_0_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_conicalp_1](#) (lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_1_e](#) (lambda, x, result)
- real(fgsl_double) function [fgsl_sf_conicalp_sph_reg](#) (l, lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_sph_reg_e](#) (l, lambda, x, result)
- real(fgsl_double) function [fgsl_sf_conicalp_cyl_reg](#) (l, lambda, x)
- integer(fgsl_int) function [fgsl_sf_conicalp_cyl_reg_e](#) (l, lambda, x, result)
- real(fgsl_double) function [fgsl_sf_legendre_h3d_0](#) (lambda, eta)
- integer(fgsl_int) function [fgsl_sf_legendre_h3d_0_e](#) (lambda, eta, result)
- real(fgsl_double) function [fgsl_sf_legendre_h3d_1](#) (lambda, eta)
- integer(fgsl_int) function [fgsl_sf_legendre_h3d_1_e](#) (lambda, eta, result)
- real(fgsl_double) function [fgsl_sf_legendre_h3d](#) (l, lambda, eta)
- integer(fgsl_int) function [fgsl_sf_legendre_h3d_e](#) (l, lambda, eta, result)
- integer(fgsl_int) function [fgsl_sf_legendre_h3d_array](#) (lmax, lambda, eta, result_array)
- real(fgsl_double) function [fgsl_sf_log](#) (x)
- integer(fgsl_int) function [fgsl_sf_log_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_log_abs](#) (x)
- integer(fgsl_int) function [fgsl_sf_log_abs_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_complex_log_e](#) (zr, zi, lnr, theta)
- real(fgsl_double) function [fgsl_sf_log_1plusx](#) (x)
- integer(fgsl_int) function [fgsl_sf_log_1plusx_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_log_1plusx_mx](#) (x)
- integer(fgsl_int) function [fgsl_sf_log_1plusx_mx_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_psi_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_psi_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_psi](#) (x)
- integer(fgsl_int) function [fgsl_sf_psi_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_psi_1_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_psi_1_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_psi_1](#) (x)
- integer(fgsl_int) function [fgsl_sf_psi_1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_psi_n](#) (m, x)
- integer(fgsl_int) function [fgsl_sf_psi_n_e](#) (m, x, result)
- real(fgsl_double) function [fgsl_sf_psi_1piy](#) (x)
- integer(fgsl_int) function [fgsl_sf_psi_1piy_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_synchrotron_1](#) (x)
- integer(fgsl_int) function [fgsl_sf_synchrotron_1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_synchrotron_2](#) (x)
- integer(fgsl_int) function [fgsl_sf_synchrotron_2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_transport_2](#) (x)
- integer(fgsl_int) function [fgsl_sf_transport_2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_transport_3](#) (x)

- integer(fgsl_int) function [fgsl_sf_transport_3_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_transport_4](#) (x)
- integer(fgsl_int) function [fgsl_sf_transport_4_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_transport_5](#) (x)
- integer(fgsl_int) function [fgsl_sf_transport_5_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_hypot](#) (x, y)
- integer(fgsl_int) function [fgsl_sf_hypot_e](#) (x, y, result)
- real(fgsl_double) function [fgsl_sf_sinc](#) (x)
- integer(fgsl_int) function [fgsl_sf_sinc_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_complex_sin_e](#) (zr, zi, szr, szi)
- integer(fgsl_int) function [fgsl_sf_complex_cos_e](#) (zr, zi, czr, czi)
- integer(fgsl_int) function [fgsl_sf_complex_logsin_e](#) (zr, zi, lszr, lszi)
- real(fgsl_double) function [fgsl_sf_lnsinh](#) (x)
- integer(fgsl_int) function [fgsl_sf_lnsinh_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_lncosh](#) (x)
- integer(fgsl_int) function [fgsl_sf_lncosh_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_polar_to_rect](#) (r, theta, x, y)
- integer(fgsl_int) function [fgsl_sf_rect_to_polar](#) (x, y, r, theta)
- real(fgsl_double) function [fgsl_sf_angle_restrict_symm](#) (theta)
- integer(fgsl_int) function [fgsl_sf_angle_restrict_symm_e](#) (theta)
- real(fgsl_double) function [fgsl_sf_angle_restrict_pos](#) (theta)
- integer(fgsl_int) function [fgsl_sf_angle_restrict_pos_e](#) (theta)
- integer(fgsl_int) function [fgsl_sf_sin_err_e](#) (x, dx, result)
- integer(fgsl_int) function [fgsl_sf_cos_err_e](#) (x, dx, result)
- real(fgsl_double) function [fgsl_sf_zeta_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_zeta_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_zeta](#) (x)
- integer(fgsl_int) function [fgsl_sf_zeta_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_zetam1_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_zetam1_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_zetam1](#) (x)
- integer(fgsl_int) function [fgsl_sf_zetam1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_hzeta](#) (s, q)
- integer(fgsl_int) function [fgsl_sf_hzeta_e](#) (s, q, result)
- real(fgsl_double) function [fgsl_sf_eta_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_eta_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_eta](#) (x)
- integer(fgsl_int) function [fgsl_sf_eta_e](#) (x, result)
- elemental subroutine [gsl_sf_to_fgsl_sf](#) (result, source)
- elemental subroutine [gsl_sfe10_to_fgsl_sfe10](#) (result, source)

41.32.1 Function/Subroutine Documentation

41.32.1.1 real(fgsl_double) function [fgsl_sf_airy_ai](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)

41.32.1.2 real(fgsl_double) function [fgsl_sf_airy_ai_deriv](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)

41.32.1.3 integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_e](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)

41.32.1.4 real(fgsl_double) function [fgsl_sf_airy_ai_deriv_scaled](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)

- 41.32.1.5 integer(fgsl_int) function fgsl_sf_airy_ai_deriv_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.6 integer(fgsl_int) function fgsl_sf_airy_ai_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.7 real(fgsl_double) function fgsl_sf_airy_ai_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.8 integer(fgsl_int) function fgsl_sf_airy_ai_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.9 real(fgsl_double) function fgsl_sf_airy_bi (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.10 real(fgsl_double) function fgsl_sf_airy_bi_deriv (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.11 integer(fgsl_int) function fgsl_sf_airy_bi_deriv_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.12 real(fgsl_double) function fgsl_sf_airy_bi_deriv_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.13 integer(fgsl_int) function fgsl_sf_airy_bi_deriv_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.14 integer(fgsl_int) function fgsl_sf_airy_bi_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.15 real(fgsl_double) function fgsl_sf_airy_bi_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.16 integer(fgsl_int) function fgsl_sf_airy_bi_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.17 real(fgsl_double) function fgsl_sf_airy_zero_ai (integer(fgsl_int), intent(in) s)
- 41.32.1.18 real(fgsl_double) function fgsl_sf_airy_zero_ai_deriv (integer(fgsl_int), intent(in) s)
- 41.32.1.19 integer(fgsl_int) function fgsl_sf_airy_zero_ai_deriv_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.20 integer(fgsl_int) function fgsl_sf_airy_zero_ai_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.21 real(fgsl_double) function fgsl_sf_airy_zero_bi (integer(fgsl_int), intent(in) s)
- 41.32.1.22 real(fgsl_double) function fgsl_sf_airy_zero_bi_deriv (integer(fgsl_int), intent(in) s)
- 41.32.1.23 integer(fgsl_int) function fgsl_sf_airy_zero_bi_deriv_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.24 integer(fgsl_int) function fgsl_sf_airy_zero_bi_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.25 real(fgsl_double) function fgsl_sf_angle_restrict_pos (real(fgsl_double), intent(in) theta)
- 41.32.1.26 integer(fgsl_int) function fgsl_sf_angle_restrict_pos_e (real(fgsl_double), intent(inout) theta)

- 41.32.1.27 `real(fgsl_double) function fgsl_sf_angle_restrict_symm (real(fgsl_double), intent(in) theta)`
- 41.32.1.28 `integer(fgsl_int) function fgsl_sf_angle_restrict_symm_e (real(fgsl_double), intent(inout) theta)`
- 41.32.1.29 `real(fgsl_double) function fgsl_sf_atanint (real(fgsl_double), intent(in) x)`
- 41.32.1.30 `integer(fgsl_int) function fgsl_sf_atanint_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.31 `real(fgsl_double) function fgsl_sf_bessel_ic0 (real(fgsl_double), intent(in) x)`
- 41.32.1.32 `integer(fgsl_int) function fgsl_sf_bessel_ic0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.33 `real(fgsl_double) function fgsl_sf_bessel_ic0_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.34 `integer(fgsl_int) function fgsl_sf_bessel_ic0_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.35 `real(fgsl_double) function fgsl_sf_bessel_ic1 (real(fgsl_double), intent(in) x)`
- 41.32.1.36 `integer(fgsl_int) function fgsl_sf_bessel_ic1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.37 `real(fgsl_double) function fgsl_sf_bessel_ic1_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.38 `integer(fgsl_int) function fgsl_sf_bessel_ic1_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.39 `real(fgsl_double) function fgsl_sf_bessel_icn (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.40 `integer(fgsl_int) function fgsl_sf_bessel_icn_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.41 `integer(fgsl_int) function fgsl_sf_bessel_icn_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.42 `real(fgsl_double) function fgsl_sf_bessel_icn_scaled (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.43 `integer(fgsl_int) function fgsl_sf_bessel_icn_scaled_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.44 `integer(fgsl_int) function fgsl_sf_bessel_icn_scaled_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.45 `real(fgsl_double) function fgsl_sf_bessel_inu (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.46 `integer(fgsl_int) function fgsl_sf_bessel_inu_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.47 `real(fgsl_double) function fgsl_sf_bessel_inu_scaled (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.48 `integer(fgsl_int) function fgsl_sf_bessel_inu_scaled_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.49 `real(fgsl_double) function fgsl_sf_bessel_is0_scaled (real(fgsl_double), intent(in) x)`

- 41.32.1.50 integer(fgsl_int) function fgsl_sf_bessel_is0_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.51 real(fgsl_double) function fgsl_sf_bessel_is1_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.52 integer(fgsl_int) function fgsl_sf_bessel_is1_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.53 real(fgsl_double) function fgsl_sf_bessel_is2_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.54 integer(fgsl_int) function fgsl_sf_bessel_is2_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.55 real(fgsl_double) function fgsl_sf_bessel_isl_scaled (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.56 integer(fgsl_int) function fgsl_sf_bessel_isl_scaled_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.57 integer(fgsl_int) function fgsl_sf_bessel_isl_scaled_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.58 real(fgsl_double) function fgsl_sf_bessel_jc0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.59 integer(fgsl_int) function fgsl_sf_bessel_jc0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.60 real(fgsl_double) function fgsl_sf_bessel_jc1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.61 integer(fgsl_int) function fgsl_sf_bessel_jc1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.62 real(fgsl_double) function fgsl_sf_bessel_jcn (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.63 integer(fgsl_int) function fgsl_sf_bessel_jcn_array (integer(fgsl_int), intent(in) *nmin*, integer(fgsl_int), intent(in) *nmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.64 integer(fgsl_int) function fgsl_sf_bessel_jcn_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.65 real(fgsl_double) function fgsl_sf_bessel_jnu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.66 integer(fgsl_int) function fgsl_sf_bessel_jnu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.67 real(fgsl_double) function fgsl_sf_bessel_js0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.68 integer(fgsl_int) function fgsl_sf_bessel_js0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.69 real(fgsl_double) function fgsl_sf_bessel_js1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.70 integer(fgsl_int) function fgsl_sf_bessel_js1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.71 real(fgsl_double) function fgsl_sf_bessel_js2 (real(fgsl_double), intent(in) *x*)

- 41.32.1.72 integer(fgsl_int) function fgsl_sf_bessel_js2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.73 real(fgsl_double) function fgsl_sf_bessel_jsl (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.74 integer(fgsl_int) function fgsl_sf_bessel_jsl_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)
- 41.32.1.75 integer(fgsl_int) function fgsl_sf_bessel_jsl_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.76 integer(fgsl_int) function fgsl_sf_bessel_jsl_stepped_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)
- 41.32.1.77 real(fgsl_double) function fgsl_sf_bessel_kc0 (real(fgsl_double), intent(in) x)
- 41.32.1.78 integer(fgsl_int) function fgsl_sf_bessel_kc0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.79 real(fgsl_double) function fgsl_sf_bessel_kc0_scaled (real(fgsl_double), intent(in) x)
- 41.32.1.80 integer(fgsl_int) function fgsl_sf_bessel_kc0_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.81 real(fgsl_double) function fgsl_sf_bessel_kc1 (real(fgsl_double), intent(in) x)
- 41.32.1.82 integer(fgsl_int) function fgsl_sf_bessel_kc1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.83 real(fgsl_double) function fgsl_sf_bessel_kc1_scaled (real(fgsl_double), intent(in) x)
- 41.32.1.84 integer(fgsl_int) function fgsl_sf_bessel_kc1_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.85 real(fgsl_double) function fgsl_sf_bessel_kcn (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.86 integer(fgsl_int) function fgsl_sf_bessel_kcn_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)
- 41.32.1.87 integer(fgsl_int) function fgsl_sf_bessel_kcn_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.88 real(fgsl_double) function fgsl_sf_bessel_kcn_scaled (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.89 integer(fgsl_int) function fgsl_sf_bessel_kcn_scaled_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)
- 41.32.1.90 integer(fgsl_int) function fgsl_sf_bessel_kcn_scaled_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.91 real(fgsl_double) function fgsl_sf_bessel_knu (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.92 integer(fgsl_int) function fgsl_sf_bessel_knu_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.93 real(fgsl_double) function fgsl_sf_bessel_knu_scaled (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)

- 41.32.1.94 integer(fgsl_int) function fgsl_sf_bessel_knu_scaled_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.95 real(fgsl_double) function fgsl_sf_bessel_ks0_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.96 integer(fgsl_int) function fgsl_sf_bessel_ks0_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.97 real(fgsl_double) function fgsl_sf_bessel_ks1_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.98 integer(fgsl_int) function fgsl_sf_bessel_ks1_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.99 real(fgsl_double) function fgsl_sf_bessel_ks2_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.100 integer(fgsl_int) function fgsl_sf_bessel_ks2_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.101 real(fgsl_double) function fgsl_sf_bessel_ksl_scaled (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.102 integer(fgsl_int) function fgsl_sf_bessel_ksl_scaled_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.103 integer(fgsl_int) function fgsl_sf_bessel_ksl_scaled_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.104 real(fgsl_double) function fgsl_sf_bessel_lnknu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.105 integer(fgsl_int) function fgsl_sf_bessel_lnknu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.106 integer(fgsl_int) function fgsl_sf_bessel_sequence_jnu_e (real(fgsl_double), intent(in) *nu*, type(fgsl_mode_t), intent(in) *mode*, integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), dimension(:), intent(inout) *v*)
- 41.32.1.107 real(fgsl_double) function fgsl_sf_bessel_yc0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.108 integer(fgsl_int) function fgsl_sf_bessel_yc0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.109 real(fgsl_double) function fgsl_sf_bessel_yc1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.110 integer(fgsl_int) function fgsl_sf_bessel_yc1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.111 real(fgsl_double) function fgsl_sf_bessel_ycn (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.112 integer(fgsl_int) function fgsl_sf_bessel_ycn_array (integer(fgsl_int), intent(in) *nmin*, integer(fgsl_int), intent(in) *nmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.113 integer(fgsl_int) function fgsl_sf_bessel_ycn_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.114 real(fgsl_double) function fgsl_sf_bessel_ynu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.115 integer(fgsl_int) function fgsl_sf_bessel_ynu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)

- 41.32.1.116 `real(fgsl_double) function fgsl_sf_bessel_ys0 (real(fgsl_double), intent(in) x)`
- 41.32.1.117 `integer(fgsl_int) function fgsl_sf_bessel_ys0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.118 `real(fgsl_double) function fgsl_sf_bessel_ys1 (real(fgsl_double), intent(in) x)`
- 41.32.1.119 `integer(fgsl_int) function fgsl_sf_bessel_ys1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.120 `real(fgsl_double) function fgsl_sf_bessel_ys2 (real(fgsl_double), intent(in) x)`
- 41.32.1.121 `integer(fgsl_int) function fgsl_sf_bessel_ys2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.122 `real(fgsl_double) function fgsl_sf_bessel_ysl (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.123 `integer(fgsl_int) function fgsl_sf_bessel_ysl_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.124 `integer(fgsl_int) function fgsl_sf_bessel_ysl_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.125 `real(fgsl_double) function fgsl_sf_bessel_zero_jc0 (integer(fgsl_int), intent(in) s)`
- 41.32.1.126 `integer(fgsl_int) function fgsl_sf_bessel_zero_jc0_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.127 `real(fgsl_double) function fgsl_sf_bessel_zero_jc1 (integer(fgsl_int), intent(in) s)`
- 41.32.1.128 `integer(fgsl_int) function fgsl_sf_bessel_zero_jc1_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.129 `real(fgsl_double) function fgsl_sf_bessel_zero_jnu (real(fgsl_double), intent(in) nu, integer(fgsl_int), intent(in) s)`
- 41.32.1.130 `integer(fgsl_int) function fgsl_sf_bessel_zero_jnu_e (real(fgsl_double), intent(in) nu, integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.131 `real(fgsl_double) function fgsl_sf_beta (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.32.1.132 `integer(fgsl_int) function fgsl_sf_beta_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.133 `real(fgsl_double) function fgsl_sf_beta_inc (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.134 `integer(fgsl_int) function fgsl_sf_beta_inc_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.135 `real(fgsl_double) function fgsl_sf_chi (real(fgsl_double), intent(in) x)`
- 41.32.1.136 `integer(fgsl_int) function fgsl_sf_chi_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.137 `real(fgsl_double) function fgsl_sf_choose (integer(c_int), intent(in) n, integer(c_int), intent(in) m)`

- 41.32.1.138 integer(fgsl_int) function fgsl_sf_choose_e (integer(c_int), intent(in) *n*, integer(c_int), intent(in) *m*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.139 real(fgsl_double) function fgsl_sf_ci (real(fgsl_double), intent(in) *x*)
- 41.32.1.140 integer(fgsl_int) function fgsl_sf_ci_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.141 real(fgsl_double) function fgsl_sf_clausen (real(fgsl_double), intent(in) *x*)
- 41.32.1.142 integer(fgsl_int) function fgsl_sf_clausen_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.143 integer(fgsl_int) function fgsl_sf_complex_cos_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *czr*, type(fgsl_sf_result), intent(out) *czl*)
- 41.32.1.144 integer(fgsl_int) function fgsl_sf_complex_dilog_e (real(fgsl_double), intent(in) *r*, real(fgsl_double), intent(in) *theta*, type(fgsl_sf_result), intent(out) *result_re*, type(fgsl_sf_result), intent(out) *result_im*)
- 41.32.1.145 integer(fgsl_int) function fgsl_sf_complex_log_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *lnr*, type(fgsl_sf_result), intent(out) *theta*)
- 41.32.1.146 integer(fgsl_int) function fgsl_sf_complex_logsin_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *lszr*, type(fgsl_sf_result), intent(out) *lszi*)
- 41.32.1.147 integer(fgsl_int) function fgsl_sf_complex_sin_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *szr*, type(fgsl_sf_result), intent(out) *szl*)
- 41.32.1.148 real(fgsl_double) function fgsl_sf_conicalp_0 (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)
- 41.32.1.149 integer(fgsl_int) function fgsl_sf_conicalp_0_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.150 real(fgsl_double) function fgsl_sf_conicalp_1 (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)
- 41.32.1.151 integer(fgsl_int) function fgsl_sf_conicalp_1_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.152 real(fgsl_double) function fgsl_sf_conicalp_cyl_reg (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)
- 41.32.1.153 integer(fgsl_int) function fgsl_sf_conicalp_cyl_reg_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.154 real(fgsl_double) function fgsl_sf_conicalp_half (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)
- 41.32.1.155 integer(fgsl_int) function fgsl_sf_conicalp_half_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.156 real(fgsl_double) function fgsl_sf_conicalp_mhalf (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)
- 41.32.1.157 integer(fgsl_int) function fgsl_sf_conicalp_mhalf_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.158 real(fgsl_double) function fgsl_sf_conicalp_sph_reg (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*)

- 41.32.1.159 integer(fgsl_int) function fgsl_sf_conicalp_sph_reg_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.160 integer(fgsl_int) function fgsl_sf_cos_err_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *dx*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.161 integer(fgsl_int) function fgsl_sf_coulomb_cl_array (real(fgsl_double), intent(in) *l_min*, integer(fgsl_int), intent(in) *kmax*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), dimension(:), intent(out) *cl*)
- 41.32.1.162 integer(fgsl_int) function fgsl_sf_coulomb_cl_e (real(fgsl_double), intent(in) *l*, real(fgsl_double), intent(in) *eta*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.163 integer(fgsl_int) function fgsl_sf_coulomb_wave_f_array (real(fgsl_double), intent(in) *l_min*, integer(fgsl_int), intent(in) *kmax*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *fc_array*, real(fgsl_double), intent(out) *f_exponent*)
- 41.32.1.164 integer(fgsl_int) function fgsl_sf_coulomb_wave_fg_array (real(fgsl_double), intent(in) *l_min*, integer(fgsl_int), intent(in) *kmax*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *fc_array*, real(fgsl_double), dimension(:), intent(out) *gc_array*, real(fgsl_double), intent(out) *f_exponent*, real(fgsl_double), intent(out) *g_exponent*)
- 41.32.1.165 integer(fgsl_int) function fgsl_sf_coulomb_wave_fg_e (real(fgsl_double), intent(in) *eta*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *l_f*, integer(fgsl_int), intent(in) *k*, type(fgsl_sf_result), intent(out) *f*, type(fgsl_sf_result), intent(out) *fp*, type(fgsl_sf_result), intent(out) *g*, type(fgsl_sf_result), intent(out) *gp*, real(fgsl_double), intent(out) *exp_f*, real(fgsl_double), intent(out) *exp_g*)
- 41.32.1.166 integer(fgsl_int) function fgsl_sf_coulomb_wave_fgp_array (real(fgsl_double), intent(in) *l_min*, integer(fgsl_int), intent(in) *kmax*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *fc_array*, real(fgsl_double), dimension(:), intent(out) *fcp_array*, real(fgsl_double), dimension(:), intent(out) *gc_array*, real(fgsl_double), dimension(:), intent(out) *gcp_array*, real(fgsl_double), intent(out) *f_exponent*, real(fgsl_double), intent(out) *g_exponent*)
- 41.32.1.167 integer(fgsl_int) function fgsl_sf_coulomb_wave_sphf_array (real(fgsl_double), intent(in) *l_min*, integer(fgsl_int), intent(in) *kmax*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *fc_array*, real(fgsl_double), intent(out) *f_exponent*)
- 41.32.1.168 real(fgsl_double) function fgsl_sf_coupling_3j (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_ma*, integer(fgsl_int), intent(in) *two_mb*, integer(fgsl_int), intent(in) *two_mc*)
- 41.32.1.169 integer(fgsl_int) function fgsl_sf_coupling_3j_e (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_ma*, integer(fgsl_int), intent(in) *two_mb*, integer(fgsl_int), intent(in) *two_mc*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.170 real(fgsl_double) function fgsl_sf_coupling_6j (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_jd*, integer(fgsl_int), intent(in) *two_je*, integer(fgsl_int), intent(in) *two_jf*)
- 41.32.1.171 integer(fgsl_int) function fgsl_sf_coupling_6j_e (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_jd*, integer(fgsl_int), intent(in) *two_je*, integer(fgsl_int), intent(in) *two_jf*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.172 real(fgsl_double) function fgsl_sf_coupling_9j (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_jd*, integer(fgsl_int), intent(in) *two_je*, integer(fgsl_int), intent(in) *two_jf*, integer(fgsl_int), intent(in) *two_jg*, integer(fgsl_int), intent(in) *two_jh*, integer(fgsl_int), intent(in) *two_ji*)

- 41.32.1.173 integer(fgsl_int) function fgsl_sf_coupling_9j_e (integer(fgsl_int), intent(in) *two_ja*, integer(fgsl_int), intent(in) *two_jb*, integer(fgsl_int), intent(in) *two_jc*, integer(fgsl_int), intent(in) *two_jd*, integer(fgsl_int), intent(in) *two_je*, integer(fgsl_int), intent(in) *two_jf*, integer(fgsl_int), intent(in) *two_jg*, integer(fgsl_int), intent(in) *two_jh*, integer(fgsl_int), intent(in) *two_ji*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.174 real(fgsl_double) function fgsl_sf_dawson (real(fgsl_double), intent(in) *x*)
- 41.32.1.175 integer(fgsl_int) function fgsl_sf_dawson_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.176 real(fgsl_double) function fgsl_sf_debye_1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.177 integer(fgsl_int) function fgsl_sf_debye_1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.178 real(fgsl_double) function fgsl_sf_debye_2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.179 integer(fgsl_int) function fgsl_sf_debye_2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.180 real(fgsl_double) function fgsl_sf_debye_3 (real(fgsl_double), intent(in) *x*)
- 41.32.1.181 integer(fgsl_int) function fgsl_sf_debye_3_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.182 real(fgsl_double) function fgsl_sf_debye_4 (real(fgsl_double), intent(in) *x*)
- 41.32.1.183 integer(fgsl_int) function fgsl_sf_debye_4_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.184 real(fgsl_double) function fgsl_sf_debye_5 (real(fgsl_double), intent(in) *x*)
- 41.32.1.185 integer(fgsl_int) function fgsl_sf_debye_5_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.186 real(fgsl_double) function fgsl_sf_debye_6 (real(fgsl_double), intent(in) *x*)
- 41.32.1.187 integer(fgsl_int) function fgsl_sf_debye_6_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.188 real(fgsl_double) function fgsl_sf_dilog (real(fgsl_double), intent(in) *x*)
- 41.32.1.189 integer(fgsl_int) function fgsl_sf_dilog_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.190 real(fgsl_double) function fgsl_sf_doublefact (integer(c_int), intent(in) *n*)
- 41.32.1.191 integer(fgsl_int) function fgsl_sf_doublefact_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.192 real(fgsl_double) function fgsl_sf_ellint_d (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.193 integer(fgsl_int) function fgsl_sf_ellint_d_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.194 real(fgsl_double) function fgsl_sf_ellint_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.195 integer(fgsl_int) function fgsl_sf_ellint_e_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.196 real(fgsl_double) function fgsl_sf_ellint_ecomp (real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*)

- 41.32.1.197 integer(fgsl_int) function fgsl_sf_ellint_ecomp_e (real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.198 real(fgsl_double) function fgsl_sf_ellint_f (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.199 integer(fgsl_int) function fgsl_sf_ellint_f_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.200 real(fgsl_double) function fgsl_sf_ellint_kcomp (real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.201 integer(fgsl_int) function fgsl_sf_ellint_kcomp_e (real(fgsl_double), intent(in) *k*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.202 real(fgsl_double) function fgsl_sf_ellint_p (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.203 integer(fgsl_int) function fgsl_sf_ellint_p_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.204 real(fgsl_double) function fgsl_sf_ellint_pcomp (real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.205 integer(fgsl_int) function fgsl_sf_ellint_pcomp_e (real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.206 real(fgsl_double) function fgsl_sf_ellint_rc (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.207 integer(fgsl_int) function fgsl_sf_ellint_rc_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.208 real(fgsl_double) function fgsl_sf_ellint_rd (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.209 integer(fgsl_int) function fgsl_sf_ellint_rd_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.210 real(fgsl_double) function fgsl_sf_ellint_rf (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.211 integer(fgsl_int) function fgsl_sf_ellint_rf_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.212 real(fgsl_double) function fgsl_sf_ellint_rj (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, real(fgsl_double), intent(in) *p*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.213 integer(fgsl_int) function fgsl_sf_ellint_rj_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, real(fgsl_double), intent(in) *p*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.214 integer(fgsl_int) function fgsl_sf_elljac_e (real(fgsl_double), intent(in) *u*, real(fgsl_double), intent(in) *m*, real(fgsl_double), intent(out) *sn*, real(fgsl_double), intent(out) *cn*, real(fgsl_double), intent(out) *dn*)
- 41.32.1.215 real(fgsl_double) function fgsl_sf_erf (real(fgsl_double), intent(in) *x*)

- 41.32.1.216 integer(fgsl_int) function fgsl_sf_erf_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.217 real(fgsl_double) function fgsl_sf_erf_q (real(fgsl_double), intent(in) x)
- 41.32.1.218 integer(fgsl_int) function fgsl_sf_erf_q_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.219 real(fgsl_double) function fgsl_sf_erf_z (real(fgsl_double), intent(in) x)
- 41.32.1.220 integer(fgsl_int) function fgsl_sf_erf_z_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.221 real(fgsl_double) function fgsl_sf_erfc (real(fgsl_double), intent(in) x)
- 41.32.1.222 integer(fgsl_int) function fgsl_sf_erfc_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.223 real(fgsl_double) function fgsl_sf_eta (real(fgsl_double), intent(in) x)
- 41.32.1.224 integer(fgsl_int) function fgsl_sf_eta_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.225 real(fgsl_double) function fgsl_sf_eta_int (integer(c_int), intent(in) n)
- 41.32.1.226 integer(fgsl_int) function fgsl_sf_eta_int_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)
- 41.32.1.227 real(fgsl_double) function fgsl_sf_exp (real(fgsl_double), intent(in) x)
- 41.32.1.228 integer(fgsl_int) function fgsl_sf_exp_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.229 integer(fgsl_int) function fgsl_sf_exp_e10_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result_e10), intent(out) result)
- 41.32.1.230 integer(fgsl_int) function fgsl_sf_exp_err_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, type(fgsl_sf_result), intent(out) result)
- 41.32.1.231 integer(fgsl_int) function fgsl_sf_exp_err_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, type(fgsl_sf_result_e10), intent(out) result)
- 41.32.1.232 real(fgsl_double) function fgsl_sf_exp_mult (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y)
- 41.32.1.233 integer(fgsl_int) function fgsl_sf_exp_mult_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, type(fgsl_sf_result), intent(out) result)
- 41.32.1.234 integer(fgsl_int) function fgsl_sf_exp_mult_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, type(fgsl_sf_result_e10), intent(out) result)
- 41.32.1.235 integer(fgsl_int) function fgsl_sf_exp_mult_err_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) dy, type(fgsl_sf_result), intent(out) result)
- 41.32.1.236 integer(fgsl_int) function fgsl_sf_exp_mult_err_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) dy, type(fgsl_sf_result_e10), intent(out) result)
- 41.32.1.237 real(fgsl_double) function fgsl_sf_expint_3 (real(fgsl_double), intent(in) x)
- 41.32.1.238 integer(fgsl_int) function fgsl_sf_expint_3_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.239 real(fgsl_double) function fgsl_sf_expint_e1 (real(fgsl_double), intent(in) x)

- 41.32.1.240 integer(fgsl_int) function fgsl_sf_expint_e1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.241 real(fgsl_double) function fgsl_sf_expint_e2 (real(fgsl_double), intent(in) x)
- 41.32.1.242 integer(fgsl_int) function fgsl_sf_expint_e2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.243 real(fgsl_double) function fgsl_sf_expint_ei (real(fgsl_double), intent(in) x)
- 41.32.1.244 integer(fgsl_int) function fgsl_sf_expint_ei_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.245 real(fgsl_double) function fgsl_sf_expint_en (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.246 integer(fgsl_int) function fgsl_sf_expint_en_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.247 real(fgsl_double) function fgsl_sf_expm1 (real(fgsl_double), intent(in) x)
- 41.32.1.248 integer(fgsl_int) function fgsl_sf_expm1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.249 real(fgsl_double) function fgsl_sf_exprel (real(fgsl_double), intent(in) x)
- 41.32.1.250 real(fgsl_double) function fgsl_sf_exprel_2 (real(fgsl_double), intent(in) x)
- 41.32.1.251 integer(fgsl_int) function fgsl_sf_exprel_2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.252 integer(fgsl_int) function fgsl_sf_exprel_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.253 real(fgsl_double) function fgsl_sf_exprel_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)
- 41.32.1.254 integer(fgsl_int) function fgsl_sf_exprel_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.255 real(fgsl_double) function fgsl_sf_fact (integer(c_int), intent(in) n)
- 41.32.1.256 integer(fgsl_int) function fgsl_sf_fact_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)
- 41.32.1.257 real(fgsl_double) function fgsl_sf_fermi_dirac_0 (real(fgsl_double), intent(in) x)
- 41.32.1.258 integer(fgsl_int) function fgsl_sf_fermi_dirac_0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.259 real(fgsl_double) function fgsl_sf_fermi_dirac_1 (real(fgsl_double), intent(in) x)
- 41.32.1.260 integer(fgsl_int) function fgsl_sf_fermi_dirac_1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.261 real(fgsl_double) function fgsl_sf_fermi_dirac_2 (real(fgsl_double), intent(in) x)
- 41.32.1.262 integer(fgsl_int) function fgsl_sf_fermi_dirac_2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.263 real(fgsl_double) function fgsl_sf_fermi_dirac_3half (real(fgsl_double), intent(in) x)

- 41.32.1.264 integer(fgsl_int) function fgsl_sf_fermi_dirac_3half_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.265 real(fgsl_double) function fgsl_sf_fermi_dirac_half (real(fgsl_double), intent(in) x)
- 41.32.1.266 integer(fgsl_int) function fgsl_sf_fermi_dirac_half_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.267 real(fgsl_double) function fgsl_sf_fermi_dirac_inc_0 (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) b)
- 41.32.1.268 integer(fgsl_int) function fgsl_sf_fermi_dirac_inc_0_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) b, type(fgsl_sf_result), intent(out) result)
- 41.32.1.269 real(fgsl_double) function fgsl_sf_fermi_dirac_int (integer(fgsl_int), intent(in) i, real(fgsl_double), intent(in) x)
- 41.32.1.270 integer(fgsl_int) function fgsl_sf_fermi_dirac_int_e (integer(fgsl_int), intent(in) i, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.271 real(fgsl_double) function fgsl_sf_fermi_dirac_m1 (real(fgsl_double), intent(in) x)
- 41.32.1.272 integer(fgsl_int) function fgsl_sf_fermi_dirac_m1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.273 real(fgsl_double) function fgsl_sf_fermi_dirac_mhalf (real(fgsl_double), intent(in) x)
- 41.32.1.274 integer(fgsl_int) function fgsl_sf_fermi_dirac_mhalf_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.275 real(fgsl_double) function fgsl_sf_gamma (real(fgsl_double), intent(in) x)
- 41.32.1.276 integer(fgsl_int) function fgsl_sf_gamma_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.277 real(fgsl_double) function fgsl_sf_gamma_inc (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)
- 41.32.1.278 integer(fgsl_int) function fgsl_sf_gamma_inc_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.279 real(fgsl_double) function fgsl_sf_gamma_inc_p (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)
- 41.32.1.280 integer(fgsl_int) function fgsl_sf_gamma_inc_p_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.281 real(fgsl_double) function fgsl_sf_gamma_inc_q (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)
- 41.32.1.282 integer(fgsl_int) function fgsl_sf_gamma_inc_q_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.283 real(fgsl_double) function fgsl_sf_gammainv (real(fgsl_double), intent(in) x)
- 41.32.1.284 integer(fgsl_int) function fgsl_sf_gammainv_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.285 real(fgsl_double) function fgsl_sf_gammastar (real(fgsl_double), intent(in) x)
- 41.32.1.286 integer(fgsl_int) function fgsl_sf_gammastar_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)

- 41.32.1.287 `real(fgsl_double) function fgsl_sf_gegenpoly_1 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.288 `integer(fgsl_int) function fgsl_sf_gegenpoly_1_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.289 `real(fgsl_double) function fgsl_sf_gegenpoly_2 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.290 `integer(fgsl_int) function fgsl_sf_gegenpoly_2_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.291 `real(fgsl_double) function fgsl_sf_gegenpoly_3 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.292 `integer(fgsl_int) function fgsl_sf_gegenpoly_3_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.293 `integer(fgsl_int) function fgsl_sf_gegenpoly_array (integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result_array)`
- 41.32.1.294 `real(fgsl_double) function fgsl_sf_gegenpoly_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.295 `integer(fgsl_int) function fgsl_sf_gegenpoly_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.296 `real(fgsl_double) function fgsl_sf_hazard (real(fgsl_double), intent(in) x)`
- 41.32.1.297 `integer(fgsl_int) function fgsl_sf_hazard_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.298 `real(fgsl_double) function fgsl_sf_hydrogenicr (integer(fgsl_int), intent(in) n, integer(fgsl_int), intent(in) l, real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r)`
- 41.32.1.299 `real(fgsl_double) function fgsl_sf_hydrogenicr_1 (real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r)`
- 41.32.1.300 `integer(fgsl_int) function fgsl_sf_hydrogenicr_1_e (real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.301 `integer(fgsl_int) function fgsl_sf_hydrogenicr_e (integer(fgsl_int), intent(in) n, integer(fgsl_int), intent(in) l, real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.302 `real(fgsl_double) function fgsl_sf_hyperg_0f1 (real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.303 `integer(fgsl_int) function fgsl_sf_hyperg_0f1_e (real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.304 `real(fgsl_double) function fgsl_sf_hyperg_1f1 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.305 `integer(fgsl_int) function fgsl_sf_hyperg_1f1_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.306 `real(fgsl_double) function fgsl_sf_hyperg_1f1_int (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`

- 41.32.1.307 integer(fgsl_int) function fgsl_sf_hyperg_1f1_int_e (integer(fgsl_int), intent(in) *m*, integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.308 real(fgsl_double) function fgsl_sf_hyperg_2f0 (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *x*)
- 41.32.1.309 integer(fgsl_int) function fgsl_sf_hyperg_2f0_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.310 real(fgsl_double) function fgsl_sf_hyperg_2f1 (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*)
- 41.32.1.311 real(fgsl_double) function fgsl_sf_hyperg_2f1_conj (real(fgsl_double), intent(in) *ar*, real(fgsl_double), intent(in) *ai*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*)
- 41.32.1.312 integer(fgsl_int) function fgsl_sf_hyperg_2f1_conj_e (real(fgsl_double), intent(in) *ar*, real(fgsl_double), intent(in) *ai*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.313 real(fgsl_double) function fgsl_sf_hyperg_2f1_conj_renorm (real(fgsl_double), intent(in) *ar*, real(fgsl_double), intent(in) *ai*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*)
- 41.32.1.314 integer(fgsl_int) function fgsl_sf_hyperg_2f1_conj_renorm_e (real(fgsl_double), intent(in) *ar*, real(fgsl_double), intent(in) *ai*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.315 integer(fgsl_int) function fgsl_sf_hyperg_2f1_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.316 real(fgsl_double) function fgsl_sf_hyperg_2f1_renorm (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*)
- 41.32.1.317 integer(fgsl_int) function fgsl_sf_hyperg_2f1_renorm_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *c*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.318 real(fgsl_double) function fgsl_sf_hyperg_u (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *x*)
- 41.32.1.319 integer(fgsl_int) function fgsl_sf_hyperg_u_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.320 integer(fgsl_int) function fgsl_sf_hyperg_u_e10_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result_e10), intent(out) *result*)
- 41.32.1.321 real(fgsl_double) function fgsl_sf_hyperg_u_int (integer(fgsl_int), intent(in) *m*, integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.322 integer(fgsl_int) function fgsl_sf_hyperg_u_int_e (integer(fgsl_int), intent(in) *m*, integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.323 integer(fgsl_int) function fgsl_sf_hyperg_u_int_e10_e (integer(fgsl_int), intent(in) *m*, integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result_e10), intent(out) *result*)
- 41.32.1.324 real(fgsl_double) function fgsl_sf_hypot (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*)
- 41.32.1.325 integer(fgsl_int) function fgsl_sf_hypot_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_sf_result), intent(out) *result*)

- 41.32.1.326 `real(fgsl_double) function fgsl_sf_hzeta (real(fgsl_double), intent(in) s, real(fgsl_double), intent(in) q)`
- 41.32.1.327 `integer(fgsl_int) function fgsl_sf_hzeta_e (real(fgsl_double), intent(in) s, real(fgsl_double), intent(in) q, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.328 `real(fgsl_double) function fgsl_sf_laguerre_1 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.329 `integer(fgsl_int) function fgsl_sf_laguerre_1_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.330 `real(fgsl_double) function fgsl_sf_laguerre_2 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.331 `integer(fgsl_int) function fgsl_sf_laguerre_2_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.332 `real(fgsl_double) function fgsl_sf_laguerre_3 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.333 `integer(fgsl_int) function fgsl_sf_laguerre_3_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.334 `real(fgsl_double) function fgsl_sf_laguerre_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.335 `integer(fgsl_int) function fgsl_sf_laguerre_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.336 `real(fgsl_double) function fgsl_sf_lambert_w0 (real(fgsl_double), intent(in) x)`
- 41.32.1.337 `integer(fgsl_int) function fgsl_sf_lambert_w0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.338 `real(fgsl_double) function fgsl_sf_lambert_wm1 (real(fgsl_double), intent(in) x)`
- 41.32.1.339 `integer(fgsl_int) function fgsl_sf_lambert_wm1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.340 `integer(c_int) function fgsl_sf_legendre_array_size (integer(fgsl_int), intent(in) lmax, integer(fgsl_int), intent(in) m)`
- 41.32.1.341 `real(fgsl_double) function fgsl_sf_legendre_h3d (integer(fgsl_int), intent(in) l, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta)`
- 41.32.1.342 `real(fgsl_double) function fgsl_sf_legendre_h3d_0 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta)`
- 41.32.1.343 `integer(fgsl_int) function fgsl_sf_legendre_h3d_0_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.344 `real(fgsl_double) function fgsl_sf_legendre_h3d_1 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta)`
- 41.32.1.345 `integer(fgsl_int) function fgsl_sf_legendre_h3d_1_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.346 `integer(fgsl_int) function fgsl_sf_legendre_h3d_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) eta, real(fgsl_double), dimension(:), intent(out) result_array)`

- 41.32.1.347 integer(fgsl_int) function fgsl_sf_legendre_h3d_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.348 real(fgsl_double) function fgsl_sf_legendre_p1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.349 integer(fgsl_int) function fgsl_sf_legendre_p1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.350 real(fgsl_double) function fgsl_sf_legendre_p2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.351 integer(fgsl_int) function fgsl_sf_legendre_p2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.352 real(fgsl_double) function fgsl_sf_legendre_p3 (real(fgsl_double), intent(in) *x*)
- 41.32.1.353 integer(fgsl_int) function fgsl_sf_legendre_p3_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.354 real(fgsl_double) function fgsl_sf_legendre_pl (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*)
- 41.32.1.355 real(fgsl_double) function fgsl_sf_legendre_pl_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.356 real(fgsl_double) function fgsl_sf_legendre_pl_deriv_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*, real(fgsl_double), dimension(:), intent(out) *deriv_array*)
- 41.32.1.357 integer(fgsl_int) function fgsl_sf_legendre_pl_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.358 real(fgsl_double) function fgsl_sf_legendre_plm (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*)
- 41.32.1.359 real(fgsl_double) function fgsl_sf_legendre_plm_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.360 real(fgsl_double) function fgsl_sf_legendre_plm_deriv_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*, real(fgsl_double), dimension(:), intent(out) *deriv_array*)
- 41.32.1.361 integer(fgsl_int) function fgsl_sf_legendre_plm_e (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.362 real(fgsl_double) function fgsl_sf_legendre_q0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.363 integer(fgsl_int) function fgsl_sf_legendre_q0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.364 real(fgsl_double) function fgsl_sf_legendre_q1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.365 integer(fgsl_int) function fgsl_sf_legendre_q1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.366 real(fgsl_double) function fgsl_sf_legendre_q1 (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*)

- 41.32.1.367 integer(fgsl_int) function fgsl_sf_legendre_ql_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.368 real(fgsl_double) function fgsl_sf_legendre_sphplm (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*)
- 41.32.1.369 real(fgsl_double) function fgsl_sf_legendre_sphplm_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.370 real(fgsl_double) function fgsl_sf_legendre_sphplm_deriv_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*, real(fgsl_double), dimension(:), intent(out) *deriv_array*)
- 41.32.1.371 integer(fgsl_int) function fgsl_sf_legendre_sphplm_e (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.372 real(fgsl_double) function fgsl_sf_lnbeta (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*)
- 41.32.1.373 integer(fgsl_int) function fgsl_sf_lnbeta_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.374 real(fgsl_double) function fgsl_sf_lnchoose (integer(c_int), intent(in) *n*, integer(c_int), intent(in) *m*)
- 41.32.1.375 integer(fgsl_int) function fgsl_sf_lnchoose_e (integer(c_int), intent(in) *n*, integer(c_int), intent(in) *m*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.376 real(fgsl_double) function fgsl_sf_lncosh (real(fgsl_double), intent(in) *x*)
- 41.32.1.377 integer(fgsl_int) function fgsl_sf_lncosh_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.378 real(fgsl_double) function fgsl_sf_lndoublefact (integer(c_int), intent(in) *n*)
- 41.32.1.379 integer(fgsl_int) function fgsl_sf_lndoublefact_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.380 real(fgsl_double) function fgsl_sf_lnfact (integer(c_int), intent(in) *n*)
- 41.32.1.381 integer(fgsl_int) function fgsl_sf_lnfact_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.382 real(fgsl_double) function fgsl_sf_lngamma (real(fgsl_double), intent(in) *x*)
- 41.32.1.383 integer(fgsl_int) function fgsl_sf_lngamma_complex_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *lnr*, type(fgsl_sf_result), intent(out) *arg*)
- 41.32.1.384 integer(fgsl_int) function fgsl_sf_lngamma_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.385 integer(fgsl_int) function fgsl_sf_lngamma_sgn_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result_lg*, real(fgsl_double), intent(out) *sgn*)
- 41.32.1.386 real(fgsl_double) function fgsl_sf_lnpoch (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.387 integer(fgsl_int) function fgsl_sf_lnpoch_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)

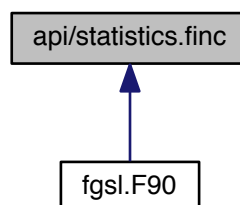
- 41.32.1.388 integer(fgsl_int) function fgsl_sf_lnpoch_sgn_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result_lg*, real(fgsl_double), intent(out) *sgn*)
- 41.32.1.389 real(fgsl_double) function fgsl_sf_lnsinh (real(fgsl_double), intent(in) *x*)
- 41.32.1.390 integer(fgsl_int) function fgsl_sf_lnsinh_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.391 real(fgsl_double) function fgsl_sf_log (real(fgsl_double), intent(in) *x*)
- 41.32.1.392 real(fgsl_double) function fgsl_sf_log_1plusx (real(fgsl_double), intent(in) *x*)
- 41.32.1.393 integer(fgsl_int) function fgsl_sf_log_1plusx_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.394 real(fgsl_double) function fgsl_sf_log_1plusx_mx (real(fgsl_double), intent(in) *x*)
- 41.32.1.395 integer(fgsl_int) function fgsl_sf_log_1plusx_mx_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.396 real(fgsl_double) function fgsl_sf_log_abs (real(fgsl_double), intent(in) *x*)
- 41.32.1.397 integer(fgsl_int) function fgsl_sf_log_abs_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.398 integer(fgsl_int) function fgsl_sf_log_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.399 real(fgsl_double) function fgsl_sf_log_erfc (real(fgsl_double), intent(in) *x*)
- 41.32.1.400 integer(fgsl_int) function fgsl_sf_log_erfc_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.401 integer(fgsl_int) function fgsl_sf_multiply_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.402 integer(fgsl_int) function fgsl_sf_multiply_err_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *dx*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *dy*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.403 real(fgsl_double) function fgsl_sf_poch (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.404 integer(fgsl_int) function fgsl_sf_poch_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.405 real(fgsl_double) function fgsl_sf_pochrel (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.406 integer(fgsl_int) function fgsl_sf_pochrel_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.407 integer(fgsl_int) function fgsl_sf_polar_to_rect (real(fgsl_double), intent(in) *r*, real(fgsl_double), intent(in) *theta*, type(fgsl_sf_result), intent(out) *x*, type(fgsl_sf_result), intent(out) *y*)
- 41.32.1.408 real(fgsl_double) function fgsl_sf_psi (real(fgsl_double), intent(in) *x*)
- 41.32.1.409 real(fgsl_double) function fgsl_sf_psi_1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.410 integer(fgsl_int) function fgsl_sf_psi_1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.411 real(fgsl_double) function fgsl_sf_psi_1_int (integer(c_int), intent(in) *n*)

- 41.32.1.412 integer(fgsl_int) function fgsl_sf_psi_1_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.413 real(fgsl_double) function fgsl_sf_psi_1piy (real(fgsl_double), intent(in) *x*)
- 41.32.1.414 integer(fgsl_int) function fgsl_sf_psi_1piy_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.415 integer(fgsl_int) function fgsl_sf_psi_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.416 real(fgsl_double) function fgsl_sf_psi_int (integer(c_int), intent(in) *n*)
- 41.32.1.417 integer(fgsl_int) function fgsl_sf_psi_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.418 real(fgsl_double) function fgsl_sf_psi_n (integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*)
- 41.32.1.419 integer(fgsl_int) function fgsl_sf_psi_n_e (integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.420 integer(fgsl_int) function fgsl_sf_rect_to_polar (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_sf_result), intent(out) *r*, type(fgsl_sf_result), intent(out) *theta*)
- 41.32.1.421 real(fgsl_double) function fgsl_sf_shi (real(fgsl_double), intent(in) *x*)
- 41.32.1.422 integer(fgsl_int) function fgsl_sf_shi_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.423 real(fgsl_double) function fgsl_sf_si (real(fgsl_double), intent(in) *x*)
- 41.32.1.424 integer(fgsl_int) function fgsl_sf_si_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.425 integer(fgsl_int) function fgsl_sf_sin_err_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *dx*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.426 real(fgsl_double) function fgsl_sf_sinc (real(fgsl_double), intent(in) *x*)
- 41.32.1.427 integer(fgsl_int) function fgsl_sf_sinc_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.428 real(fgsl_double) function fgsl_sf_synchrotron_1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.429 integer(fgsl_int) function fgsl_sf_synchrotron_1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.430 real(fgsl_double) function fgsl_sf_synchrotron_2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.431 integer(fgsl_int) function fgsl_sf_synchrotron_2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.432 real(fgsl_double) function fgsl_sf_taylorcoeff (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.433 integer(fgsl_int) function fgsl_sf_taylorcoeff_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.434 real(fgsl_double) function fgsl_sf_transport_2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.435 integer(fgsl_int) function fgsl_sf_transport_2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.436 real(fgsl_double) function fgsl_sf_transport_3 (real(fgsl_double), intent(in) *x*)

- 41.32.1.437 integer(fgsl_int) function fgsl_sf_transport_3_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.438 real(fgsl_double) function fgsl_sf_transport_4 (real(fgsl_double), intent(in) x)
- 41.32.1.439 integer(fgsl_int) function fgsl_sf_transport_4_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.440 real(fgsl_double) function fgsl_sf_transport_5 (real(fgsl_double), intent(in) x)
- 41.32.1.441 integer(fgsl_int) function fgsl_sf_transport_5_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.442 real(fgsl_double) function fgsl_sf_zeta (real(fgsl_double), intent(in) x)
- 41.32.1.443 integer(fgsl_int) function fgsl_sf_zeta_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.444 real(fgsl_double) function fgsl_sf_zeta_int (integer(c_int), intent(in) n)
- 41.32.1.445 integer(fgsl_int) function fgsl_sf_zeta_int_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)
- 41.32.1.446 real(fgsl_double) function fgsl_sf_zetam1 (real(fgsl_double), intent(in) x)
- 41.32.1.447 integer(fgsl_int) function fgsl_sf_zetam1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)
- 41.32.1.448 real(fgsl_double) function fgsl_sf_zetam1_int (integer(c_int), intent(in) n)
- 41.32.1.449 integer(fgsl_int) function fgsl_sf_zetam1_int_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)
- 41.32.1.450 elemental subroutine gsl_sf_to_fgsl_sf (type(fgsl_sf_result), intent(out) result, type(gsl_sf_result), intent(in) source)
- 41.32.1.451 elemental subroutine gsl_sfe10_to_fgsl_sfe10 (type(fgsl_sf_result_e10), intent(out) result, type(gsl_sf_result_e10), intent(in) source)

41.33 api/statistics.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- real(fgsl_double) function [fgsl_stats_mean](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_variance](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_variance_m](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_sd](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_sd_m](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_variance_with_fixed_mean](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_sd_with_fixed_mean](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_absdev](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_absdev_m](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_skew](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_skew_m_sd](#) (data, stride, n, mean, sd)
- real(fgsl_double) function [fgsl_stats_kurtosis](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_kurtosis_m_sd](#) (data, stride, n, mean, sd)
- real(fgsl_double) function [fgsl_stats_lag1_autocorrelation](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_lag1_autocorrelation_m](#) (data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_covariance](#) (data1, stride1, data2, stride2, n)
- real(fgsl_double) function [fgsl_stats_covariance_m](#) (data1, stride1, data2, stride2, n, mean1, mean2)
- real(fgsl_double) function [fgsl_stats_correlation](#) (data1, stride1, data2, stride2, n)
- real(fgsl_double) function [fgsl_stats_spearman](#) (data1, stride1, data2, stride2, n, work)
- real(fgsl_double) function [fgsl_stats_wmean](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wvariance](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wvariance_m](#) (w, wstride, data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_wsd](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wsd_m](#) (w, wstride, data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_wvariance_with_fixed_mean](#) (w, wstride, data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_wsd_with_fixed_mean](#) (w, wstride, data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_wabsdev](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wabsdev_m](#) (w, wstride, data, stride, n, mean)
- real(fgsl_double) function [fgsl_stats_wskew](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wskew_m_sd](#) (w, wstride, data, stride, n, mean, sd)
- real(fgsl_double) function [fgsl_stats_wkurtosis](#) (w, wstride, data, stride, n)
- real(fgsl_double) function [fgsl_stats_wkurtosis_m_sd](#) (w, wstride, data, stride, n, mean, sd)
- real(fgsl_double) function [fgsl_stats_max](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_min](#) (data, stride, n)
- subroutine [fgsl_stats_minmax](#) (min, max, data, stride, n)
- integer(fgsl_size_t) function [fgsl_stats_max_index](#) (data, stride, n)
- integer(fgsl_size_t) function [fgsl_stats_min_index](#) (data, stride, n)
- subroutine [fgsl_stats_minmax_index](#) (min_index, max_index, data, stride, n)
- real(fgsl_double) function [fgsl_stats_median_from_sorted_data](#) (data, stride, n)
- real(fgsl_double) function [fgsl_stats_quantile_from_sorted_data](#) (data, stride, n, f)

41.33.1 Function/Subroutine Documentation

- 41.33.1.1 real(fgsl_double) function [fgsl_stats_absdev](#) (real(fgsl_double), dimension(:), intent(in) *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*)
- 41.33.1.2 real(fgsl_double) function [fgsl_stats_absdev_m](#) (real(fgsl_double), dimension(:), intent(in) *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, real(fgsl_double), intent(in) *mean*)
- 41.33.1.3 real(fgsl_double) function [fgsl_stats_correlation](#) (real(fgsl_double), dimension(:), intent(in) *data1*, integer(fgsl_size_t), intent(in) *stride1*, real(fgsl_double), dimension(:), intent(in) *data2*, integer(fgsl_size_t), intent(in) *stride2*, integer(fgsl_size_t), intent(in) *n*)

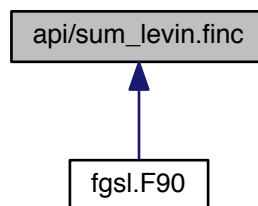
- 41.33.1.4 `real(fgsl_double)` function `fgsl_stats_covariance` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data1`, `integer(fgsl_size_t)`, `intent(in) stride1`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data2`, `integer(fgsl_size_t)`, `intent(in) stride2`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.5 `real(fgsl_double)` function `fgsl_stats_covariance_m` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data1`, `integer(fgsl_size_t)`, `intent(in) stride1`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data2`, `integer(fgsl_size_t)`, `intent(in) stride2`, `integer(fgsl_size_t)`, `intent(in) n`, `real(fgsl_double)`, `intent(in) mean1`, `real(fgsl_double)`, `intent(in) mean2`)
- 41.33.1.6 `real(fgsl_double)` function `fgsl_stats_kurtosis` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.7 `real(fgsl_double)` function `fgsl_stats_kurtosis_m_sd` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `real(fgsl_double)`, `intent(in) mean`, `real(fgsl_double)`, `intent(in) sd`)
- 41.33.1.8 `real(fgsl_double)` function `fgsl_stats_lag1_autocorrelation` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.9 `real(fgsl_double)` function `fgsl_stats_lag1_autocorrelation_m` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `real(fgsl_double)`, `intent(in) mean`)
- 41.33.1.10 `real(fgsl_double)` function `fgsl_stats_max` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.11 `integer(fgsl_size_t)` function `fgsl_stats_max_index` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.12 `real(fgsl_double)` function `fgsl_stats_mean` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.13 `real(fgsl_double)` function `fgsl_stats_median_from_sorted_data` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.14 `real(fgsl_double)` function `fgsl_stats_min` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.15 `integer(fgsl_size_t)` function `fgsl_stats_min_index` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.16 subroutine `fgsl_stats_minmax` (`real(fgsl_double)`, `intent(out) min`, `real(fgsl_double)`, `intent(out) max`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.17 subroutine `fgsl_stats_minmax_index` (`integer(fgsl_size_t)`, `intent(out) min_index`, `integer(fgsl_size_t)`, `intent(out) max_index`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.18 `real(fgsl_double)` function `fgsl_stats_quantile_from_sorted_data` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `real(fgsl_double)`, `intent(in) f`)
- 41.33.1.19 `real(fgsl_double)` function `fgsl_stats_sd` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.20 `real(fgsl_double)` function `fgsl_stats_sd_m` (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `real(fgsl_double)`, `intent(in) mean`)

- 41.33.1.21 `real(fgsl_double) function fgsl_stats_sd_with_fixed_mean (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.22 `real(fgsl_double) function fgsl_stats_skew (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.23 `real(fgsl_double) function fgsl_stats_skew_m_sd (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean, real(fgsl_double), intent(in) sd)`
- 41.33.1.24 `real(fgsl_double) function fgsl_stats_spearman (real(fgsl_double), dimension(:), intent(in) data1, integer(fgsl_size_t), intent(in) stride1, real(fgsl_double), dimension(:), intent(in) data2, integer(fgsl_size_t), intent(in) stride2, integer(fgsl_size_t), intent(in) n, real(fgsl_double), dimension(:), intent(inout) work)`
- 41.33.1.25 `real(fgsl_double) function fgsl_stats_variance (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.26 `real(fgsl_double) function fgsl_stats_variance_m (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.27 `real(fgsl_double) function fgsl_stats_variance_with_fixed_mean (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.28 `real(fgsl_double) function fgsl_stats_wabsdev (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.29 `real(fgsl_double) function fgsl_stats_wabsdev_m (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.30 `real(fgsl_double) function fgsl_stats_wkurtosis (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.31 `real(fgsl_double) function fgsl_stats_wkurtosis_m_sd (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean, real(fgsl_double), intent(in) sd)`
- 41.33.1.32 `real(fgsl_double) function fgsl_stats_wmean (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.33 `real(fgsl_double) function fgsl_stats_wsd (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.34 `real(fgsl_double) function fgsl_stats_wsd_m (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.35 `real(fgsl_double) function fgsl_stats_wsd_with_fixed_mean (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`

- 41.33.1.36 `real(fgsl_double) function fgsl_stats_wskew (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.37 `real(fgsl_double) function fgsl_stats_wskew_m_sd (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean, real(fgsl_double), intent(in) sd)`
- 41.33.1.38 `real(fgsl_double) function fgsl_stats_wvariance (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.39 `real(fgsl_double) function fgsl_stats_wvariance_m (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`
- 41.33.1.40 `real(fgsl_double) function fgsl_stats_wvariance_with_fixed_mean (real(fgsl_double), dimension(:), intent(in) w, integer(fgsl_size_t), intent(in) wstride, real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n, real(fgsl_double), intent(in) mean)`

41.34 api/sum_levin.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_sum_levin_u_workspace)`
function [fgsl_sum_levin_u_alloc](#) (n)
- `integer(fgsl_int)` function [fgsl_sum_levin_u_free](#) (w)
- `integer(fgsl_int)` function [fgsl_sum_levin_u_accel](#) (array, array_size, w, sum_accel, abserr)
- `type(fgsl_sum_levin_utrunc_workspace)`
function [fgsl_sum_levin_utrunc_alloc](#) (n)
- `integer(fgsl_int)` function [fgsl_sum_levin_utrunc_free](#) (w)
- `integer(fgsl_int)` function [fgsl_sum_levin_utrunc_accel](#) (array, array_size, w, sum_accel, abserr)

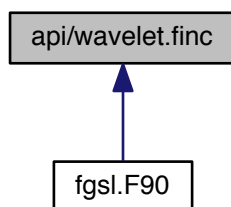
41.34.1 Function/Subroutine Documentation

- 41.34.1.1 `integer(fgsl_int) function fgsl_sum_levin_u_accel (real(fgsl_double), dimension(array_size), intent(in) array, integer(fgsl_size_t), intent(in) array_size, type(fgsl_sum_levin_u_workspace), intent(in) w, real(fgsl_double), intent(out) sum_accel, real(fgsl_double), intent(out) abserr)`

- 41.34.1.2 `type(fgsl_sum_levin_u_workspace)` function `fgsl_sum_levin_u_alloc` (`integer(fgsl_size_t)`, `intent(in) n`)
- 41.34.1.3 `integer(fgsl_int)` function `fgsl_sum_levin_u_free` (`type(fgsl_sum_levin_u_workspace)`, `intent(inout) w`)
- 41.34.1.4 `integer(fgsl_int)` function `fgsl_sum_levin_utrunc_accel` (`real(fgsl_double)`, `dimension(array_size)`, `intent(in) array`, `integer(fgsl_size_t)`, `intent(in) array_size`, `type(fgsl_sum_levin_utrunc_workspace)`, `intent(in) w`, `real(fgsl_double)`, `intent(out) sum_accel`, `real(fgsl_double)`, `intent(out) abserr`)
- 41.34.1.5 `type(fgsl_sum_levin_utrunc_workspace)` function `fgsl_sum_levin_utrunc_alloc` (`integer(fgsl_size_t)`, `intent(in) n`)
- 41.34.1.6 `integer(fgsl_int)` function `fgsl_sum_levin_utrunc_free` (`type(fgsl_sum_levin_utrunc_workspace)`, `intent(inout) w`)

41.35 api/wavelet.finc File Reference

This graph shows which files directly or indirectly include this file:



Functions/Subroutines

- `type(fgsl_wavelet)` function `fgsl_wavelet_alloc` (t, k)
- `character(kind=fgsl_char, len=fgsl_strmax)`
function `fgsl_wavelet_name` (wavelet)
- subroutine `fgsl_wavelet_free` (w)
- `type(fgsl_wavelet_workspace)`
function `fgsl_wavelet_workspace_alloc` (n)
- subroutine `fgsl_wavelet_workspace_free` (w)
- `integer(fgsl_int)` function `fgsl_wavelet_transform` (w, data, stride, n, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet_transform_forward` (w, data, stride, n, work)
- `integer(fgsl_int)` function `fgsl_wavelet_transform_inverse` (w, data, stride, n, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform` (w, data, tda, size1, size2, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_forward` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_inverse` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix` (w, m, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix_forward` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix_inverse` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform` (w, data, tda, size1, size2, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_forward` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_inverse` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix` (w, m, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_forward` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_inverse` (w, m, work)

- logical function [fgsl_wavelet_status](#) (wavelet)
- logical function [fgsl_wavelet_workspace_status](#) (wavelet_workspace)
- integer(fgsl_size_t) function [fgsl_sizeof_wavelet](#) (w)
- integer(fgsl_size_t) function [fgsl_sizeof_wavelet_workspace](#) (w)

41.35.1 Function/Subroutine Documentation

- 41.35.1.1 integer(fgsl_size_t) function [fgsl_sizeof_wavelet](#) (type(fgsl_wavelet), intent(in) w)
- 41.35.1.2 integer(fgsl_size_t) function [fgsl_sizeof_wavelet_workspace](#) (type(fgsl_wavelet_workspace), intent(in) w)
- 41.35.1.3 integer(fgsl_int) function [fgsl_wavelet2d_nstransform](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, integer(fgsl_int), intent(in) dir, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.4 integer(fgsl_int) function [fgsl_wavelet2d_nstransform_forward](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.5 integer(fgsl_int) function [fgsl_wavelet2d_nstransform_inverse](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.6 integer(fgsl_int) function [fgsl_wavelet2d_nstransform_matrix](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, integer(fgsl_int), intent(in) dir, type(fgsl_wavelet_workspace) work)
- 41.35.1.7 integer(fgsl_int) function [fgsl_wavelet2d_nstransform_matrix_forward](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, type(fgsl_wavelet_workspace) work)
- 41.35.1.8 integer(fgsl_int) function [fgsl_wavelet2d_nstransform_matrix_inverse](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, type(fgsl_wavelet_workspace) work)
- 41.35.1.9 integer(fgsl_int) function [fgsl_wavelet2d_transform](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, integer(fgsl_int), intent(in) dir, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.10 integer(fgsl_int) function [fgsl_wavelet2d_transform_forward](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.11 integer(fgsl_int) function [fgsl_wavelet2d_transform_inverse](#) (type(fgsl_wavelet), intent(in) w, real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) tda, integer(fgsl_size_t), intent(in) size1, integer(fgsl_size_t), intent(in) size2, type(fgsl_wavelet_workspace), intent(inout) work)
- 41.35.1.12 integer(fgsl_int) function [fgsl_wavelet2d_transform_matrix](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, integer(fgsl_int), intent(in) dir, type(fgsl_wavelet_workspace) work)
- 41.35.1.13 integer(fgsl_int) function [fgsl_wavelet2d_transform_matrix_forward](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, type(fgsl_wavelet_workspace) work)
- 41.35.1.14 integer(fgsl_int) function [fgsl_wavelet2d_transform_matrix_inverse](#) (type(fgsl_wavelet), intent(in) w, type(fgsl_matrix), intent(inout) m, type(fgsl_wavelet_workspace) work)
- 41.35.1.15 type(fgsl_wavelet) function [fgsl_wavelet_alloc](#) (type(fgsl_wavelet_type), intent(in) t, integer(fgsl_size_t), intent(in) k)

- 41.35.1.16 subroutine `fgsl_wavelet_free` (`type(fgsl_wavelet)`, `intent(inout) w`)
- 41.35.1.17 `character(kind=fgsl_char,len=fgsl_strmax)` function `fgsl_wavelet_name` (`type(fgsl_wavelet)`, `intent(in) wavelet`)
- 41.35.1.18 logical function `fgsl_wavelet_status` (`type(fgsl_wavelet)`, `intent(in) wavelet`)
- 41.35.1.19 `integer(fgsl_int)` function `fgsl_wavelet_transform` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `integer(fgsl_int)`, `intent(in) dir`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.20 `integer(fgsl_int)` function `fgsl_wavelet_transform_forward` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.21 `integer(fgsl_int)` function `fgsl_wavelet_transform_inverse` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.22 `type(fgsl_wavelet_workspace)` function `fgsl_wavelet_workspace_alloc` (`integer(fgsl_size_t)`, `intent(in) n`)
- 41.35.1.23 subroutine `fgsl_wavelet_workspace_free` (`type(fgsl_wavelet_workspace)`, `intent(inout) w`)
- 41.35.1.24 logical function `fgsl_wavelet_workspace_status` (`type(fgsl_wavelet_workspace)`, `intent(in) wavelet_workspace`)

41.36 fgsl.F90 File Reference

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#include "config.h"
#include "interface/error.finc"
#include "interface/misc.finc"
#include "interface/io.finc"
#include "interface/math.finc"
#include "interface/complex.finc"
#include "interface/poly.finc"
#include "interface/specfunc.finc"
#include "interface/array.finc"
#include "interface/interp.finc"
#include "interface/permutation.finc"
#include "interface/sort.finc"
#include "interface/linalg.finc"
#include "interface/eigen.finc"
#include "interface/fft.finc"
#include "interface/integration.finc"
#include "interface/rng.finc"
#include "interface/statistics.finc"
#include "interface/histogram.finc"
#include "interface/ntuple.finc"
#include "interface/montecarlo.finc"
#include "interface/siman.finc"
#include "interface/ode.finc"
#include "interface/deriv.finc"
#include "interface/chebyshev.finc"
#include "interface/sum_levin.finc"
#include "interface/wavelet.finc"
#include "interface/dht.finc"
#include "interface/roots.finc"
#include "interface/min.finc"
#include "interface/multiroots.finc"
#include "interface/multimin.finc"
#include "interface/fit.finc"
#include "interface/multifit.finc"
#include "interface/bspline.finc"
#include "interface/ieee.finc"
#include "interface/generics.finc"
#include "api/error.finc"
#include "api/misc.finc"
#include "api/io.finc"
#include "api/math.finc"
#include "api/complex.finc"
#include "api/poly.finc"
#include "api/specfunc.finc"
#include "api/array.finc"
#include "api/interp.finc"
#include "api/permutation.finc"
#include "api/sort.finc"
#include "api/linalg.finc"
#include "api/eigen.finc"
#include "api/fft.finc"
#include "api/integration.finc"
#include "api/rng.finc"
#include "api/statistics.finc"
#include "api/histogram.finc"
#include "api/ntuple.finc"
#include "api/montecarlo.finc"
#include "api/siman.finc"
#include "api/ode.finc"
#include "api/deriv.finc"
#include "api/chebyshev.finc"
#include "api/sum_levin.finc"
```

Include dependency graph for fgsl.F90:



Data Types

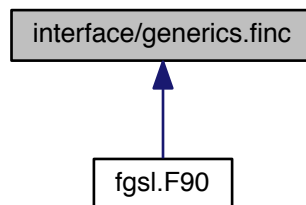
- module fgsl
- type fgsl::fgsl_error_handler_t
- type fgsl::fgsl_file
- type fgsl::fgsl_function
- type fgsl::fgsl_function_fdf
- type fgsl::gsl_complex
- type fgsl::fgsl_poly_complex_workspace
- type fgsl::fgsl_sf_result
- type fgsl::gsl_sf_result
- type fgsl::fgsl_sf_result_e10
- type fgsl::gsl_sf_result_e10
- type fgsl::fgsl_mode_t
- type fgsl::fgsl_vector
- type fgsl::fgsl_matrix
- type fgsl::fgsl_vector_complex
- type fgsl::fgsl_matrix_complex
- type fgsl::fgsl_interp_type
- type fgsl::fgsl_interp
- type fgsl::fgsl_interp_accel
- type fgsl::fgsl_spline
- type fgsl::fgsl_permutation
- type fgsl::fgsl_combination
- type fgsl::fgsl_multiset
- type fgsl::fgsl_multifit_robust_type
- type fgsl::fgsl_multifit_robust_workspace
- type fgsl::fgsl_multifit_robust_stats
- type fgsl::fgsl_eigen_symm_workspace
- type fgsl::fgsl_eigen_symmv_workspace
- type fgsl::fgsl_eigen_herm_workspace
- type fgsl::fgsl_eigen_hermv_workspace
- type fgsl::fgsl_eigen_nonsymm_workspace
- type fgsl::fgsl_eigen_nonsymmv_workspace
- type fgsl::fgsl_eigen_gensymm_workspace
- type fgsl::fgsl_eigen_gensymmv_workspace
- type fgsl::fgsl_eigen_genherm_workspace
- type fgsl::fgsl_eigen_genhermv_workspace
- type fgsl::fgsl_eigen_gen_workspace
- type fgsl::fgsl_eigen_genv_workspace
- type fgsl::fgsl_fft_complex_wavetable
- type fgsl::fgsl_fft_real_wavetable
- type fgsl::fgsl_fft_halfcomplex_wavetable
- type fgsl::fgsl_fft_complex_workspace
- type fgsl::fgsl_fft_real_workspace
- type fgsl::fgsl_integration_workspace
- type fgsl::fgsl_integration_qaws_table
- type fgsl::fgsl_integration_qawo_table
- type fgsl::fgsl_integration_cquad_workspace
- type fgsl::fgsl_integration_glfixed_table

- type `fgsl::fgsl_rng`
- type `fgsl::fgsl_rng_type`
- type `fgsl::fgsl_qrng`
- type `fgsl::fgsl_qrng_type`
- type `fgsl::fgsl_ran_discrete_t`
- type `fgsl::fgsl_histogram`
- type `fgsl::fgsl_histogram_pdf`
- type `fgsl::fgsl_histogram2d`
- type `fgsl::fgsl_histogram2d_pdf`
- type `fgsl::fgsl_ntuple`
- type `fgsl::fgsl_ntuple_select_fn`
- type `fgsl::fgsl_ntuple_value_fn`
- type `fgsl::fgsl_monte_function`
- type `fgsl::fgsl_monte_plain_state`
- type `fgsl::fgsl_monte_miser_state`
- type `fgsl::fgsl_monte_vegas_state`
- type `fgsl::fgsl_siman_params_t`
- type `fgsl::fgsl_odeiv2_system`
- type `fgsl::fgsl_odeiv2_step_type`
- type `fgsl::fgsl_odeiv2_step`
- type `fgsl::fgsl_odeiv2_driver`
- type `fgsl::fgsl_odeiv2_control_type`
- type `fgsl::fgsl_odeiv2_control`
- type `fgsl::fgsl_odeiv2_evolve`
- type `fgsl::fgsl_odeiv_system`
- type `fgsl::fgsl_odeiv_step_type`
- type `fgsl::fgsl_odeiv_step`
- type `fgsl::fgsl_odeiv_control`
- type `fgsl::fgsl_odeiv_control_type`
- type `fgsl::fgsl_odeiv_evolve`
- type `fgsl::fgsl_cheb_series`
- type `fgsl::fgsl_sum_levin_u_workspace`
- type `fgsl::fgsl_sum_levin_ustrunc_workspace`
- type `fgsl::fgsl_wavelet`
- type `fgsl::fgsl_wavelet_type`
- type `fgsl::fgsl_wavelet_workspace`
- type `fgsl::fgsl_dht`
- type `fgsl::fgsl_root_fsolver_type`
- type `fgsl::fgsl_root_fdsolver_type`
- type `fgsl::fgsl_root_fsolver`
- type `fgsl::fgsl_root_fdsolver`
- type `fgsl::fgsl_min_fminimizer_type`
- type `fgsl::fgsl_min_fminimizer`
- type `fgsl::fgsl_multiroot_function`
- type `fgsl::fgsl_multiroot_function_fdf`
- type `fgsl::fgsl_multiroot_fsolver`
- type `fgsl::fgsl_multiroot_fsolver_type`
- type `fgsl::fgsl_multiroot_fdsolver`
- type `fgsl::fgsl_multiroot_fdsolver_type`
- type `fgsl::fgsl_multimin_function`
- type `fgsl::fgsl_multimin_function_fdf`
- type `fgsl::fgsl_multimin_fminimizer`
- type `fgsl::fgsl_multimin_fminimizer_type`
- type `fgsl::fgsl_multimin_fdfminimizer`
- type `fgsl::fgsl_multimin_fdfminimizer_type`

- type [fgsl::fgsl_multifit_linear_workspace](#)
- type [fgsl::fgsl_multifit_function](#)
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- type [fgsl::fgsl_multifit_fsolver](#)
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- type [fgsl::fgsl_multifit_fdsolver](#)
- type [fgsl::fgsl_multifit_fdsolver_type](#)
- type [fgsl::fgsl_bspline_workspace](#)
- type [fgsl::fgsl_bspline_deriv_workspace](#)

41.37 interface/generics.finc File Reference

This graph shows which files directly or indirectly include this file:



Data Types

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- interface [fgsl_sizeof](#)
- interface [fgsl_obj_c_ptr](#)
- interface [assignment\(=\)](#)
- interface [fgsl_vector_init](#)
- interface [fgsl_vector_free](#)
- interface [fgsl_matrix_init](#)
- interface [fgsl_matrix_free](#)
- interface [fgsl_vector_align](#)
- interface [fgsl_matrix_align](#)
- interface [fgsl_permute](#)
- interface [fgsl_permute_inverse](#)
- interface [fgsl_sort](#)
- interface [fgsl_sort_index](#)
- interface [fgsl_sort_smallest](#)
- interface [fgsl_sort_smallest_index](#)
- interface [fgsl_sort_largest](#)
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