

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 `f gsl_vector*` or `f gsl_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](#) 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_E-RROR_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](#) for the API documentation.

Chapter 12

Comments on fitting of functions

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

Chapter 29

Comments on polynomials

Please go to [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](#) 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>

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

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

Chapter 35

Comments on statistical functions

Please go to [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()`

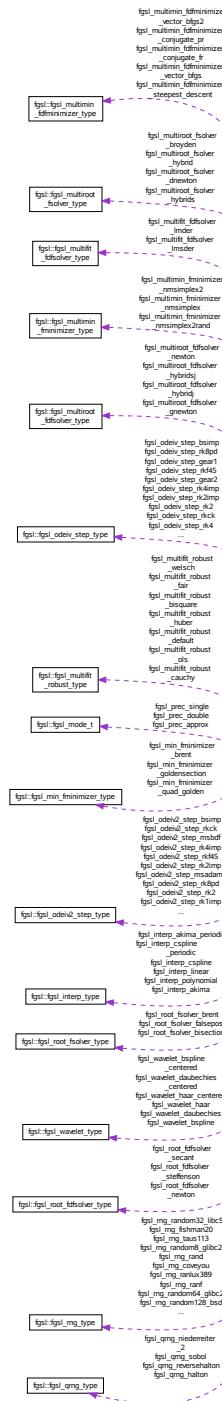
40.1.1.8 `assignment(=)::gsl_sfe10_to_fgsl_sfe10()`

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`
- type `fgsl_multifit_fsolver_type`
- 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`
- type `fgsl_odeiv_evolve`
- 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`
- type `fgsl_ran_discrete_t`
- type `fgsl_rng`
- type `fgsl_rng_type`
- type `fgsl_root_fdfsolver`
- type `fgsl_root_fdfsolver_type`
- type `fgsl_root_fsolver`
- type `fgsl_root_fsolver_type`
- type `fgsl_sf_result`
- type `fgsl_sf_result_e10`
- type `fgsl_siman_params_t`
- type `fgsl_spline`
- type `fgsl_sum_levin_u_workspace`
- type `fgsl_sum_levin_utrunc_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_eruleaway` = 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_enoprog](#) = 27
- integer([fgsl_int](#)), parameter,
public [fgsl_enoprogj](#) = 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_inpi](#) = 1.14472988584940017414342735135_fgsl_extended
- real([fgsl_extended](#)), parameter,
public [m_euler](#) = 0.57721566490153286060651209008_fgsl_extended
- real([fgsl_double](#)), parameter,
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,
public [fgsl_const_num_femto](#) = 1e-15_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_num_atto](#) = 1e-18_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_num_zepto](#) = 1e-21_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_num_yocto](#) = 1e-24_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_speed_of_light](#) = 2.99792458e8_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_gravitational_constant](#) = 6.673e-11_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_plancks_constant_h](#) = 6.62606896e-34_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_plancks_constant_hbar](#) = 1.05457162825e-34_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_astronomical_unit](#) = 1.49597870691e11_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_light_year](#) = 9.46053620707e15_fgsl_double
- real([fgsl_double](#)), parameter,
public [fgsl_const_mksa_parsec](#) = 3.08567758135e16_fgsl_double

- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_grav_accel` = 9.80665e0_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_electron_volt` = 1.602176487e-19_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_mass_electron` = 9.10938188e-31_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_mass_muon` = 1.88353109e-28_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_mass_proton` = 1.67262158e-27_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_mass_neutron` = 1.67492716e-27_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_rydberg` = 2.17987196968e-18_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_boltzmann` = 1.3806504e-23_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_bohr_magneton` = 9.27400899e-24_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_nuclear_magneton` = 5.05078317e-27_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_electron_magnetic_moment` = 9.28476362e-24_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_proton_magnetic_moment` = 1.410606633e-26_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_molar_gas` = 8.314472e0_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_standard_gas_volume` = 2.2710981e-2_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_minute` = 6e1_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_hour` = 3.6e3_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_day` = 8.64e4_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_week` = 6.048e5_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_inch` = 2.54e-2_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_foot` = 3.048e-1_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_yard` = 9.144e-1_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_mile` = 1.609344e3_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_nautical_mile` = 1.852e3_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_fathom` = 1.8288e0_`fgsl_double`
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public `fgsl_const_mksa_mil` = 2.54e-5_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_point` = 3.5277777778e-4_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_texpoint` = 3.51459803515e-4_`fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_micron` = 1e-6_`fgsl_double`

- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_angstrom` = 1e-10_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_hectare` = 1e4_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_acre` = 4.04685642241e3_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_barn` = 1e-28_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_liter` = 1e-3_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_us_gallon` = 3.78541178402e-3_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_quart` = 9.46352946004e-4_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_pint` = 4.73176473002e-4_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_cup` = 2.36588236501e-4_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_fluid_ounce` = 2.95735295626e-5_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_tablespoon` = 1.47867647813e-5_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_teaspoon` = 4.92892159375e-6_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_canadian_gallon` = 4.54609e-3_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_uk_gallon` = 4.546092e-3_fgsl_double
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public `fgsl_const_mksa_miles_per_hour` = 4.4704e-1_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_kilometers_per_hour` = 2.77777777778e-1_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_knot` = 5.1444444444e-1_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_pound_mass` = 4.5359237e-1_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_ounce_mass` = 2.8349523125e-2_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_ton` = 9.0718474e2_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_metric_ton` = 1e3_fgsl_double
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public `fgsl_const_mksa_uk_ton` = 1.0160469088e3_fgsl_double
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public `fgsl_const_mksa_troy_ounce` = 3.1103475e-2_fgsl_double
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public `fgsl_const_mksa_carat` = 2e-4_fgsl_double
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public `fgsl_const_mksa_unified_atomic_mass` = 1.660538782e-27_fgsl_double
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public `fgsl_const_mksa_gram_force` = 9.80665e-3_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_pound_force` = 4.44822161526e0_fgsl_double
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_kilopound_force` = 4.44822161526e3_fgsl_double

- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_poundal` = 1.38255e-1`_fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_calorie` = 4.1868e0`_fgsl_double`
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public `fgsl_const_mksa_btu` = 1.05505585262e3`_fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_therm` = 1.05506e8`_fgsl_double`
- real(`fgsl_double`), parameter,
public `fgsl_const_mksa_horsepower` = 7.457e2`_fgsl_double`
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public `fgsl_const_mksa_bar` = 1e5`_fgsl_double`
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public `fgsl_const_mksa_std_atmosphere` = 1.01325e5`_fgsl_double`
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public `fgsl_const_mksa_torr` = 1.33322368421e2`_fgsl_double`
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public `fgsl_const_mksa_inch_of_water` = 2.490889e2`_fgsl_double`
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public `fgsl_const_mksa_electron_charge` = 1.602176487e-19`_fgsl_double`
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public `fgsl_const_mksa_debye` = 3.33564095198e-30_fgsl_double
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public `fgsl_const_cgsm_mass_neutron` = 1.67492716e-24_fgsl_double
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public `fgsl_const_cgsm_boltzmann` = 1.3806504e-16_fgsl_double
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public `fgsl_const_cgsm_nautical_mile` = 1.852e5`_fgsl_double`
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public `fgsl_const_cgsm_barn` = 1e-24`_fgsl_double`
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public `fgsl_const_cgsm_pint` = 4.73176473002e2`_fgsl_double`
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public `fgsl_const_cgsm_cup` = 2.36588236501e2`_fgsl_double`
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public `fgsl_const_cgsm_fluid_ounce` = 2.95735295626e1`_fgsl_double`
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public `fgsl_const_cgsm_tablespoon` = 1.47867647813e1`_fgsl_double`

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public `fgsl_const_cgsm_uk_gallon` = 4.546092e3_fgsl_double
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public `fgsl_const_cgsm_pound_force` = 4.44822161526e5_fgsl_double
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public `fgsl_const_cgsm_kilopound_force` = 4.44822161526e8_fgsl_double
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public `fgsl_const_cgsm_std_atmosphere` = 1.01325e6_fgsl_double
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public `fgsl_const_cgsm_inch_of_water` = 2.490889e3_fgsl_double

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public `fgsl_const_cgsm_psi` = 6.89475729317e4_fgsl_double
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public `fgsl_const_cgsm_stokes` = 1e0_fgsl_double
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public `fgsl_const_cgsm_electron_charge` = 1.602176487e-20_fgsl_double
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public `fgsl_const_cgsm_stilb` = 1e0_fgsl_double
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public `fgsl_const_cgsm_lumen` = 1e0_fgsl_double
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public `fgsl_const_cgsm_phot` = 1e0_fgsl_double
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public `fgsl_const_cgsm_footcandle` = 1.076e-3_fgsl_double
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public `fgsl_const_cgsm_footlambert` = 1.07639104e-3_fgsl_double
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public `fgsl_const_cgsm_thomson_cross_section` = 6.65245893699e-25_fgsl_double
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- type(`fgsl_mode_t`), parameter,
public `fgsl_prec_single` = `fgsl_mode_t(1)`
- type(`fgsl_mode_t`), parameter,
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- 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](#)),
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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)
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- 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,
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- 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
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public [fgsl_integ_gauss51](#) = 5
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public [fgsl_integ_gauss61](#) = 6
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- 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)

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- 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='gsl_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_hybridsj` = `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_lmdes](#) = [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

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- 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 = 5.1444444444e1_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 = 3.5277777778e-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

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- 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_teaspoon` = `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_mksa_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 = 2.77777777778e-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 = 5.1444444444e-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_mksa_molar_gas = 8.314472e0_fgsl_double
40.2.1.159 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_nautical_mile = 1.852e3_fgsl_double
40.2.1.160 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_newton = 1e0_fgsl_double
40.2.1.161 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_nuclear_magneton = 5.05078317e-27_fgsl_double
40.2.1.162 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_ounce_mass = 2.8349523125e-2_fgsl_double
40.2.1.163 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_parsec = 3.08567758135e16_fgsl_double
40.2.1.164 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_phot = 1e4_fgsl_double
40.2.1.165 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_pint = 4.73176473002e-4_fgsl_double
40.2.1.166 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_plancks_constant_h = 6.62606896e-34_fgsl_double
40.2.1.167 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_plancks_constant_hbar = 1.05457162825e-34_fgsl_double
40.2.1.168 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_point = 3.52777777778e-4_fgsl_double
40.2.1.169 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_poise = 1e-1_fgsl_double
40.2.1.170 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_pound_force = 4.44822161526e0_fgsl_double
40.2.1.171 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_pound_mass = 4.5359237e-1_fgsl_double
40.2.1.172 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_poundal = 1.38255e-1_fgsl_double
40.2.1.173 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_proton_magnetic_moment = 1.410606633e-26_fgsl_double
40.2.1.174 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_psi = 6.89475729317e3_fgsl_double
40.2.1.175 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_quart = 9.46352946004e-4_fgsl_double
40.2.1.176 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_rad = 1e-2_fgsl_double
40.2.1.177 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_roentgen = 2.58e-4_fgsl_double
40.2.1.178 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_rydberg = 2.17987196968e-18_fgsl_double
40.2.1.179 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_solar_mass = 1.98892e30_fgsl_double
40.2.1.180 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_speed_of_light = 2.99792458e8_fgsl_double
40.2.1.181 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_standard_gas_volume = 2.2710981e-2_fgsl_double
40.2.1.182 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_std_atmosphere = 1.01325e5_fgsl_double
40.2.1.183 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_stefan_boltzmann_constant = 5.67040047374e-8_fgsl_double
40.2.1.184 real(fgsl_double), parameter, public fgsl::fgsl_const_mksa_stilb = 1e4_fgsl_double

- 40.2.1.185 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_stokes = 1e-4_fgsl_double`
- 40.2.1.186 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_tablespoon = 1.47867647813e-5_fgsl_double`
- 40.2.1.187 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_teaspoon = 4.92892159375e-6_fgsl_double`
- 40.2.1.188 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_TEXPOINT = 3.51459803515e-4_fgsl_double`
- 40.2.1.189 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_therm = 1.05506e8_fgsl_double`
- 40.2.1.190 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_thomson_cross_section = 6.65245893699e-29_fgsl_double`
- 40.2.1.191 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_ton = 9.0718474e2_fgsl_double`
- 40.2.1.192 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_torr = 1.33322368421e2_fgsl_double`
- 40.2.1.193 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_troy_ounce = 3.1103475e-2_fgsl_double`
- 40.2.1.194 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_uk_gallon = 4.546092e-3_fgsl_double`
- 40.2.1.195 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_uk_ton = 1.0160469088e3_fgsl_double`
- 40.2.1.196 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_unified_atomic_mass = 1.660538782e-27_fgsl_double`
- 40.2.1.197 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_us_gallon = 3.78541178402e-3_fgsl_double`
- 40.2.1.198 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_vacuum_permeability = 1.25663706144e-6_fgsl_double`
- 40.2.1.199 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_vacuum_permittivity = 8.854187817e-12_fgsl_double`
- 40.2.1.200 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_week = 6.048e5_fgsl_double`
- 40.2.1.201 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksa_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_num_zepto = 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_enoprog = 27
40.2.1.240 integer(fgsl_int), parameter, public fgsl::fgsl_enoprogj = 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_eruleaway = 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_cpline = fgsl_interp_type(3)
- 40.2.1.274 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_cpline_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_fdfsolver_type), parameter, public fgsl::fgsl_multifit_fdfsolver_lmder = fgsl_multifit_fdfsolver_type(1)
- 40.2.1.282 type(fgsl_multifit_fdfsolver_type), parameter, public fgsl::fgsl_multifit_fdfsolver_lmsder = fgsl_multifit_fdfsolver_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_hybrids = 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)`

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- 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) gsl_bspline_workspace`

40.4.1 Member Data Documentation

40.4.1.1 `type(c_ptr) fgsl::fgsl_bspline_workspace::gsl_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) gsl_cheb_series = c_null_ptr`

40.5.1 Member Data Documentation

40.5.1.1 `type(c_ptr) fgsl::fgsl_cheb_series::gsl_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) gsl_combination = c_null_ptr`

40.6.1 Member Data Documentation

40.6.1.1 `type(c_ptr) fgsl::fgsl_combination::gsl_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) gsl_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) gsl_eigen_gensymm_workspace = c_null_ptr`

40.11.1 Member Data Documentation

40.11.1.1 `type(c_ptr) fgsl::fgsl_eigen_gensymm_workspace::gsl_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) gsl_eigen_gensymmv_workspace = c_null_ptr`

40.12.1 Member Data Documentation

40.12.1.1 `type(c_ptr) fgsl::fgsl_eigen_gensymmv_workspace::gsl_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) gsl_eigen_genv_workspace = c_null_ptr`

40.13.1 Member Data Documentation

40.13.1.1 `type(c_ptr) fgsl::fgsl_eigen_genv_workspace::gsl_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) gsl_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) `gsl_eigen_symm_workspace` = c_null_ptr

40.18.1 Member Data Documentation

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

40.19.1 Member Data Documentation

40.19.1.1 type(c_ptr) `fgsl::fgsl_eigen_symmv_workspace::gsl_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) `gsl_error_handler_t` = c_null_funptr

40.20.1 Member Data Documentation

40.20.1.1 type(c_funptr) `fgsl::fgsl_error_handler_t::gsl_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) `gsl_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) gsl_fft_real_workspace = c_null_ptr`

40.25.1 Member Data Documentation

40.25.1.1 `type(c_ptr) fgsl::fgsl_fft_real_workspace::gsl_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) gsl_file = c_null_ptr`

40.26.1 Member Data Documentation

40.26.1.1 `type(c_ptr) fgsl::fgsl_file::gsl_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) gsl_function = c_null_ptr`

40.27.1 Member Data Documentation

40.27.1.1 `type(c_ptr) fgsl::fgsl_function::gsl_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) gsl_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) gsl_histogram_pdf = c_null_ptr`

40.32.1 Member Data Documentation

40.32.1.1 `type(c_ptr) fgsl::fgsl_histogram_pdf::gsl_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) gsl_integration_cquad_workspace = c_null_ptr`

40.35.1 Member Data Documentation

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

40.36.1 Member Data Documentation

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

40.37.1 Member Data Documentation

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

40.45.1 Member Data Documentation

40.45.1.1 `type(c_ptr) fgsl::fgsl_matrix_complex::gsl_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) gsl_min_fminimizer = c_null_ptr`

40.48.1 Member Data Documentation

40.48.1.1 `type(c_ptr) fgsl::fgsl_min_fminimizer::gsl_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) gsl_mode = 0`

40.50.1 Member Data Documentation

40.50.1.1 `integer(c_int) fgsl::fgsl_mode_t::gsl_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) gsl_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) gsl_multifit_fdfsolver = c_null_ptr`

40.55.1 Member Data Documentation

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

40.57.1 Member Data Documentation

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

40.59.1 Member Data Documentation

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

40.60.1 Member Data Documentation

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

40.61.1 Member Data Documentation

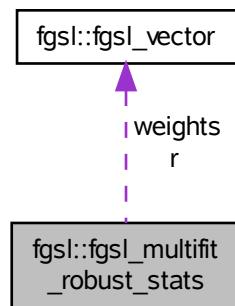
40.61.1.1 `type(c_ptr) fgsl::fgsl_multifit_linear_workspace::gsl_multifit_linear_workspace = c_null_ptr`

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) gsl_multimin_function = c_null_ptr`

40.69.1 Member Data Documentation

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

40.70.1 Member Data Documentation

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

40.71.1 Member Data Documentation

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

40.73.1 Member Data Documentation

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

40.75.1 Member Data Documentation

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

40.76.1 Member Data Documentation

40.76.1.1 `type(c_ptr) fgsl::fgsl_multiroot_function_fdf::gsl_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) gsl_multiset = c_null_ptr`

40.77.1 Member Data Documentation

40.77.1.1 `type(c_ptr) fgsl::fgsl_multiset::gsl_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) gsl_ntuple = c_null_ptr`

40.78.1 Member Data Documentation

40.78.1.1 `type(c_ptr) fgsl::fgsl_ntuple::gsl_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) gsl_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) gsl_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) gsl_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) gsl_odeiv2_step = c_null_ptr`

40.86.1 Member Data Documentation

40.86.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_step::gsl_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) gsl_odeiv2_system = c_null_ptr`

40.88.1 Member Data Documentation

40.88.1.1 `type(c_ptr) fgsl::fgsl_odeiv2_system::gsl_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) gsl_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`

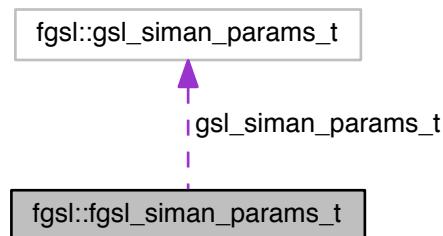
40.110.1.3 `real(fgsl_double) fgsl::fgsl_sf_result_e10::val`

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\(c_ptr\) gsl_vector_complex = c_null_ptr](#)

40.124.1 Member Data Documentation

40.124.1.1 [type\(c_ptr\) fgsl::fgsl_vector_complex::gsl_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) gsl_wavelet_workspace`

40.129.1 Member Data Documentation

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

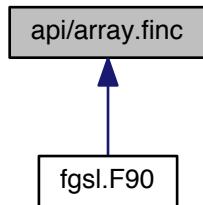
- [fgsl.F90](#)

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(fgsl_vector) function [fgsl_vector_init](#) (type)

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

- integer(fgsl_int) function [fgsl_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 [fgsl_vector_align](#).

- integer(fgsl_int) function [fgsl_vector_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_pointer_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 [fgsl_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 [fgsl_vector_free](#) (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](#).

- subroutine [fgsl_vector_c_ptr](#) (res, src)

- logical function [fgsl_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) fmat)

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>fmat</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) fmat)

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

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) *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.

Parameters

<i>ptr</i>	- rank 2 Fortran pointer
<i>fmat</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

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

<code>ptr</code>	- rank 2 Fortran pointer
<code>fmat</code>	- 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

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

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

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

Returns

Status

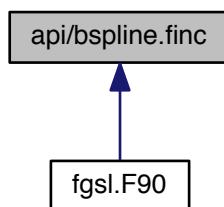
41.1.1.36 `logical function fgsl_vector_status (type(fgsl_vector), intent(in) vector)`

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*)

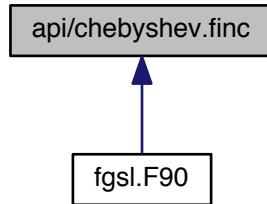
- integer(fgsl_int) function [fgsl_bspline_eval_nonzero](#) (x, bk, istart, iend, w)
- integer(fgsl_int) function [fgsl_bspline_deriv_eval](#) (x, nderiv, db, w, dw)
- integer(fgsl_int) function [fgsl_bspline_deriv_eval_nonzero](#) (x, nderiv, db, istart, iend, w, dw)
- integer(fgsl_size_t) function [fgsl_bspline_ncoeffs](#) (w)
- real(fgsl_double) function [fgsl_bspline_greville_abscissa](#) (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_abscissa](#) (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_coeff](#) (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_coeff](#) (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)

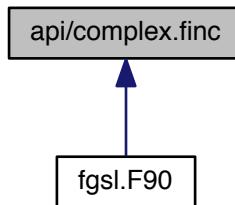
41.3.1.11 integer(fgsl_size_t) function fgsl_cheb_order (type(fgsl_cheb_series), intent(in) cs)

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)

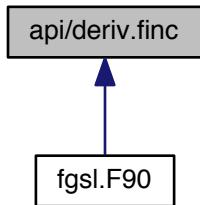
41.4.1 Function/Subroutine Documentation

- 41.4.1.1 elemental subroutine [complex_to_fgsl_complex](#) (type(gsl_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)`

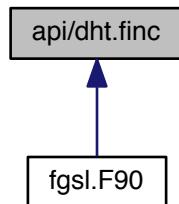
41.5.1 Function/Subroutine Documentation

- 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)

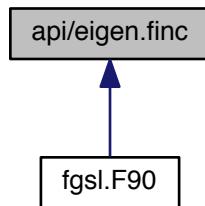
41.6.1.6 type(fgsl_dht) function [fgsl_dht_new](#) (integer(fgsl_size_t), intent(in) size, real(fgsl_double), intent(in) nu, real(fgsl_double), intent(in) xmax)

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*, *evec*, *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*, *evec*, *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*, *evec*, *w*)
 - integer(fgsl_int) function `fgsl_eigen_genv_qz` (*a*, *b*, *alpha*, *beta*, *evec*, *q*, *z*, *w*)
 - integer(fgsl_int) function `fgsl_eigen_symmv_sort` (*eval*, *evec*, *sort_type*)
 - integer(fgsl_int) function `fgsl_eigen_hermv_sort` (*eval*, *evec*, *sort_type*)
 - integer(fgsl_int) function `fgsl_eigen_nonsymmv_sort` (*eval*, *evec*, *sort_type*)
 - integer(fgsl_int) function `fgsl_eigen_gensymmv_sort` (*eval*, *evec*, *sort_type*)
 - integer(fgsl_int) function `fgsl_eigen_genhermv_sort` (*eval*, *evec*, *sort_type*)
 - integer(fgsl_int) function `fgsl_eigen_genv_sort` (*alpha*, *beta*, *evec*, *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*)

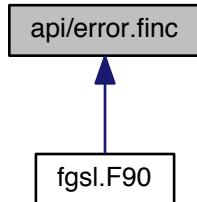
41.7.1.9 integer(fgsl_int) function `fgsl_eigen_genhermv` (type(fgsl_matrix_complex), intent(inout) *a*, type(fgsl_matrix_complex), intent(inout) *b*, type(fgsl_vector), intent(inout) *eval*, type(fgsl_matrix_complex), intent(inout) *evec*, type(fgsl_eigen_genhermv_workspace) *w*)

- 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*)

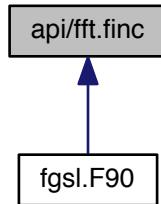
41.8.1.4 type(fgsl_error_handler_t) function [fgsl_set_error_handler](#) (type(fgsl_error_handler_t), intent(in) *new_handler*)

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)

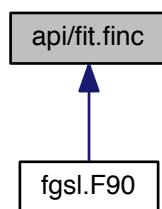
41.9.1 Function/Subroutine Documentation

- 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)

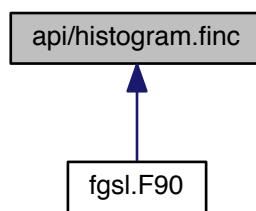
41.10.1 Function/Subroutine Documentation

- 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) yuppper)`
- 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)`

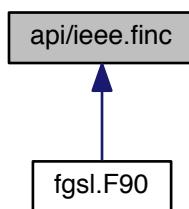
- 41.11.1.29 integer(fgsl_int) function fgsl_histogram2d_pdf_sample (type(fgsl_histogram2d_pdf), intent(in) *p*, real(fgsl_double), intent(in) *r1*, real(fgsl_double), intent(in) *r2*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*)
- 41.11.1.30 subroutine fgsl_histogram2d_reset (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*)

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- 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`)

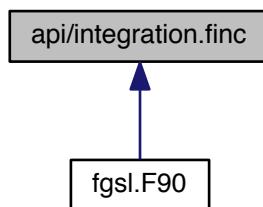
41.12.1.3 subroutine `fgsl_ieee_fprintf_float` (type(`fgsl_file`), intent(in) `stream`, real(`fgsl_float`) `x`)

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_qagliu` (`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

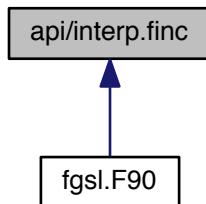
- 41.13.1.1 integer(`fgsl_int`) function `fgsl_integration_cquad` (`type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel, type(fgsl_integration_cquad_workspace), intent(inout) workspace, 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_qagliu (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)

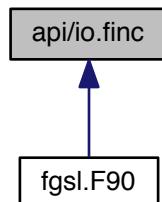
41.14.1.8 real(fgsl_double) function [fgsl_interp_eval_deriv](#) (type(fgsl_interp), intent(in) interp, real(fgsl_double), dimension(:, intent(in) xa, real(fgsl_double), dimension(:, intent(in) ya, real(fgsl_double), intent(in) x, type(fgsl_interp_accel), intent(inout) acc)

- 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 ()**

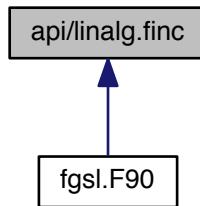
fgsl_stdin produces a fgsl_file object corresponding to C standard input

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_lssolve`](#) (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_rsolve`](#) (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_hermtd_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_hermtd_unpack](#) (a, tau, q, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hermtd_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)`

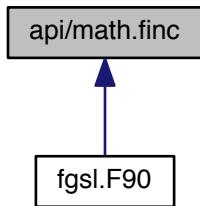
- 41.16.1.38 `integer(fgsl_int) function fgsl_linalg_householder_mh (real(fgsl_double), intent(in) tau, type(fgsl_vector), intent(in) v, type(fgsl_matrix), intent(inout) a)`
- 41.16.1.39 `real(fgsl_double) function fgsl_linalg_householder_transform (type(fgsl_vector), intent(inout) v)`
- 41.16.1.40 `integer(fgsl_int) 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_lsolve (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(gsdl_double) function fgsl_fn_fdf_eval_f ( type(gsdl_function_fdf), intent(inout) sfunc, real(gsdl_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_frexp** (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)`

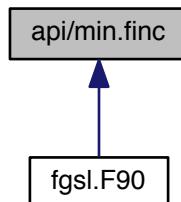
41.17.1.18 `integer(fgsl_int) function fgsl_isnan (real(fgsl_double), intent(in) x)`

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

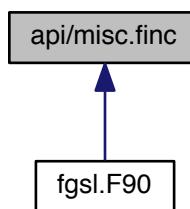
- type(`fgsl_min_fminimizer`) function `fgsl_min_fminimizer_alloc (t)`
- subroutine `fgsl_min_fminimizer_free (s)`
- integer(`fgsl_int`) function `fgsl_min_fminimizer_set (s, f, x_minimum, x_lower, x_upper)`
- integer(`fgsl_int`) function `fgsl_min_fminimizer_set_with_values (s, f, x_minimum, f_minimum, 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)

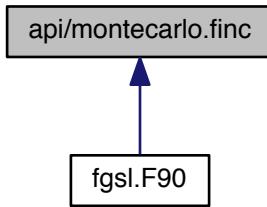
size of intrinsic long integer type

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`)

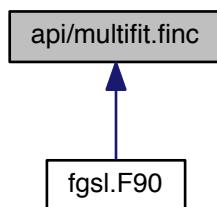
41.20.1.23 subroutine `fgsl_monte_vegas_setopt` (`type(fgsl_monte_vegas_state)`, intent(inout) `s`, `real(fgsl_double)`, intent(in) `result`, `real(fgsl_double)`, intent(in) `sigma`, `real(fgsl_double)`, intent(in) `chisq`, `real(fgsl_double)`, intent(in) `alpha`, integer(`fgsl_size_t`), intent(in) `iterations`, 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_fsolver`)
 - function [`fgsl_multifit_fsolver_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*)

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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 )

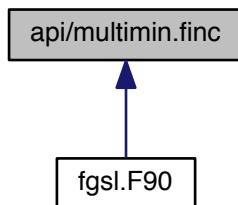
41.21.1.35 integer(fgsl_int) function fgsl_multifit_test_delta ( type(fgsl_vector), intent(in) dx, type(fgsl_vector), intent(in) x,
real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel )

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)

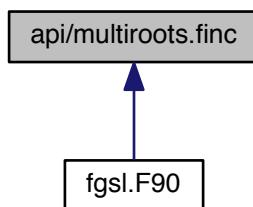
41.22.1 Function/Subroutine Documentation

- 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)

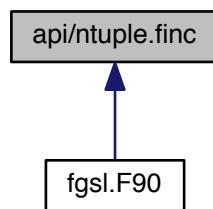
41.23.1 Function/Subroutine Documentation

- 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`)

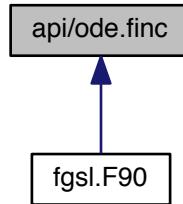
- integer(fgsl_int) function `fgsl_ntuple_close` (*ntuple*)
- type(fgsl_ntuple_select_fn)
function `fgsl_ntuple_select_fn_init` (*func, params*)
- type(fgsl_ntuple_value_fn) function `fgsl_ntuple_value_fn_init` (*func, params*)
- subroutine `fgsl_ntuple_select_fn_free` (*sfunc*)
- subroutine `fgsl_ntuple_value_fn_free` (*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 func

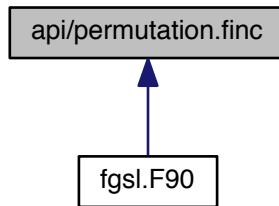
Returns

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)

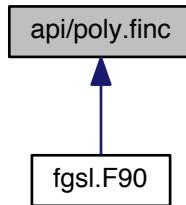
- 41.26.1.5 integer(fgsl_int) function fgsl_combination_fread (type(fgsl_file), intent(in) *stream*, type(fgsl_combination), intent(inout) *c*)
- 41.26.1.6 subroutine fgsl_combination_free (type(fgsl_combination), intent(inout) *c*)
- 41.26.1.7 integer(fgsl_int) function fgsl_combination_fscanf (type(fgsl_file), 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)`

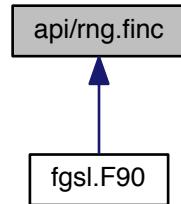
41.27.1.2 `complex(fgsl_double_complex) function fgsl_poly_complex_eval (real(fgsl_double), dimension(:), intent(in) c, integer(fgsl_int), intent(in) len, complex(fgsl_double_complex), intent(in) z)`

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_ugaussian](#) (r)
- real(fgsl_double) function [fgsl_ran_ugaussian_pdf](#) (x)
- real(fgsl_double) function [fgsl_ran_ugaussian_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_pinv](#) (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_pinv](#) (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`)

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- 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) $sigma$)

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- 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) σ_x , real(fgsl_double), intent(in) σ_y , real(fgsl_double), intent(in) ρ , 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) σ_x , real(fgsl_double), intent(in) σ_y , real(fgsl_double), intent(in) ρ)
- 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) σ)
- 41.28.1.132 real(fgsl_double) function fgsl_ran_gaussian_pdf (real(fgsl_double), intent(in) x , real(fgsl_double), intent(in) σ)
- 41.28.1.133 real(fgsl_double) function fgsl_ran_gaussian_ratio_method (type(fgsl_rng), intent(in) r , real(fgsl_double), intent(in) σ)
- 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) σ)
- 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) σ)
- 41.28.1.136 real(fgsl_double) function fgsl_ran_gaussian_ziggurat (type(fgsl_rng), intent(in) r , real(fgsl_double), intent(in) σ)
- 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) n_1 , integer(fgsl_int), intent(in) n_2 , 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) n_1 , integer(fgsl_int), intent(in) n_2 , 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*)

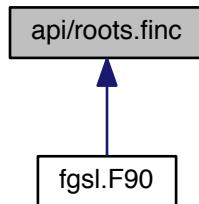
41.28.1.190 subroutine fgsl_rng_free (type(fgsl_rng), intent(inout) *r*)

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*)

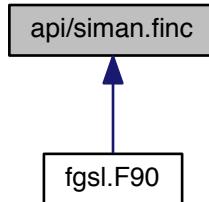
- real(fgsl_double) function [fgsl_root_fsolver_x_lower](#) (s)
- real(fgsl_double) function [fgsl_root_fsolver_x_upper](#) (s)
- integer(fgsl_int) function [fgsl_root_test_interval](#) (x_lower, x_upper, epsabs, epsrel)
- integer(fgsl_int) function [fgsl_root_test_delta](#) (x1, x0, epsabs, epsrel)
- 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*)

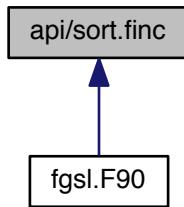
41.30.1.2 subroutine [fgsl_siman_params_init](#) (type(fgsl_siman_params_t), intent(inout) *params*, integer(fgsl_int) *n_tries*, integer(fgsl_int) *iters_fixed_t*, real(fgsl_double) *step_size*, real(fgsl_double) *k*, real(fgsl_double) *t_initial*, real(fgsl_double) *mu_t*, real(fgsl_double) *t_min*)

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, 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)

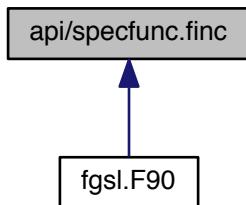
41.31.1.3 subroutine [fgsl_sort_double](#) (real(fgsl_double), dimension(:), intent(inout) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)

- 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_steed_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_lnfact` (n)
- integer(fgsl_int) function `fgsl_sf_lnfact_e` (n, result)
- real(fgsl_double) function `fgsl_sf_ldoublefact` (n)
- integer(fgsl_int) function `fgsl_sf_ldoublefact_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](#) (llambda, x, result)
- real(fgsl_double) function [fgsl_sf_gegenpoly_n](#) (n, lambda, x)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_n_e](#) (n, lambda, x, result)
- integer(fgsl_int) function [fgsl_sf_gegenpoly_array](#) (nmax, lambda, 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](#) (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](#) (ar, ai, c, x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_conj_e](#) (ar, ai, 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](#) (ar, ai, c, x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_conj_renorm_e](#) (ar, ai, 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](#) (lmax, x, result_array)
- real(fgsl_double) function [fgsl_sf_legendre_pl_deriv_array](#) (lmax, 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, lsrz, 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_incosh](#) (x)
- integer(fgsl_int) function [fgsl_sf_incosh_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_js1 (integer(fgsl_int), intent(in) n , real(fgsl_double), intent(in) x)
- 41.32.1.74 integer(fgsl_int) function fgsl_sf_bessel_js1_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_js1_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_js1_steed_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_yl (integer(fgsl_int), intent(in) n , real(fgsl_double), intent(in) x)
- 41.32.1.123 integer(fgsl_int) function fgsl_sf_bessel_yl_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_yl_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) czi)`
- 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) lsrz, 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) szi)`
- 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) ϕ , 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) ϕ , 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) ϕ , 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) ϕ , 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)

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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 )
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- 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_ql (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_incosh (real(fgsl_double), intent(in) x)`
- 41.32.1.377 `integer(fgsl_int) function fgsl_sf_incosh_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_ingroup (real(fgsl_double), intent(in) x)`
- 41.32.1.383 `integer(fgsl_int) function fgsl_sf_ingroup_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_ingroup_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.385 `integer(fgsl_int) function fgsl_sf_ingroup_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)

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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 )

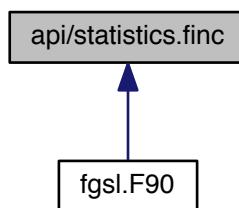
41.32.1.450 elemental subroutine gsl_sf_to_fgsl_sf ( type(fgsl_sf_result), intent(out) result, type(gsl_sf_result), intent(in)
source )

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 )

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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`)

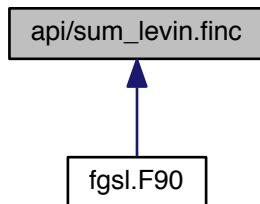
- 41.33.1.4 `real(fgsl_double) function fgsl_stats_covariance (real(fgsl_double), dimension(:), intent(in) data1, integer(fgsl_size_t), intent(in) stride1, real(fgsl_double), dimension(:), intent(in) data2, integer(fgsl_size_t), intent(in) stride2, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.5 `real(fgsl_double) 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)

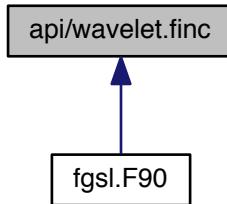
41.34.1 Function/Subroutine Documentation

- 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_ntransform](#) (w, data, tda, size1, size2, dir, work)
- integer(fgsl_int) function [fgsl_wavelet2d_ntransform_forward](#) (w, data, tda, size1, size2, work)
- integer(fgsl_int) function [fgsl_wavelet2d_ntransform_inverse](#) (w, data, tda, size1, size2, work)
- integer(fgsl_int) function [fgsl_wavelet2d_ntransform_matrix](#) (w, m, dir, work)
- integer(fgsl_int) function [fgsl_wavelet2d_ntransform_matrix_forward](#) (w, m, work)
- integer(fgsl_int) function [fgsl_wavelet2d_ntransform_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_ntransform` (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_ntransform_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_ntransform_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_ntransform_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_ntransform_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_ntransform_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

```
#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/permuation.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/permuation.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

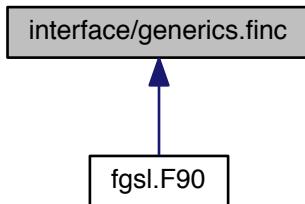
- module fgsl
- type `fgsl::fgsl_error_handler_t`
- type `fgsl::fgsl_file`
- type `fgsl::fgsl_function`
- type `fgsl::fgsl_function_fdf`
- type `fgsl::gsl_complex`
- type `fgsl::fgsl_poly_complex_workspace`
- type `fgsl::fgsl_sf_result`
- type `fgsl::gsl_sf_result`
- type `fgsl::fgsl_sf_result_e10`
- 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_utrunc_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_fdfsolver_type`
- type `fgsl::fgsl_root_fsolver`
- type `fgsl::fgsl_root_fdfsolver`
- 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_fdfsolver`
- type `fgsl::fgsl_multiroot_fdfsolver_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`
- type `fgsl::fgsl_multifit_function_fdf`
- type `fgsl::fgsl_multifit_fsolver`
- type `fgsl::fgsl_multifit_fsolver_type`
- type `fgsl::fgsl_multifit_fdfsolver`
- type `fgsl::fgsl_multifit_fdfsolver_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

- interface `fgsl_well_defined`
- 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`
- interface `fgsl_sort_largest_index`
- interface `fgsl_ran_shuffle`
- interface `fgsl_ieee_fprintf`
- interface `fgsl_ieee_printf`

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