

FGSL

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Contents

1	Main Page	1
2	Introduction	3
3	Comments on vectors and matrices	5
4	Comments on basis splines	7
5	Comments on chebyshev approximation	9
6	Comments on complex numbers	11
7	Comments on numerical derivatives	13
8	Comments on Hankel transforms	15
9	Comments on eigensystems	17
10	Comments on error handling	19
11	Comments on fast Fourier transforms	21
12	Comments on fitting of functions	23
13	Comments on histograms	25
14	Comments on IEEE support	27
15	Comments on numerical integration routines	29
16	Comments on interpolation routines	31
17	Comments on auxiliary I/O routines	33
18	Comments on linear algebra routines	35
19	Comments on elementary mathematical functions	37
20	Comments on minimization routines	39

21 Comments on miscellaneous support routines	41
22 Comments on monte carlo routines	43
23 Comments on nonlinear least squares fitting	45
24 Comments on multidimensional minimization	47
25 Comments on multidimensional root finding	49
26 Comments on ntuples	51
27 Comments on ordinary differential equations	53
28 Comments on permutations, combinations and multisets	55
29 Comments on polynomials	57
30 Comments on random numbers	59
31 Comments on root finding	61
32 Comments on simulated annealing	63
33 Comments on sorting	65
34 Comments on special functions	67
35 Comments on statistical functions	71
36 Comments on series acceleration	73
37 Comments on wavelet transforms	75
38 Data Type Index	77
38.1 Data Types List	77
39 File Index	81
39.1 File List	81
40 Data Type Documentation	83
40.1 assignment(=) Interface Reference	83
40.1.1 Member Function/Subroutine Documentation	83
40.1.1.1 complex_to_fgsl_complex	83
40.1.1.2 fgsl_complex_to_complex	83
40.1.1.3 fgsl_matrix_complex_to_array	83
40.1.1.4 fgsl_matrix_to_array	83
40.1.1.5 fgsl_vector_complex_to_array	83

40.1.1.6	fgsl_vector_to_array	83
40.1.1.7	gsl_sf_to_fgsl_sf	83
40.1.1.8	gsl_sfe10_to_fgsl_sfe10	83
40.2	fgsl Module Reference	84
40.2.1	Member Data Documentation	101
40.2.1.1	bind	101
40.2.1.2	fgsl_char	101
40.2.1.3	fgsl_const_cgsm_acre	101
40.2.1.4	fgsl_const_cgsm_angstrom	101
40.2.1.5	fgsl_const_cgsm_astronomical_unit	101
40.2.1.6	fgsl_const_cgsm_bar	101
40.2.1.7	fgsl_const_cgsm_barn	101
40.2.1.8	fgsl_const_cgsm_bohr_magneton	101
40.2.1.9	fgsl_const_cgsm_bohr_radius	101
40.2.1.10	fgsl_const_cgsm_boltzmann	101
40.2.1.11	fgsl_const_cgsm_btu	101
40.2.1.12	fgsl_const_cgsm_calorie	101
40.2.1.13	fgsl_const_cgsm_canadian_gallon	101
40.2.1.14	fgsl_const_cgsm_carat	101
40.2.1.15	fgsl_const_cgsm_cup	101
40.2.1.16	fgsl_const_cgsm_curie	101
40.2.1.17	fgsl_const_cgsm_day	101
40.2.1.18	fgsl_const_cgsm_dyne	101
40.2.1.19	fgsl_const_cgsm_electron_charge	101
40.2.1.20	fgsl_const_cgsm_electron_magnetic_moment	101
40.2.1.21	fgsl_const_cgsm_electron_volt	101
40.2.1.22	fgsl_const_cgsm_erg	101
40.2.1.23	fgsl_const_cgsm_faraday	101
40.2.1.24	fgsl_const_cgsm_fathom	101
40.2.1.25	fgsl_const_cgsm_fluid_ounce	101
40.2.1.26	fgsl_const_cgsm_foot	101
40.2.1.27	fgsl_const_cgsm_footcandle	101
40.2.1.28	fgsl_const_cgsm_footlambert	102
40.2.1.29	fgsl_const_cgsm_gauss	102
40.2.1.30	fgsl_const_cgsm_gram_force	102
40.2.1.31	fgsl_const_cgsm_grav_accel	102
40.2.1.32	fgsl_const_cgsm_gravitational_constant	102
40.2.1.33	fgsl_const_cgsm_hectare	102
40.2.1.34	fgsl_const_cgsm_horsepower	102
40.2.1.35	fgsl_const_cgsm_hour	102

40.2.1.36 fgsl_const_cgsm_inch	102
40.2.1.37 fgsl_const_cgsm_inch_of_mercury	102
40.2.1.38 fgsl_const_cgsm_inch_of_water	102
40.2.1.39 fgsl_const_cgsm_joule	102
40.2.1.40 fgsl_const_cgsm_kilometers_per_hour	102
40.2.1.41 fgsl_const_cgsm_kilopound_force	102
40.2.1.42 fgsl_const_cgsm_knot	102
40.2.1.43 fgsl_const_cgsm_lambert	102
40.2.1.44 fgsl_const_cgsm_light_year	102
40.2.1.45 fgsl_const_cgsm_liter	102
40.2.1.46 fgsl_const_cgsm_lumen	102
40.2.1.47 fgsl_const_cgsm_lux	102
40.2.1.48 fgsl_const_cgsm_mass_electron	102
40.2.1.49 fgsl_const_cgsm_mass_muon	102
40.2.1.50 fgsl_const_cgsm_mass_neutron	102
40.2.1.51 fgsl_const_cgsm_mass_proton	102
40.2.1.52 fgsl_const_cgsm_meter_of_mercury	102
40.2.1.53 fgsl_const_cgsm_metric_ton	102
40.2.1.54 fgsl_const_cgsm_micron	102
40.2.1.55 fgsl_const_cgsm_mil	102
40.2.1.56 fgsl_const_cgsm_mile	103
40.2.1.57 fgsl_const_cgsm_miles_per_hour	103
40.2.1.58 fgsl_const_cgsm_minute	103
40.2.1.59 fgsl_const_cgsm_molar_gas	103
40.2.1.60 fgsl_const_cgsm_nautical_mile	103
40.2.1.61 fgsl_const_cgsm_newton	103
40.2.1.62 fgsl_const_cgsm_nuclear_magneton	103
40.2.1.63 fgsl_const_cgsm_ounce_mass	103
40.2.1.64 fgsl_const_cgsm_parsec	103
40.2.1.65 fgsl_const_cgsm_phot	103
40.2.1.66 fgsl_const_cgsm_pint	103
40.2.1.67 fgsl_const_cgsm_plancks_constant_h	103
40.2.1.68 fgsl_const_cgsm_plancks_constant_hbar	103
40.2.1.69 fgsl_const_cgsm_point	103
40.2.1.70 fgsl_const_cgsm_poise	103
40.2.1.71 fgsl_const_cgsm_pound_force	103
40.2.1.72 fgsl_const_cgsm_pound_mass	103
40.2.1.73 fgsl_const_cgsm_poundal	103
40.2.1.74 fgsl_const_cgsm_proton_magnetic_moment	103
40.2.1.75 fgsl_const_cgsm_psi	103

40.2.1.76 fgsl_const_cgsm_quart	103
40.2.1.77 fgsl_const_cgsm_rad	103
40.2.1.78 fgsl_const_cgsm_roentgen	103
40.2.1.79 fgsl_const_cgsm_rydberg	103
40.2.1.80 fgsl_const_cgsm_solar_mass	103
40.2.1.81 fgsl_const_cgsm_speed_of_light	103
40.2.1.82 fgsl_const_cgsm_standard_gas_volume	103
40.2.1.83 fgsl_const_cgsm_std_atmosphere	103
40.2.1.84 fgsl_const_cgsm_stefan_boltzmann_constant	104
40.2.1.85 fgsl_const_cgsmstilb	104
40.2.1.86 fgsl_const_cgsmstokes	104
40.2.1.87 fgsl_const_cgsm_tablespoon	104
40.2.1.88 fgsl_const_cgsm_tea spoon	104
40.2.1.89 fgsl_const_cgsm_texpoint	104
40.2.1.90 fgsl_const_cgsm_therm	104
40.2.1.91 fgsl_const_cgsm_thomson_cross_section	104
40.2.1.92 fgsl_const_cgsm_ton	104
40.2.1.93 fgsl_const_cgsm_torr	104
40.2.1.94 fgsl_const_cgsm_troy_ounce	104
40.2.1.95 fgsl_const_cgsm_uk_gallon	104
40.2.1.96 fgsl_const_cgsm_uk_ton	104
40.2.1.97 fgsl_const_cgsm_unified_atomic_mass	104
40.2.1.98 fgsl_const_cgsm_us_gallon	104
40.2.1.99 fgsl_const_cgsm_week	104
40.2.1.100 fgsl_const_cgsm_yard	104
40.2.1.101 fgsl_const_mk sa_acre	104
40.2.1.102 fgsl_const_mk sa_angstrom	104
40.2.1.103 fgsl_const_mk sa_astronomical_unit	104
40.2.1.104 fgsl_const_mk sa_bar	104
40.2.1.105 fgsl_const_mk sa_barn	104
40.2.1.106 fgsl_const_mk sa_bohr_magneton	104
40.2.1.107 fgsl_const_mk sa_bohr_radius	104
40.2.1.108 fgsl_const_mk sa_boltzmann	104
40.2.1.109 fgsl_const_mk sa_btu	104
40.2.1.110 fgsl_const_mk sa_calorie	104
40.2.1.111 fgsl_const_mk sa_canadian_gallon	104
40.2.1.112 fgsl_const_mk sa_carat	105
40.2.1.113 fgsl_const_mk sa_cup	105
40.2.1.114 fgsl_const_mk sa_curie	105
40.2.1.115 fgsl_const_mk sa_day	105

40.2.1.116	fgsl_const_mksha_debye	105
40.2.1.117	fgsl_const_mksha_dyne	105
40.2.1.118	fgsl_const_mksha_electron_charge	105
40.2.1.119	fgsl_const_mksha_electron_magnetic_moment	105
40.2.1.120	fgsl_const_mksha_electron_volt	105
40.2.1.121	fgsl_const_mksha_erg	105
40.2.1.122	fgsl_const_mksha_faraday	105
40.2.1.123	fgsl_const_mksha_fathom	105
40.2.1.124	fgsl_const_mksha_fluid_ounce	105
40.2.1.125	fgsl_const_mksha_foot	105
40.2.1.126	fgsl_const_mksha_footcandle	105
40.2.1.127	fgsl_const_mksha_footlambert	105
40.2.1.128	fgsl_const_mksha_gauss	105
40.2.1.129	fgsl_const_mksha_gram_force	105
40.2.1.130	fgsl_const_mksha_grav_accel	105
40.2.1.131	fgsl_const_mksha_gravitational_constant	105
40.2.1.132	fgsl_const_mksha_hectare	105
40.2.1.133	fgsl_const_mksha_horsepower	105
40.2.1.134	fgsl_const_mksha_hour	105
40.2.1.135	fgsl_const_mksha_inch	105
40.2.1.136	fgsl_const_mksha_inch_of_mercury	105
40.2.1.137	fgsl_const_mksha_inch_of_water	105
40.2.1.138	fgsl_const_mksha_joule	105
40.2.1.139	fgsl_const_mksha_kilometers_per_hour	105
40.2.1.140	fgsl_const_mksha_kilopound_force	106
40.2.1.141	fgsl_const_mksha_knot	106
40.2.1.142	fgsl_const_mksha_lambert	106
40.2.1.143	fgsl_const_mksha_light_year	106
40.2.1.144	fgsl_const_mksha_liter	106
40.2.1.145	fgsl_const_mksha_lumen	106
40.2.1.146	fgsl_const_mksha_lux	106
40.2.1.147	fgsl_const_mksha_mass_electron	106
40.2.1.148	fgsl_const_mksha_mass_muon	106
40.2.1.149	fgsl_const_mksha_mass_neutron	106
40.2.1.150	fgsl_const_mksha_mass_proton	106
40.2.1.151	fgsl_const_mksha_meter_of_mercury	106
40.2.1.152	fgsl_const_mksha_metric_ton	106
40.2.1.153	fgsl_const_mksha_micron	106
40.2.1.154	fgsl_const_mksha_mil	106
40.2.1.155	fgsl_const_mksha_mile	106

40.2.1.156	fgsl_const_mksa_miles_per_hour	106
40.2.1.157	fgsl_const_mksa_minute	106
40.2.1.158	fgsl_const_mksa_molar_gas	106
40.2.1.159	fgsl_const_mksa_nautical_mile	106
40.2.1.160	fgsl_const_mksa_newton	106
40.2.1.161	fgsl_const_mksa_nuclear_magneton	106
40.2.1.162	fgsl_const_mksa_ounce_mass	106
40.2.1.163	fgsl_const_mksa_parsec	106
40.2.1.164	fgsl_const_mksa_phot	106
40.2.1.165	fgsl_const_mksa_pint	106
40.2.1.166	fgsl_const_mksa_plancks_constant_h	106
40.2.1.167	fgsl_const_mksa_plancks_constant_hbar	106
40.2.1.168	fgsl_const_mksa_point	107
40.2.1.169	fgsl_const_mksa_poise	107
40.2.1.170	fgsl_const_mksa_pound_force	107
40.2.1.171	fgsl_const_mksa_pound_mass	107
40.2.1.172	fgsl_const_mksa_poundal	107
40.2.1.173	fgsl_const_mksa_proton_magnetic_moment	107
40.2.1.174	fgsl_const_mksa_psi	107
40.2.1.175	fgsl_const_mksa_quart	107
40.2.1.176	fgsl_const_mksa_rad	107
40.2.1.177	fgsl_const_mksa_roentgen	107
40.2.1.178	fgsl_const_mksa_rydberg	107
40.2.1.179	fgsl_const_mksa_solar_mass	107
40.2.1.180	fgsl_const_mksa_speed_of_light	107
40.2.1.181	fgsl_const_mksa_standard_gas_volume	107
40.2.1.182	fgsl_const_mksa_std_atmosphere	107
40.2.1.183	fgsl_const_mksa_stefan_boltzmann_constant	107
40.2.1.184	fgsl_const_mksastilb	107
40.2.1.185	fgsl_const_mksa_stokes	107
40.2.1.186	fgsl_const_mksa_tablespoon	107
40.2.1.187	fgsl_const_mksa_tea spoon	107
40.2.1.188	fgsl_const_mksa_texpoint	107
40.2.1.189	fgsl_const_mksa_therm	107
40.2.1.190	fgsl_const_mksa_thomson_cross_section	107
40.2.1.191	fgsl_const_mksa_ton	107
40.2.1.192	fgsl_const_mksa_torr	107
40.2.1.193	fgsl_const_mksa_troy_ounce	107
40.2.1.194	fgsl_const_mksa_uk_gallon	107
40.2.1.195	fgsl_const_mksa_uk_ton	108

40.2.1.196	fgsl_const_mksa_unified_atomic_mass	108
40.2.1.197	fgsl_const_mksa_us_gallon	108
40.2.1.198	fgsl_const_mksa_vacuum_permeability	108
40.2.1.199	fgsl_const_mksa_vacuum_permittivity	108
40.2.1.200	fgsl_const_mksa_week	108
40.2.1.201	fgsl_const_mksa_yard	108
40.2.1.202	fgsl_const_num_atto	108
40.2.1.203	fgsl_const_num_avogadro	108
40.2.1.204	fgsl_const_num_exa	108
40.2.1.205	fgsl_const_num_femto	108
40.2.1.206	fgsl_const_num_fine_structure	108
40.2.1.207	fgsl_const_num_giga	108
40.2.1.208	fgsl_const_num_kilo	108
40.2.1.209	fgsl_const_num_mega	108
40.2.1.210	fgsl_const_num_micro	108
40.2.1.211	fgsl_const_num_milli	108
40.2.1.212	fgsl_const_num_nano	108
40.2.1.213	fgsl_const_num_peta	108
40.2.1.214	fgsl_const_num_pico	108
40.2.1.215	fgsl_const_num_tera	108
40.2.1.216	fgsl_const_num_yocto	108
40.2.1.217	fgsl_const_num_yotta	108
40.2.1.218	fgsl_const_numzepto	108
40.2.1.219	fgsl_const_num_zetta	108
40.2.1.220	fgsl_continue	108
40.2.1.221	fgsl_double	108
40.2.1.222	fgsl_double_complex	108
40.2.1.223	fgsl_ebadfunc	109
40.2.1.224	fgsl_ebadlen	109
40.2.1.225	fgsl_ebadtol	109
40.2.1.226	fgsl_ecache	109
40.2.1.227	fgsl_ediverge	109
40.2.1.228	fgsl_edom	109
40.2.1.229	fgsl_efactor	109
40.2.1.230	fgsl_efault	109
40.2.1.231	fgsl_eigen_sort_abs_asc	109
40.2.1.232	fgsl_eigen_sort_abs_desc	109
40.2.1.233	fgsl_eigen_sort_val_asc	109
40.2.1.234	fgsl_eigen_sort_val_desc	109
40.2.1.235	fgsl_einval	109

40.2.1.236	fgsl_elloss	109
40.2.1.237	fgsl_emaxiter	109
40.2.1.238	fgsl_enomem	109
40.2.1.239	fgsl_enoproj	109
40.2.1.240	fgsl_enoproj	109
40.2.1.241	fgsl_enotsqr	109
40.2.1.242	fgsl_eof	109
40.2.1.243	fgsl_eovrflw	109
40.2.1.244	fgsl_erange	109
40.2.1.245	fgsl_eround	109
40.2.1.246	fgsl_erunaway	109
40.2.1.247	fgsl_esanity	109
40.2.1.248	fgsl_esing	109
40.2.1.249	fgsl_etable	109
40.2.1.250	fgsl_etol	109
40.2.1.251	fgsl_etolf	110
40.2.1.252	fgsl_etolg	110
40.2.1.253	fgsl_etolx	110
40.2.1.254	fgsl_eundrflw	110
40.2.1.255	fgsl_eunimpl	110
40.2.1.256	fgsl_eunsup	110
40.2.1.257	fgsl_extended	110
40.2.1.258	fgsl_ezerodiv	110
40.2.1.259	fgsl_failure	110
40.2.1.260	fgsl_float	110
40.2.1.261	fgsl_gslbase	110
40.2.1.262	fgsl_int	110
40.2.1.263	fgsl_integ_cosine	110
40.2.1.264	fgsl_integ_gauss15	110
40.2.1.265	fgsl_integ_gauss21	110
40.2.1.266	fgsl_integ_gauss31	110
40.2.1.267	fgsl_integ_gauss41	110
40.2.1.268	fgsl_integ_gauss51	110
40.2.1.269	fgsl_integ_gauss61	110
40.2.1.270	fgsl_integ_sine	110
40.2.1.271	fgsl_interp_akima	110
40.2.1.272	fgsl_interp_akima_periodic	110
40.2.1.273	fgsl_interp_cspline	110
40.2.1.274	fgsl_interp_cspline_periodic	110
40.2.1.275	fgsl_interp_linear	110

40.2.1.276	gsl_interp_polynomial	110
40.2.1.277	gsl_long	110
40.2.1.278	gsl_min_fminimizer_brent	110
40.2.1.279	gsl_min_fminimizer_goldensection	111
40.2.1.280	gsl_min_fminimizer_quad_golden	111
40.2.1.281	gsl_multifit_fdfsolver_lmder	111
40.2.1.282	gsl_multifit_fdfsolver_lmsder	111
40.2.1.283	gsl_multimin_fdfminimizer_conjugate_fr	111
40.2.1.284	gsl_multimin_fdfminimizer_conjugate_pr	111
40.2.1.285	gsl_multimin_fdfminimizer_steepest_descent	111
40.2.1.286	gsl_multimin_fdfminimizer_vector_bfgs	111
40.2.1.287	gsl_multimin_fdfminimizer_vector_bfgs2	111
40.2.1.288	gsl_multimin_fminimizer_nmsimplex	111
40.2.1.289	gsl_multimin_fminimizer_nmsimplex2	111
40.2.1.290	gsl_multimin_fminimizer_nmsimplex2rand	111
40.2.1.291	gsl_multiroot_fdfsolver_gnewton	111
40.2.1.292	gsl_multiroot_fdfsolver_hybridj	111
40.2.1.293	gsl_multiroot_fdfsolver_hybridjs	111
40.2.1.294	gsl_multiroot_fdfsolver_newton	111
40.2.1.295	gsl_multiroot_fsolver_broyden	111
40.2.1.296	gsl_multiroot_fsolver_dnewton	111
40.2.1.297	gsl_multiroot_fsolver_hybrid	111
40.2.1.298	gsl_multiroot_fsolver_hybrids	112
40.2.1.299	gsl_odeiv2_step_bsimp	112
40.2.1.300	gsl_odeiv2_step_msadams	112
40.2.1.301	gsl_odeiv2_step_msbdf	112
40.2.1.302	gsl_odeiv2_step_rk1imp	112
40.2.1.303	gsl_odeiv2_step_rk2	112
40.2.1.304	gsl_odeiv2_step_rk2imp	112
40.2.1.305	gsl_odeiv2_step_rk4	112
40.2.1.306	gsl_odeiv2_step_rk4imp	112
40.2.1.307	gsl_odeiv2_step_rk8pd	112
40.2.1.308	gsl_odeiv2_step_rkck	112
40.2.1.309	gsl_odeiv2_step_rkf45	112
40.2.1.310	gsl_odeiv_hadj_dec	112
40.2.1.311	gsl_odeiv_hadj_inc	112
40.2.1.312	gsl_odeiv_hadj_nil	112
40.2.1.313	gsl_odeiv_step_bsimp	112
40.2.1.314	gsl_odeiv_step_gear1	112
40.2.1.315	gsl_odeiv_step_gear2	112

40.2.1.316	fgsl_odeiv_step_rk2	112
40.2.1.317	fgsl_odeiv_step_rk2imp	112
40.2.1.318	fgsl_odeiv_step_rk2simp	112
40.2.1.319	fgsl_odeiv_step_rk4	112
40.2.1.320	fgsl_odeiv_step_rk4imp	112
40.2.1.321	fgsl_odeiv_step_rk8pd	112
40.2.1.322	fgsl_odeiv_step_rkck	112
40.2.1.323	fgsl_odeiv_step_rkf45	112
40.2.1.324	fgsl_pathmax	112
40.2.1.325	fgsl_prec_approx	113
40.2.1.326	fgsl_prec_double	113
40.2.1.327	fgsl_prec_single	113
40.2.1.328	fgsl_qrng_haltan	113
40.2.1.329	fgsl_qrng_niederreiter_2	113
40.2.1.330	fgsl_qrng_reversehaltan	113
40.2.1.331	fgsl_qrng_sobol	113
40.2.1.332	fgsl_rng_borosh13	113
40.2.1.333	fgsl_rng_cmrg	113
40.2.1.334	fgsl_rng_coveyou	113
40.2.1.335	fgsl_rng_default	113
40.2.1.336	fgsl_rng_default_seed	113
40.2.1.337	fgsl_rng_fishman18	113
40.2.1.338	fgsl_rng_fishman20	113
40.2.1.339	fgsl_rng_fishman2x	113
40.2.1.340	fgsl_rng_gfsr4	113
40.2.1.341	fgsl_rng_knuthran	113
40.2.1.342	fgsl_rng_knuthran2	113
40.2.1.343	fgsl_rng_knuthran2002	113
40.2.1.344	fgsl_rng_lecuyer21	113
40.2.1.345	fgsl_rng_minstd	113
40.2.1.346	fgsl_rng_mrg	113
40.2.1.347	fgsl_rng_mt19937	113
40.2.1.348	fgsl_rng_mt19937_1998	113
40.2.1.349	fgsl_rng_mt19937_1999	113
40.2.1.350	fgsl_rng_r250	113
40.2.1.351	fgsl_rng_ran0	113
40.2.1.352	fgsl_rng_ran1	113
40.2.1.353	fgsl_rng_ran2	114
40.2.1.354	fgsl_rng_ran3	114
40.2.1.355	fgsl_rng_rand	114

40.2.1.356gsl_rng_rand48	114
40.2.1.357gsl_rng_random128_bsd	114
40.2.1.358gsl_rng_random128_glibc2	114
40.2.1.359gsl_rng_random128_libc5	114
40.2.1.360gsl_rng_random256_bsd	114
40.2.1.361gsl_rng_random256_glibc2	114
40.2.1.362gsl_rng_random256_libc5	114
40.2.1.363gsl_rng_random32_bsd	114
40.2.1.364gsl_rng_random32_glibc2	114
40.2.1.365gsl_rng_random32_libc5	114
40.2.1.366gsl_rng_random64_bsd	114
40.2.1.367gsl_rng_random64_glibc2	114
40.2.1.368gsl_rng_random64_libc5	114
40.2.1.369gsl_rng_random8_bsd	114
40.2.1.370gsl_rng_random8_glibc2	114
40.2.1.371gsl_rng_random8_libc5	114
40.2.1.372gsl_rng_random_bsd	114
40.2.1.373gsl_rng_random_glibc2	114
40.2.1.374gsl_rng_random_libc5	114
40.2.1.375gsl_rng_randu	114
40.2.1.376gsl_rng_ranf	114
40.2.1.377gsl_rng_ranlux	114
40.2.1.378gsl_rng_ranlux389	114
40.2.1.379gsl_rng_ranlxd1	114
40.2.1.380gsl_rng_ranlxd2	114
40.2.1.381gsl_rng_ranlxs0	115
40.2.1.382gsl_rng_ranlxs1	115
40.2.1.383gsl_rng_ranlxs2	115
40.2.1.384gsl_rng_ranmar	115
40.2.1.385gsl_rng_slatec	115
40.2.1.386gsl_rng_taus	115
40.2.1.387gsl_rng_taus113	115
40.2.1.388gsl_rng_taus2	115
40.2.1.389gsl_rng_transputer	115
40.2.1.390gsl_rng_tt800	115
40.2.1.391gsl_rng_uni	115
40.2.1.392gsl_rng_uni32	115
40.2.1.393gsl_rng_vax	115
40.2.1.394gsl_rng_waterman14	115
40.2.1.395gsl_rng_zuf	115

40.2.1.396	<code>fgsl_root_fdfsolver_newton</code>	115
40.2.1.397	<code>fgsl_root_fdfsolver_secant</code>	115
40.2.1.398	<code>fgsl_root_fdfsolver_steffenson</code>	115
40.2.1.399	<code>fgsl_root_fsolver_bisection</code>	115
40.2.1.400	<code>fgsl_root_fsolver_brent</code>	115
40.2.1.401	<code>fgsl_root_fsolver_falsepos</code>	115
40.2.1.402	<code>fgsl_size_t</code>	115
40.2.1.403	<code>fgsl_strmax</code>	115
40.2.1.404	<code>fgsl_success</code>	115
40.2.1.405	<code>fgsl_vegas_mode_importance</code>	115
40.2.1.406	<code>fgsl_vegas_mode_importance_only</code>	115
40.2.1.407	<code>fgsl_vegas_mode_stratified</code>	115
40.2.1.408	<code>fgsl_version</code>	116
40.2.1.409	<code>fgsl_wavelet_bspline</code>	116
40.2.1.410	<code>fgsl_wavelet_bspline_centered</code>	116
40.2.1.411	<code>fgsl_wavelet_daubechies</code>	116
40.2.1.412	<code>fgsl_wavelet_daubechies_centered</code>	116
40.2.1.413	<code>fgsl_wavelet_haar</code>	116
40.2.1.414	<code>fgsl_wavelet_haar_centered</code>	116
40.2.1.415	<code>m_1_pi</code>	116
40.2.1.416	<code>m_2_pi</code>	116
40.2.1.417	<code>m_2_sqrtpi</code>	116
40.2.1.418	<code>m_e</code>	116
40.2.1.419	<code>m_euler</code>	116
40.2.1.420	<code>m_ln10</code>	116
40.2.1.421	<code>m_ln2</code>	116
40.2.1.422	<code>m_lmpi</code>	116
40.2.1.423	<code>m_log10e</code>	116
40.2.1.424	<code>m_log2e</code>	116
40.2.1.425	<code>m_pi</code>	116
40.2.1.426	<code>m_pi_2</code>	116
40.2.1.427	<code>m_pi_4</code>	116
40.2.1.428	<code>m_sqrt1_2</code>	116
40.2.1.429	<code>m_sqrt2</code>	116
40.2.1.430	<code>m_sqrt3</code>	116
40.2.1.431	<code>m_sqrtpi</code>	116
40.3	<code>fgsl::fgsl_bspline_deriv_workspace</code> Type Reference	116
40.3.1	Member Data Documentation	117
40.3.1.1	<code>fgsl_bspline_deriv_workspace</code>	117
40.4	<code>fgsl::fgsl_bspline_workspace</code> Type Reference	117

40.4.1	Member Data Documentation	117
40.4.1.1	gsl_bspline_workspace	117
40.5	fgsl::fgsl_cheb_series Type Reference	117
40.5.1	Member Data Documentation	117
40.5.1.1	gsl_cheb_series	117
40.6	fgsl::fgsl_combination Type Reference	117
40.6.1	Member Data Documentation	118
40.6.1.1	gsl_combination	118
40.7	fgsl::fgsl_dht Type Reference	118
40.7.1	Member Data Documentation	118
40.7.1.1	gsl_dht	118
40.8	fgsl::fgsl_eigen_gen_workspace Type Reference	118
40.8.1	Member Data Documentation	118
40.8.1.1	gsl_eigen_gen_workspace	118
40.9	fgsl::fgsl_eigen_genherm_workspace Type Reference	118
40.9.1	Member Data Documentation	118
40.9.1.1	gsl_eigen_genherm_workspace	118
40.10	fgsl::fgsl_eigen_genhermv_workspace Type Reference	119
40.10.1	Member Data Documentation	119
40.10.1.1	gsl_eigen_genhermv_workspace	119
40.11	fgsl::fgsl_eigen_gensymm_workspace Type Reference	119
40.11.1	Member Data Documentation	119
40.11.1.1	gsl_eigen_gensymm_workspace	119
40.12	fgsl::fgsl_eigen_gensymmv_workspace Type Reference	119
40.12.1	Member Data Documentation	119
40.12.1.1	gsl_eigen_gensymmv_workspace	119
40.13	fgsl::fgsl_eigen_genv_workspace Type Reference	119
40.13.1	Member Data Documentation	120
40.13.1.1	gsl_eigen_genv_workspace	120
40.14	fgsl::fgsl_eigen_herm_workspace Type Reference	120
40.14.1	Member Data Documentation	120
40.14.1.1	gsl_eigen_herm_workspace	120
40.15	fgsl::fgsl_eigen_hermv_workspace Type Reference	120
40.15.1	Member Data Documentation	120
40.15.1.1	gsl_eigen_hermv_workspace	120
40.16	fgsl::fgsl_eigen_nonsymm_workspace Type Reference	120
40.16.1	Member Data Documentation	120
40.16.1.1	gsl_eigen_nonsymm_workspace	120
40.17	fgsl::fgsl_eigen_nonsymmv_workspace Type Reference	121
40.17.1	Member Data Documentation	121

40.17.1.1 <code>gsl_eigen_nonsymmv_workspace</code>	121
40.18 <code>fgsl::fgsl_eigen_symm_workspace</code> Type Reference	121
40.18.1 Member Data Documentation	121
40.18.1.1 <code>gsl_eigen_symm_workspace</code>	121
40.19 <code>fgsl::fgsl_eigen_symmv_workspace</code> Type Reference	121
40.19.1 Member Data Documentation	121
40.19.1.1 <code>gsl_eigen_symmv_workspace</code>	121
40.20 <code>fgsl::fgsl_error_handler_t</code> Type Reference	121
40.20.1 Member Data Documentation	122
40.20.1.1 <code>gsl_error_handler_t</code>	122
40.21 <code>fgsl::fgsl_fft_complex_wavetable</code> Type Reference	122
40.21.1 Member Data Documentation	122
40.21.1.1 <code>gsl_fft_complex_wavetable</code>	122
40.22 <code>fgsl::fgsl_fft_complex_workspace</code> Type Reference	122
40.22.1 Member Data Documentation	122
40.22.1.1 <code>gsl_fft_complex_workspace</code>	122
40.23 <code>fgsl::fgsl_fft_halfcomplex_wavetable</code> Type Reference	122
40.23.1 Member Data Documentation	122
40.23.1.1 <code>gsl_fft_halfcomplex_wavetable</code>	122
40.24 <code>fgsl::fgsl_fft_real_wavetable</code> Type Reference	123
40.24.1 Member Data Documentation	123
40.24.1.1 <code>gsl_fft_real_wavetable</code>	123
40.25 <code>fgsl::fgsl_fft_real_workspace</code> Type Reference	123
40.25.1 Member Data Documentation	123
40.25.1.1 <code>gsl_fft_real_workspace</code>	123
40.26 <code>fgsl::fgsl_file</code> Type Reference	123
40.26.1 Member Data Documentation	123
40.26.1.1 <code>gsl_file</code>	123
40.27 <code>fgsl::fgsl_function</code> Type Reference	123
40.27.1 Member Data Documentation	124
40.27.1.1 <code>gsl_function</code>	124
40.28 <code>fgsl::fgsl_function_fdf</code> Type Reference	124
40.28.1 Member Data Documentation	124
40.28.1.1 <code>gsl_function_fdf</code>	124
40.29 <code>fgsl::fgsl_histogram</code> Type Reference	124
40.29.1 Member Data Documentation	124
40.29.1.1 <code>gsl_histogram</code>	124
40.30 <code>fgsl::fgsl_histogram2d</code> Type Reference	124
40.30.1 Member Data Documentation	124
40.30.1.1 <code>gsl_histogram2d</code>	124

40.31 fgsl::fgsl_histogram2d_pdf Type Reference	125
40.31.1 Member Data Documentation	125
40.31.1.1 gsl_histogram2d_pdf	125
40.32 fgsl::fgsl_histogram_pdf Type Reference	125
40.32.1 Member Data Documentation	125
40.32.1.1 gsl_histogram_pdf	125
40.33 fgsl::fgsl_ieee_fprintf Interface Reference	125
40.33.1 Member Function/Subroutine Documentation	125
40.33.1.1 fgsl_ieee_fprintf_double	125
40.33.1.2 fgsl_ieee_fprintf_float	125
40.34 fgsl::fgsl_ieee_printf Interface Reference	125
40.34.1 Member Function/Subroutine Documentation	126
40.34.1.1 fgsl_ieee_printf_double	126
40.34.1.2 fgsl_ieee_printf_float	126
40.35 fgsl::fgsl_integration_cquad_workspace Type Reference	126
40.35.1 Member Data Documentation	126
40.35.1.1 gsl_integration_cquad_workspace	126
40.36 fgsl::fgsl_integration_glfixed_table Type Reference	126
40.36.1 Member Data Documentation	126
40.36.1.1 gsl_integration_glfixed_table	126
40.37 fgsl::fgsl_integration_qawo_table Type Reference	126
40.37.1 Member Data Documentation	127
40.37.1.1 gsl_integration_qawo_table	127
40.38 fgsl::fgsl_integration_qaws_table Type Reference	127
40.38.1 Member Data Documentation	127
40.38.1.1 gsl_integration_qaws_table	127
40.39 fgsl::fgsl_integration_workspace Type Reference	127
40.39.1 Member Data Documentation	127
40.39.1.1 gsl_integration_workspace	127
40.40 fgsl::fgsl_interp Type Reference	127
40.40.1 Member Data Documentation	127
40.40.1.1 gsl_interp	127
40.41 fgsl::fgsl_interp_accel Type Reference	128
40.41.1 Member Data Documentation	128
40.41.1.1 gsl_interp_accel	128
40.42 fgsl::fgsl_interp_type Type Reference	128
40.42.1 Member Data Documentation	128
40.42.1.1 which	128
40.43 fgsl::fgsl_matrix Type Reference	128
40.43.1 Member Data Documentation	128

40.43.1.1 gsl_matrix	128
40.44 fgsl_matrix_align Interface Reference	128
40.44.1 Constructor & Destructor Documentation	129
40.44.1.1 fgsl_matrix_align	129
40.44.2 Member Function/Subroutine Documentation	129
40.44.2.1 fgsl_matrix_complex_align	129
40.44.2.2 fgsl_matrix_complex_pointer_align	129
40.44.2.3 fgsl_matrix_pointer_align	129
40.45 fgsl::fgsl_matrix_complex Type Reference	129
40.45.1 Member Data Documentation	129
40.45.1.1 gsl_matrix_complex	129
40.46 fgsl_matrix_free Interface Reference	129
40.46.1 Constructor & Destructor Documentation	129
40.46.1.1 fgsl_matrix_free	129
40.46.2 Member Function/Subroutine Documentation	129
40.46.2.1 fgsl_matrix_complex_free	129
40.47 fgsl_matrix_init Interface Reference	130
40.47.1 Constructor & Destructor Documentation	130
40.47.1.1 fgsl_matrix_init	130
40.47.2 Member Function/Subroutine Documentation	130
40.47.2.1 fgsl_matrix_complex_init	130
40.48 fgsl::fgsl_min_fminimizer Type Reference	130
40.48.1 Member Data Documentation	130
40.48.1.1 gsl_min_fminimizer	130
40.49 fgsl::fgsl_min_fminimizer_type Type Reference	130
40.49.1 Member Data Documentation	130
40.49.1.1 which	130
40.50 fgsl::fgsl_mode_t Type Reference	131
40.50.1 Member Data Documentation	131
40.50.1.1 gsl_mode	131
40.51 fgsl::fgsl_monte_function Type Reference	131
40.51.1 Member Data Documentation	131
40.51.1.1 gsl_monte_function	131
40.52 fgsl::fgsl_monte_miser_state Type Reference	131
40.52.1 Member Data Documentation	131
40.52.1.1 gsl_monte_miser_state	131
40.53 fgsl::fgsl_monte_plain_state Type Reference	131
40.53.1 Member Data Documentation	132
40.53.1.1 gsl_monte_plain_state	132
40.54 fgsl::fgsl_monte_vegas_state Type Reference	132

40.54.1 Member Data Documentation	132
40.54.1.1 gsl_monte_vegas_state	132
40.55fgsl::fgsl_multifit_fdfsolver Type Reference	132
40.55.1 Member Data Documentation	132
40.55.1.1 gsl_multifit_fdfsolver	132
40.56fgsl::fgsl_multifit_fdfsolver_type Type Reference	132
40.56.1 Member Data Documentation	132
40.56.1.1 which	132
40.57fgsl::fgsl_multifit_fsolver Type Reference	133
40.57.1 Member Data Documentation	133
40.57.1.1 gsl_multifit_fsolver	133
40.58fgsl::fgsl_multifit_fsolver_type Type Reference	133
40.58.1 Member Data Documentation	133
40.58.1.1 which	133
40.59fgsl::fgsl_multifit_function Type Reference	133
40.59.1 Member Data Documentation	133
40.59.1.1 gsl_multifit_function	133
40.60fgsl::fgsl_multifit_function_fdf Type Reference	133
40.60.1 Member Data Documentation	134
40.60.1.1 gsl_multifit_function_fdf	134
40.61fgsl::fgsl_multifit_linear_workspace Type Reference	134
40.61.1 Member Data Documentation	134
40.61.1.1 gsl_multifit_linear_workspace	134
40.62fgsl::fgsl_multimin_fdfminimizer Type Reference	134
40.62.1 Member Data Documentation	134
40.62.1.1 gsl_multimin_fdfminimizer	134
40.63fgsl::fgsl_multimin_fdfminimizer_type Type Reference	134
40.63.1 Member Data Documentation	134
40.63.1.1 which	134
40.64fgsl::fgsl_multimin_fminimizer Type Reference	135
40.64.1 Member Data Documentation	135
40.64.1.1 gsl_multimin_fminimizer	135
40.65fgsl::fgsl_multimin_fminimizer_type Type Reference	135
40.65.1 Member Data Documentation	135
40.65.1.1 which	135
40.66fgsl::fgsl_multimin_function Type Reference	135
40.66.1 Member Data Documentation	135
40.66.1.1 gsl_multimin_function	135
40.67fgsl::fgsl_multimin_function_fdf Type Reference	135
40.67.1 Member Data Documentation	136

40.67.1.1 gsl_multimin_function_fdf	136
40.68 fgsl::fgsl_multiroot_fdfsolver Type Reference	136
40.68.1 Member Data Documentation	136
40.68.1.1 gsl_multiroot_fdfsolver	136
40.69 fgsl::fgsl_multiroot_fdfsolver_type Type Reference	136
40.69.1 Member Data Documentation	136
40.69.1.1 which	136
40.70 fgsl::fgsl_multiroot_fsolver Type Reference	136
40.70.1 Member Data Documentation	136
40.70.1.1 gsl_multiroot_fsolver	136
40.71 fgsl::fgsl_multiroot_fsolver_type Type Reference	137
40.71.1 Member Data Documentation	137
40.71.1.1 which	137
40.72 fgsl::fgsl_multiroot_function Type Reference	137
40.72.1 Member Data Documentation	137
40.72.1.1 gsl_multiroot_function	137
40.73 fgsl::fgsl_multiroot_function_fdf Type Reference	137
40.73.1 Member Data Documentation	137
40.73.1.1 gsl_multiroot_function_fdf	137
40.74 fgsl::fgsl_multiset Type Reference	137
40.74.1 Member Data Documentation	138
40.74.1.1 gsl_multiset	138
40.75 fgsl::fgsl_ntuple Type Reference	138
40.75.1 Member Data Documentation	138
40.75.1.1 gsl_ntuple	138
40.76 fgsl::fgsl_ntuple_select_fn Type Reference	138
40.76.1 Member Data Documentation	138
40.76.1.1 gsl_ntuple_select_fn	138
40.77 fgsl::fgsl_ntuple_value_fn Type Reference	138
40.77.1 Member Data Documentation	138
40.77.1.1 gsl_ntuple_value_fn	138
40.78 fgsl_obj_c_ptr Interface Reference	139
40.78.1 Member Function/Subroutine Documentation	139
40.78.1.1 fgsl_matrix_c_ptr	139
40.78.1.2 fgsl_rng_c_ptr	139
40.78.1.3 fgsl_vector_c_ptr	139
40.79 fgsl::fgsl_odeiv2_control Type Reference	139
40.79.1 Member Data Documentation	139
40.79.1.1 gsl_odeiv2_control	139
40.80 fgsl::fgsl_odeiv2_control_type Type Reference	139

40.80.1 Member Data Documentation	139
40.80.1.1 gsl_odeiv2_control_type	139
40.81 fgsl::fgsl_odeiv2_driver Type Reference	140
40.81.1 Member Data Documentation	140
40.81.1.1 gsl_odeiv2_driver	140
40.82 fgsl::fgsl_odeiv2_evolve Type Reference	140
40.82.1 Member Data Documentation	140
40.82.1.1 gsl_odeiv2_evolve	140
40.83 fgsl::fgsl_odeiv2_step Type Reference	140
40.83.1 Member Data Documentation	140
40.83.1.1 gsl_odeiv2_step	140
40.84 fgsl::fgsl_odeiv2_step_type Type Reference	140
40.84.1 Member Data Documentation	141
40.84.1.1 which	141
40.85 fgsl::fgsl_odeiv2_system Type Reference	141
40.85.1 Member Data Documentation	141
40.85.1.1 gsl_odeiv2_system	141
40.86 fgsl::fgsl_odeiv_control Type Reference	141
40.86.1 Member Data Documentation	141
40.86.1.1 gsl_odeiv_control	141
40.87 fgsl::fgsl_odeiv_control_type Type Reference	141
40.87.1 Member Data Documentation	141
40.87.1.1 gsl_odeiv_control_type	141
40.88 fgsl::fgsl_odeiv_evolve Type Reference	142
40.88.1 Member Data Documentation	142
40.88.1.1 gsl_odeiv_evolve	142
40.89 fgsl::fgsl_odeiv_step Type Reference	142
40.89.1 Member Data Documentation	142
40.89.1.1 gsl_odeiv_step	142
40.90 fgsl::fgsl_odeiv_step_type Type Reference	142
40.90.1 Member Data Documentation	142
40.90.1.1 which	142
40.91 fgsl::fgsl_odeiv_system Type Reference	142
40.91.1 Member Data Documentation	143
40.91.1.1 gsl_odeiv_system	143
40.92 fgsl::fgsl_permutation Type Reference	143
40.92.1 Member Data Documentation	143
40.92.1.1 gsl_permutation	143
40.93 fgsl_permute Interface Reference	143
40.93.1 Constructor & Destructor Documentation	143

40.93.1.1 fgsl_permute	143
40.93.2 Member Function/Subroutine Documentation	143
40.93.2.1 fgsl_permute_long	143
40.94fgsl_permute_inverse Interface Reference	143
40.94.1 Constructor & Destructor Documentation	144
40.94.1.1 fgsl_permute_inverse	144
40.94.2 Member Function/Subroutine Documentation	144
40.94.2.1 fgsl_permute_long_inverse	144
40.95fgsl::fgsl_poly_complex_workspace Type Reference	144
40.95.1 Member Data Documentation	144
40.95.1.1 gsl_poly_complex_workspace	144
40.96fgsl::fgsl_qrng Type Reference	144
40.96.1 Member Data Documentation	144
40.96.1.1 gsl_qrng	144
40.97fgsl::fgsl_qrng_type Type Reference	144
40.97.1 Member Data Documentation	145
40.97.1.1 type	145
40.98fgsl::fgsl_ran_discrete_t Type Reference	145
40.98.1 Member Data Documentation	145
40.98.1.1 gsl_ran_discrete_t	145
40.99fgsl_ran_shuffle Interface Reference	145
40.99.1 Constructor & Destructor Documentation	145
40.99.1.1 fgsl_ran_shuffle	145
40.99.2 Member Function/Subroutine Documentation	145
40.99.2.1 fgsl_ran_shuffle_double	145
40.99.2.2 fgsl_ran_shuffle_size_t	145
40.100fgsl::fgsl_rng Type Reference	145
40.100.1 Member Data Documentation	146
40.100.1.1 gsl_rng	146
40.101fgsl::fgsl_rng_type Type Reference	146
40.101.1 Member Data Documentation	146
40.101.1.1 gsl_rng_type	146
40.101.1.2 type	146
40.102fgsl::fgsl_root_fdfsolver Type Reference	146
40.102.1 Member Data Documentation	146
40.102.1.1 gsl_root_fdfsolver	146
40.103fgsl::fgsl_root_fdfsolver_type Type Reference	146
40.103.1 Member Data Documentation	146
40.103.1.1 which	146
40.104fgsl::fgsl_root_fsolver Type Reference	147

40.104.1 Member Data Documentation	147
40.104.1.1 gsl_root_fsolver	147
40.105::fgsl_root_fsolver_type Type Reference	147
40.105.1 Member Data Documentation	147
40.105.1.1 which	147
40.106::fgsl_sf_result Type Reference	147
40.106.1 Member Data Documentation	147
40.106.1.1 err	147
40.106.1.2 val	147
40.107::fgsl_sf_result_e10 Type Reference	148
40.107.1 Member Data Documentation	148
40.107.1.1 e10	148
40.107.1.2 err	148
40.107.1.3 val	148
40.108::fgsl_siman_params_t Type Reference	148
40.108.1 Member Data Documentation	148
40.108.1.1 gsl_siman_params_t	148
40.109::gsl_sizeof Interface Reference	149
40.109.1 Member Function/Subroutine Documentation	149
40.109.1.1 fgsl_sizeof_char	149
40.109.1.2 gsl_sizeof_combination	149
40.109.1.3 fgsl_sizeof_double	149
40.109.1.4 fgsl_sizeof_float	149
40.109.1.5 fgsl_sizeof_int	149
40.109.1.6 fgsl_sizeof_integration_qawo_table	149
40.109.1.7 fgsl_sizeof_integration_qaws_table	149
40.109.1.8 fgsl_sizeof_integration_workspace	149
40.109.1.9 fgsl_sizeof_interp	149
40.109.1.10 fgsl_sizeof_matrix	149
40.109.1.11 fgsl_sizeof_matrix_complex	149
40.109.1.12 fgsl_sizeof_multiset	149
40.109.1.13 fgsl_sizeof_permutation	149
40.109.1.14 fgsl_sizeof_size_t	149
40.109.1.15 fgsl_sizeof_vector	149
40.109.1.16 fgsl_sizeof_vector_complex	150
40.109.1.17 fgsl_sizeof_wavelet	150
40.109.1.18 fgsl_sizeof_wavelet_workspace	150
40.110::gsl_sort Interface Reference	150
40.110.1 Member Function/Subroutine Documentation	150
40.110.1.1 fgsl_sort_double	150

40.110.1.2fgsl_sort_long	150
40.110.1.3fgsl_sort_vector	150
40.111fgsl_sort_index Interface Reference	150
40.111.1Member Function/Subroutine Documentation	150
40.111.1.1fgsl_sort_double_index	150
40.111.1.2fgsl_sort_long_index	150
40.111.1.3fgsl_sort_vector_index	150
40.112fgsl_sort_largest Interface Reference	151
40.112.1Member Function/Subroutine Documentation	151
40.112.1.1fgsl_sort_double_largest	151
40.112.1.2fgsl_sort_long_largest	151
40.112.1.3fgsl_sort_vector_largest	151
40.113fgsl_sort_largest_index Interface Reference	151
40.113.1Member Function/Subroutine Documentation	151
40.113.1.1fgsl_sort_double_largest_index	151
40.113.1.2fgsl_sort_long_largest_index	151
40.113.1.3fgsl_sort_vector_largest_index	151
40.114fgsl_sort_smallest Interface Reference	151
40.114.1Member Function/Subroutine Documentation	152
40.114.1.1fgsl_sort_double_smallest	152
40.114.1.2fgsl_sort_long_smallest	152
40.114.1.3fgsl_sort_vector_smallest	152
40.115fgsl_sort_smallest_index Interface Reference	152
40.115.1Member Function/Subroutine Documentation	152
40.115.1.1fgsl_sort_double_smallest_index	152
40.115.1.2fgsl_sort_long_smallest_index	152
40.115.1.3fgsl_sort_vector_smallest_index	152
40.116fgsl::fgsl_spline Type Reference	152
40.116.1Member Data Documentation	152
40.116.1.1fgsl_spline	152
40.117fgsl::fgsl_sum_levin_u_workspace Type Reference	152
40.117.1Member Data Documentation	153
40.117.1.1fgsl_sum_levin_u_workspace	153
40.118fgsl::fgsl_sum_levin_utrunc_workspace Type Reference	153
40.118.1Member Data Documentation	153
40.118.1.1fgsl_sum_levin_utrunc_workspace	153
40.119fgsl::fgsl_vector Type Reference	153
40.119.1Member Data Documentation	153
40.119.1.1fgsl_vector	153
40.120fgsl_vector_align Interface Reference	153

40.120.1	Constructor & Destructor Documentation	154
40.120.1.1	fgsl_vector_align	154
40.120.2	Member Function/Subroutine Documentation	154
40.120.2.1	fgsl_vector_complex_align	154
40.120.2.2	fgsl_vector_complex_pointer_align	154
40.120.2.3	fgsl_vector_pointer_align	154
40.121	fgsl::fgsl_vector_complex Type Reference	154
40.121.1	Member Data Documentation	154
40.121.1.1	fgsl_vector_complex	154
40.122	fgsl_vector_free Interface Reference	154
40.122.1	Constructor & Destructor Documentation	154
40.122.1.1	fgsl_vector_free	154
40.122.2	Member Function/Subroutine Documentation	154
40.122.2.1	fgsl_vector_complex_free	154
40.123	fgsl_vector_init Interface Reference	155
40.123.1	Constructor & Destructor Documentation	155
40.123.1.1	fgsl_vector_init	155
40.123.2	Member Function/Subroutine Documentation	155
40.123.2.1	fgsl_vector_complex_init	155
40.124	fgsl::fgsl_wavelet Type Reference	155
40.124.1	Member Data Documentation	155
40.124.1.1	fgsl_wavelet	155
40.125	fgsl::fgsl_wavelet_type Type Reference	155
40.125.1	Member Data Documentation	155
40.125.1.1	which	155
40.126	fgsl::fgsl_wavelet_workspace Type Reference	156
40.126.1	Member Data Documentation	156
40.126.1.1	fgsl_wavelet_workspace	156
40.127	fgsl_well_defined Interface Reference	156
40.127.1	Member Function/Subroutine Documentation	157
40.127.1.1	fgsl_cheb_series_status	157
40.127.1.2	fgsl_combination_status	157
40.127.1.3	fgsl_dht_status	157
40.127.1.4	fgsl_error_handler_status	157
40.127.1.5	fgsl_file_status	157
40.127.1.6	fgsl_histogram_status	157
40.127.1.7	fgsl_integration_cquad_workspace_status	157
40.127.1.8	fgsl_integration_glfixed_table_status	157
40.127.1.9	fgsl_integration_qawo_table_status	157
40.127.1.10	fgsl_integration_qaws_table_status	157

40.127.1.11	fisl_integration_workspace_status	157
40.127.1.12	fisl_interp_accel_status	157
40.127.1.13	fisl_interp_status	157
40.127.1.14	fisl_matrix_complex_status	157
40.127.1.15	fisl_matrix_status	157
40.127.1.16	fisl_min_fminimizer_status	157
40.127.1.17	fisl_monte_function_status	157
40.127.1.18	fisl_monte_miser_status	158
40.127.1.19	fisl_monte_plain_status	158
40.127.1.20	fisl_monte_vegas_status	158
40.127.1.21	fisl_multifit_fdfsolver_status	158
40.127.1.22	fisl_multifit_fsolver_status	158
40.127.1.23	fisl_multifit_status	158
40.127.1.24	fisl_multimin_fdfminimizer_status	158
40.127.1.25	fisl_multimin_fminimizer_status	158
40.127.1.26	fisl_multiroot_fdfsolver_status	158
40.127.1.27	fisl_multiroot_fsolver_status	158
40.127.1.28	fisl_multiset_status	158
40.127.1.29	fisl_ntuple_select_fn_status	158
40.127.1.30	fisl_ntuple_status	158
40.127.1.31	fisl_ntuple_value_fn_status	158
40.127.1.32	fisl_odeiv2_control_status	158
40.127.1.33	fisl_odeiv2_driver_status	158
40.127.1.34	fisl_odeiv2_evolve_status	158
40.127.1.35	fisl_odeiv2_step_status	158
40.127.1.36	fisl_odeiv2_system_status	158
40.127.1.37	fisl_odeiv_control_status	158
40.127.1.38	fisl_odeiv_evolve_status	158
40.127.1.39	fisl_odeiv_step_status	158
40.127.1.40	fisl_odeiv_system_status	158
40.127.1.41	fisl_permutation_status	158
40.127.1.42	fisl_poly_complex_workspace_status	158
40.127.1.43	fisl_qrng_status	158
40.127.1.44	fisl_ran_discrete_t_status	158
40.127.1.45	fisl_rng_status	158
40.127.1.46	fisl_root_fdfsolver_status	159
40.127.1.47	fisl_root_fsolver_status	159
40.127.1.48	fisl_siman_params_t_status	159
40.127.1.49	fisl_spline_status	159
40.127.1.50	fisl_vector_complex_status	159

40.127.1.51	fgsl_vector_status	159
40.127.1.52	fgsl_wavelet_status	159
40.127.1.53	fgsl_wavelet_workspace_status	159
40.128	fgsl::fgsl_complex Type Reference	159
40.128.1	Member Data Documentation	159
40.128.1.1	dat	159
40.129	fgsl::fgsl_sf_result Type Reference	159
40.129.1	Member Data Documentation	159
40.129.1.1	terr	159
40.129.1.2	val	159
40.130	fgsl::fgsl_sf_result_e10 Type Reference	160
40.130.1	Member Data Documentation	160
40.130.1.1	e10	160
40.130.1.2	err	160
40.130.1.3	val	160
41	File Documentation	161
41.1	api/array.finc File Reference	161
41.1.1	Function/Subroutine Documentation	163
41.1.1.1	fgsl_matrix_align	163
41.1.1.2	fgsl_matrix_c_ptr	163
41.1.1.3	fgsl_matrix_complex_align	163
41.1.1.4	fgsl_matrix_complex_c_ptr	163
41.1.1.5	fgsl_matrix_complex_free	164
41.1.1.6	fgsl_matrix_complex_init	164
41.1.1.7	fgsl_matrix_complex_pointer_align	164
41.1.1.8	fgsl_matrix_complex_status	164
41.1.1.9	fgsl_matrix_complex_to_array	164
41.1.1.10	fgsl_matrix_free	164
41.1.1.11	fgsl_matrix_init	164
41.1.1.12	fgsl_matrix_pointer_align	165
41.1.1.13	fgsl_matrix_status	165
41.1.1.14	fgsl_matrix_to_array	165
41.1.1.15	fgsl_sizeof_matrix	165
41.1.1.16	fgsl_sizeof_matrix_complex	165
41.1.1.17	fgsl_sizeof_vector	165
41.1.1.18	fgsl_sizeof_vector_complex	165
41.1.1.19	fgsl_vector_align	165
41.1.1.20	fgsl_vector_c_ptr	166
41.1.1.21	fgsl_vector_complex_align	166

41.1.1.22 fgsl_vector_complex_c_ptr	166
41.1.1.23 fgsl_vector_complex_free	166
41.1.1.24 fgsl_vector_complex_init	166
41.1.1.25 fgsl_vector_complex_pointer_align	167
41.1.1.26 fgsl_vector_complex_status	167
41.1.1.27 fgsl_vector_complex_to_array	167
41.1.1.28 fgsl_vector_free	167
41.1.1.29 fgsl_vector_init	167
41.1.1.30 fgsl_vector_pointer_align	167
41.1.1.31 fgsl_vector_status	168
41.1.1.32 fgsl_vector_to_array	168
41.2 api/bspline.finc File Reference	168
41.2.1 Function/Subroutine Documentation	169
41.2.1.1 fgsl_bspline_alloc	169
41.2.1.2 fgsl_bspline_deriv_alloc	169
41.2.1.3 fgsl_bspline_deriv_eval	169
41.2.1.4 fgsl_bspline_deriv_eval_nonzero	169
41.2.1.5 fgsl_bspline_deriv_free	169
41.2.1.6 fgsl_bspline_eval	169
41.2.1.7 fgsl_bspline_eval_nonzero	169
41.2.1.8 fgsl_bspline_free	169
41.2.1.9 fgsl_bspline_greville_abscissa	169
41.2.1.10 fgsl_bspline_knots	169
41.2.1.11 fgsl_bspline_knots_uniform	169
41.2.1.12 fgsl_bspline_ncoeffs	169
41.3 api/chebyshev.finc File Reference	169
41.3.1 Function/Subroutine Documentation	170
41.3.1.1 fgsl_cheb_alloc	170
41.3.1.2 fgsl_cheb_calc_deriv	170
41.3.1.3 fgsl_cheb_calc_integ	170
41.3.1.4 fgsl_cheb_coeffs	170
41.3.1.5 fgsl_cheb_eval	170
41.3.1.6 fgsl_cheb_eval_err	170
41.3.1.7 fgsl_cheb_eval_n	170
41.3.1.8 fgsl_cheb_eval_n_err	170
41.3.1.9 fgsl_cheb_free	170
41.3.1.10 fgsl_cheb_init	170
41.3.1.11 fgsl_cheb_order	170
41.3.1.12 fgsl_cheb_series_status	170
41.3.1.13 fgsl_cheb_size	170

41.4	api/complex.finc File Reference	171
41.4.1	Function/Subroutine Documentation	172
41.4.1.1	complex_to_fgsl_complex	172
41.4.1.2	fgsl_complex_arccos	172
41.4.1.3	fgsl_complex_arccos_real	172
41.4.1.4	fgsl_complex_arccosh	172
41.4.1.5	fgsl_complex_arccosh_real	172
41.4.1.6	fgsl_complex_arccot	172
41.4.1.7	fgsl_complex_arccoth	172
41.4.1.8	fgsl_complex_arccsc	172
41.4.1.9	fgsl_complex_arccsc_real	172
41.4.1.10	fgsl_complex_arccsch	172
41.4.1.11	fgsl_complex_arcsec	172
41.4.1.12	fgsl_complex_arcsec_real	172
41.4.1.13	fgsl_complex_arcsech	172
41.4.1.14	fgsl_complex_arcsin	172
41.4.1.15	fgsl_complex_arcsin_real	172
41.4.1.16	fgsl_complex_arcsinh	172
41.4.1.17	fgsl_complex_arctan	172
41.4.1.18	fgsl_complex_arctanh	172
41.4.1.19	fgsl_complex_arctanh_real	172
41.4.1.20	fgsl_complex_arg	172
41.4.1.21	fgsl_complex_log10	172
41.4.1.22	fgsl_complex_log_b	173
41.4.1.23	fgsl_complex_logabs	173
41.4.1.24	fgsl_complex_to_complex	173
41.5	api/deriv.finc File Reference	173
41.5.1	Function/Subroutine Documentation	173
41.5.1.1	fgsl_deriv_backward	173
41.5.1.2	fgsl_deriv_central	173
41.5.1.3	fgsl_deriv_forward	173
41.6	api/dht.finc File Reference	174
41.6.1	Function/Subroutine Documentation	174
41.6.1.1	fgsl_dht_alloc	174
41.6.1.2	fgsl_dht_apply	174
41.6.1.3	fgsl_dht_free	174
41.6.1.4	fgsl_dht_init	174
41.6.1.5	fgsl_dht_k_sample	174
41.6.1.6	fgsl_dht_new	174
41.6.1.7	fgsl_dht_status	174

41.6.1.8 fgsl_dht_x_sample	174
41.7 api/eigen.finc File Reference	175
41.7.1 Function/Subroutine Documentation	176
41.7.1.1 fgsl_eigen_gen	176
41.7.1.2 fgsl_eigen_gen_alloc	176
41.7.1.3 fgsl_eigen_gen_free	176
41.7.1.4 fgsl_eigen_gen_params	176
41.7.1.5 fgsl_eigen_gen_qz	176
41.7.1.6 fgsl_eigen_genherm	176
41.7.1.7 fgsl_eigen_genherm_alloc	176
41.7.1.8 fgsl_eigen_genherm_free	176
41.7.1.9 fgsl_eigen_genhermv	176
41.7.1.10 fgsl_eigen_genhermv_alloc	177
41.7.1.11 fgsl_eigen_genhermv_free	177
41.7.1.12 fgsl_eigen_genhermv_sort	177
41.7.1.13 fgsl_eigen_gensymm	177
41.7.1.14 fgsl_eigen_gensymm_alloc	177
41.7.1.15 fgsl_eigen_gensymm_free	177
41.7.1.16 fgsl_eigen_gensymmv	177
41.7.1.17 fgsl_eigen_gensymmv_alloc	177
41.7.1.18 fgsl_eigen_gensymmv_free	177
41.7.1.19 fgsl_eigen_gensymmv_sort	177
41.7.1.20 fgsl_eigen_genv	177
41.7.1.21 fgsl_eigen_genv_alloc	177
41.7.1.22 fgsl_eigen_genv_free	177
41.7.1.23 fgsl_eigen_genv_qz	177
41.7.1.24 fgsl_eigen_genv_sort	177
41.7.1.25 fgsl_eigen_herm	177
41.7.1.26 fgsl_eigen_herm_alloc	177
41.7.1.27 fgsl_eigen_herm_free	177
41.7.1.28 fgsl_eigen_hermv	177
41.7.1.29 fgsl_eigen_hermv_alloc	177
41.7.1.30 fgsl_eigen_hermv_free	177
41.7.1.31 fgsl_eigen_hermv_sort	177
41.7.1.32 fgsl_eigen_nonsymm	178
41.7.1.33 fgsl_eigen_nonsymm_alloc	178
41.7.1.34 fgsl_eigen_nonsymm_free	178
41.7.1.35 fgsl_eigen_nonsymm_params	178
41.7.1.36 fgsl_eigen_nonsymm_z	178
41.7.1.37 fgsl_eigen_nonsymmv	178

41.7.1.38 fgsl_eigen_nonsymmv_alloc	178
41.7.1.39 fgsl_eigen_nonsymmv_free	178
41.7.1.40 fgsl_eigen_nonsymmv_params	178
41.7.1.41 fgsl_eigen_nonsymmv_sort	178
41.7.1.42 fgsl_eigen_nonsymmv_z	178
41.7.1.43 fgsl_eigen_symm	178
41.7.1.44 fgsl_eigen_symm_alloc	178
41.7.1.45 fgsl_eigen_symm_free	178
41.7.1.46 fgsl_eigen_symmv	178
41.7.1.47 fgsl_eigen_symmv_alloc	178
41.7.1.48 fgsl_eigen_symmv_free	178
41.7.1.49 fgsl_eigen_symmv_sort	178
41.8 api/error.finc File Reference	179
41.8.1 Function/Subroutine Documentation	179
41.8.1.1 fgsl_error	179
41.8.1.2 fgsl_error_handler_init	179
41.8.1.3 fgsl_error_handler_status	179
41.8.1.4 fgsl_set_error_handler	179
41.8.1.5 fgsl_set_error_handler_off	179
41.8.1.6 fgsl_strerror	179
41.9 api/fft.finc File Reference	180
41.9.1 Function/Subroutine Documentation	181
41.9.1.1 fgsl_fft_complex_backward	181
41.9.1.2 fgsl_fft_complex_forward	181
41.9.1.3 fgsl_fft_complex_inverse	181
41.9.1.4 fgsl_fft_complex_radix2_backward	181
41.9.1.5 fgsl_fft_complex_radix2_dif_backward	181
41.9.1.6 fgsl_fft_complex_radix2_dif_forward	181
41.9.1.7 fgsl_fft_complex_radix2_dif_inverse	181
41.9.1.8 fgsl_fft_complex_radix2_dif_transform	181
41.9.1.9 fgsl_fft_complex_radix2_forward	181
41.9.1.10 fgsl_fft_complex_radix2_inverse	181
41.9.1.11 fgsl_fft_complex_radix2_transform	181
41.9.1.12 fgsl_fft_complex_transform	181
41.9.1.13 fgsl_fft_complex_wavetable_alloc	181
41.9.1.14 fgsl_fft_complex_wavetable_free	181
41.9.1.15 fgsl_fft_complex_workspace_alloc	181
41.9.1.16 fgsl_fft_complex_workspace_free	181
41.9.1.17 fgsl_fft_halfcomplex_radix2_backward	181
41.9.1.18 fgsl_fft_halfcomplex_radix2_inverse	182

41.9.1.19 fgsl_fft_halfcomplex_transform	182
41.9.1.20 fgsl_fft_halfcomplex_unpack	182
41.9.1.21 fgsl_fft_halfcomplex_wavetable_alloc	182
41.9.1.22 fgsl_fft_halfcomplex_wavetable_free	182
41.9.1.23 fgsl_fft_real_radix2_transform	182
41.9.1.24 fgsl_fft_real_transform	182
41.9.1.25 fgsl_fft_real_unpack	182
41.9.1.26 fgsl_fft_real_wavetable_alloc	182
41.9.1.27 fgsl_fft_real_wavetable_free	182
41.9.1.28 fgsl_fft_real_workspace_alloc	182
41.9.1.29 fgsl_fft_real_workspace_free	182
41.10api/fit.finc File Reference	182
41.10.1 Function/Subroutine Documentation	183
41.10.1.1 fgsl_fit_linear	183
41.10.1.2 fgsl_fit_linear_est	183
41.10.1.3 fgsl_fit_mul	183
41.10.1.4 fgsl_fit_mul_est	183
41.10.1.5 fgsl_fit_wlinear	183
41.10.1.6 fgsl_fit_wmul	183
41.10.1.7 fgsl_multifit_linear	183
41.10.1.8 fgsl_multifit_linear_alloc	183
41.10.1.9 fgsl_multifit_linear_est	184
41.10.1.10 fgsl_multifit_linear_free	184
41.10.1.11 fgsl_multifit_linear_residuals	184
41.10.1.12 fgsl_multifit_linear_svd	184
41.10.1.13 fgsl_multifit_linear_usvd	184
41.10.1.14 fgsl_multifit_status	184
41.10.1.15 fgsl_multifit_wlinear	184
41.10.1.16 fgsl_multifit_wlinear_svd	184
41.10.1.17 fgsl_multifit_wlinear_usvd	184
41.11api/histogram.finc File Reference	184
41.11.1 Function/Subroutine Documentation	186
41.11.1.1 fgsl_histogram2d_accumulate	186
41.11.1.2 fgsl_histogram2d_add	186
41.11.1.3 fgsl_histogram2d_alloc	186
41.11.1.4 fgsl_histogram2d_clone	186
41.11.1.5 fgsl_histogram2d_cov	186
41.11.1.6 fgsl_histogram2d_div	186
41.11.1.7 fgsl_histogram2d_equal_bins_p	186
41.11.1.8 fgsl_histogram2d_find	186

41.11.1.9 fgsl_histogram2d_fprintf	186
41.11.1.10 fgsl_histogram2d_fread	187
41.11.1.11 fgsl_histogram2d_free	187
41.11.1.12 fgsl_histogram2d_fscanf	187
41.11.1.13 fgsl_histogram2d_fwrite	187
41.11.1.14 fgsl_histogram2d_get	187
41.11.1.15 fgsl_histogram2d_get_xrange	187
41.11.1.16 fgsl_histogram2d_get_yrange	187
41.11.1.17 fgsl_histogram2d_increment	187
41.11.1.18 fgsl_histogram2d_max_bin	187
41.11.1.19 fgsl_histogram2d_max_val	187
41.11.1.20 fgsl_histogram2d_memcpy	187
41.11.1.21 fgsl_histogram2d_min_bin	187
41.11.1.22 fgsl_histogram2d_min_val	187
41.11.1.23 fgsl_histogram2d_mul	187
41.11.1.24 fgsl_histogram2d_nx	187
41.11.1.25 fgsl_histogram2d_ny	187
41.11.1.26 fgsl_histogram2d_pdf_alloc	187
41.11.1.27 fgsl_histogram2d_pdf_free	187
41.11.1.28 fgsl_histogram2d_pdf_init	187
41.11.1.29 fgsl_histogram2d_pdf_sample	187
41.11.1.30 fgsl_histogram2d_reset	187
41.11.1.31 fgsl_histogram2d_scale	188
41.11.1.32 fgsl_histogram2d_set_ranges	188
41.11.1.33 fgsl_histogram2d_set_ranges_uniform	188
41.11.1.34 fgsl_histogram2d_shift	188
41.11.1.35 fgsl_histogram2d_sub	188
41.11.1.36 fgsl_histogram2d_sum	188
41.11.1.37 fgsl_histogram2d_xmax	188
41.11.1.38 fgsl_histogram2d_xmean	188
41.11.1.39 fgsl_histogram2d_xmin	188
41.11.1.40 fgsl_histogram2d_xsigma	188
41.11.1.41 fgsl_histogram2d_ymax	188
41.11.1.42 fgsl_histogram2d_ymean	188
41.11.1.43 fgsl_histogram2d_ymin	188
41.11.1.44 fgsl_histogram2d_ysigma	188
41.11.1.45 fgsl_histogram_accumulate	188
41.11.1.46 fgsl_histogram_add	188
41.11.1.47 fgsl_histogram_alloc	188
41.11.1.48 fgsl_histogram_bins	188

41.11.1.49	fgsl_histogram_clone	188
41.11.1.50	fgsl_histogram_div	188
41.11.1.51	fgsl_histogram_equal_bins_p	188
41.11.1.52	fgsl_histogram_find	188
41.11.1.53	fgsl_histogram_fprintf	189
41.11.1.54	fgsl_histogram_fread	189
41.11.1.55	fgsl_histogram_free	189
41.11.1.56	fgsl_histogram_fscanf	189
41.11.1.57	fgsl_histogram_fwrite	189
41.11.1.58	fgsl_histogram_get	189
41.11.1.59	fgsl_histogram_get_range	189
41.11.1.60	fgsl_histogram_increment	189
41.11.1.61	fgsl_histogram_max	189
41.11.1.62	fgsl_histogram_max_bin	189
41.11.1.63	fgsl_histogram_max_val	189
41.11.1.64	fgsl_histogram_mean	189
41.11.1.65	fgsl_histogram_memcpy	189
41.11.1.66	fgsl_histogram_min	189
41.11.1.67	fgsl_histogram_min_bin	189
41.11.1.68	fgsl_histogram_min_val	189
41.11.1.69	fgsl_histogram_mul	189
41.11.1.70	fgsl_histogram_pdf_alloc	189
41.11.1.71	fgsl_histogram_pdf_free	189
41.11.1.72	fgsl_histogram_pdf_init	189
41.11.1.73	fgsl_histogram_pdf_sample	189
41.11.1.74	fgsl_histogram_reset	189
41.11.1.75	fgsl_histogram_scale	189
41.11.1.76	fgsl_histogram_set_ranges	190
41.11.1.77	fgsl_histogram_set_ranges_uniform	190
41.11.1.78	fgsl_histogram_shift	190
41.11.1.79	fgsl_histogram_sigma	190
41.11.1.80	fgsl_histogram_status	190
41.11.1.81	fgsl_histogram_sub	190
41.11.1.82	fgsl_histogram_sum	190
41.12	api/ieee.finc File Reference	190
41.12.1	Function/Subroutine Documentation	190
41.12.1.1	fgsl_ieee_env_setup	190
41.12.1.2	fgsl_ieee_fprintf_double	190
41.12.1.3	fgsl_ieee_fprintf_float	190
41.12.1.4	fgsl_ieee_printf_double	190

41.12.1.5 fgsl_ieee_printf_float	191
41.13api/integration.finc File Reference	191
41.13.1 Function/Subroutine Documentation	192
41.13.1.1 fgsl_integration_cquad	192
41.13.1.2 fgsl_integration_cquad_workspace_alloc	192
41.13.1.3 fgsl_integration_cquad_workspace_free	192
41.13.1.4 fgsl_integration_cquad_workspace_status	192
41.13.1.5 fgsl_integration_glfixed	192
41.13.1.6 fgsl_integration_glfixed_point	192
41.13.1.7 fgsl_integration_glfixed_table_alloc	192
41.13.1.8 fgsl_integration_glfixed_table_free	192
41.13.1.9 fgsl_integration_glfixed_table_status	192
41.13.1.10 fgsl_integration_qag	192
41.13.1.11 fgsl_integration_qagi	192
41.13.1.12 fgsl_integration_qagil	192
41.13.1.13 fgsl_integration_qagiu	193
41.13.1.14 fgsl_integration_qagp	193
41.13.1.15 fgsl_integration_qags	193
41.13.1.16 fgsl_integration_qawc	193
41.13.1.17 fgsl_integration_qawf	193
41.13.1.18 fgsl_integration_qawo	193
41.13.1.19 fgsl_integration_qawo_table_alloc	193
41.13.1.20 fgsl_integration_qawo_table_free	193
41.13.1.21 fgsl_integration_qawo_table_set	193
41.13.1.22 fgsl_integration_qawo_table_set_length	193
41.13.1.23 fgsl_integration_qawo_table_status	193
41.13.1.24 fgsl_integration_qaws	193
41.13.1.25 fgsl_integration_qaws_table_alloc	193
41.13.1.26 fgsl_integration_qaws_table_free	193
41.13.1.27 fgsl_integration_qaws_table_set	193
41.13.1.28 fgsl_integration_qaws_table_status	194
41.13.1.29 fgsl_integration_qng	194
41.13.1.30 fgsl_integration_workspace_alloc	194
41.13.1.31 fgsl_integration_workspace_free	194
41.13.1.32 fgsl_integration_workspace_status	194
41.13.1.33 fgsl_sizeof_integration_qawo_table	194
41.13.1.34 fgsl_sizeof_integration_qaws_table	194
41.13.1.35 fgsl_sizeof_integration_workspace	194
41.14api/interp.finc File Reference	194
41.14.1 Function/Subroutine Documentation	195

41.14.1.1 fgsl_interp_accel_alloc	195
41.14.1.2 fgsl_interp_accel_find	195
41.14.1.3 fgsl_interp_accel_free	195
41.14.1.4 fgsl_interp_accel_status	195
41.14.1.5 fgsl_interp_alloc	195
41.14.1.6 fgsl_interp_bsearch	195
41.14.1.7 fgsl_interp_eval	195
41.14.1.8 fgsl_interp_eval_deriv	195
41.14.1.9 fgsl_interp_eval_deriv2	195
41.14.1.10 fgsl_interp_eval_deriv2_e	195
41.14.1.11 fgsl_interp_eval_deriv_e	196
41.14.1.12 fgsl_interp_eval_e	196
41.14.1.13 fgsl_interp_eval_integ	196
41.14.1.14 fgsl_interp_eval_integ_e	196
41.14.1.15 fgsl_interp_free	196
41.14.1.16 fgsl_interp_init	196
41.14.1.17 fgsl_interp_min_size	196
41.14.1.18 fgsl_interp_name	196
41.14.1.19 fgsl_interp_status	196
41.14.1.20 fgsl_interp_type_min_size	196
41.14.1.21 fgsl_sizeof_interp	196
41.14.1.22 fgsl_spline_alloc	196
41.14.1.23 fgsl_spline_eval	196
41.14.1.24 fgsl_spline_eval_deriv	196
41.14.1.25 fgsl_spline_eval_deriv2	196
41.14.1.26 fgsl_spline_eval_deriv2_e	196
41.14.1.27 fgsl_spline_eval_deriv_e	196
41.14.1.28 fgsl_spline_eval_e	196
41.14.1.29 fgsl_spline_eval_integ	196
41.14.1.30 fgsl_spline_eval_integ_e	197
41.14.1.31 fgsl_spline_free	197
41.14.1.32 fgsl_spline_init	197
41.14.1.33 fgsl_spline_min_size	197
41.14.1.34 fgsl_spline_name	197
41.14.1.35 fgsl_spline_status	197
41.15api/io.finc File Reference	197
41.15.1 Function/Subroutine Documentation	197
41.15.1.1 fgsl_close	197
41.15.1.2 fgsl_file_status	198
41.15.1.3 fgsl_flush	198

41.15.1.4 fgsl_open	198
41.15.1.5 fgsl_stderr	198
41.15.1.6 fgsl_stdin	198
41.15.1.7 fgsl_stdout	198
41.16api/linalg.finc File Reference	199
41.16.1 Function/Subroutine Documentation	201
41.16.1.1 fgsl_linalg_balance_matrix	201
41.16.1.2 fgsl_linalg_bidiag_decomp	201
41.16.1.3 fgsl_linalg_bidiag_unpack	201
41.16.1.4 fgsl_linalg_bidiag_unpack2	201
41.16.1.5 fgsl_linalg_bidiag_unpack_b	201
41.16.1.6 fgsl_linalg_cholesky_decomp	201
41.16.1.7 fgsl_linalg_cholesky_invert	201
41.16.1.8 fgsl_linalg_cholesky_solve	201
41.16.1.9 fgsl_linalg_cholesky_svx	201
41.16.1.10 fgsl_linalg_complex_cholesky_decomp	201
41.16.1.11 fgsl_linalg_complex_cholesky_invert	201
41.16.1.12 fgsl_linalg_complex_cholesky_solve	201
41.16.1.13 fgsl_linalg_complex_cholesky_svx	201
41.16.1.14 fgsl_linalg_complex_householder_hm	201
41.16.1.15 fgsl_linalg_complex_householder_hv	201
41.16.1.16 fgsl_linalg_complex_householder_mh	201
41.16.1.17 fgsl_linalg_complex_householder_transform	201
41.16.1.18 fgsl_linalg_complex_lu_decomp	201
41.16.1.19 fgsl_linalg_complex_lu_det	201
41.16.1.20 fgsl_linalg_complex_lu_invert	202
41.16.1.21 fgsl_linalg_complex_lu_lndet	202
41.16.1.22 fgsl_linalg_complex_lu_refine	202
41.16.1.23 fgsl_linalg_complex_lu_sgndet	202
41.16.1.24 fgsl_linalg_complex_lu_solve	202
41.16.1.25 fgsl_linalg_complex_lu_svx	202
41.16.1.26 fgsl_linalg_hermt_d_decomp	202
41.16.1.27 fgsl_linalg_hermt_d_unpack	202
41.16.1.28 fgsl_linalg_hermt_d_unpack_t	202
41.16.1.29 fgsl_linalg_hessenberg_decomp	202
41.16.1.30 fgsl_linalg_hessenberg_set_zero	202
41.16.1.31 fgsl_linalg_hessenberg_unpack	202
41.16.1.32 fgsl_linalg_hessenberg_unpack_accum	202
41.16.1.33 fgsl_linalg_hesstri_decomp	202
41.16.1.34 fgsl_linalg_hh_solve	202

41.16.1.35	gsl_linalg_hh_svx	202
41.16.1.36	gsl_linalg_householder_hm	202
41.16.1.37	gsl_linalg_householder_hv	202
41.16.1.38	gsl_linalg_householder_mh	203
41.16.1.39	gsl_linalg_householder_transform	203
41.16.1.40	gsl_linalg_lu_decomp	203
41.16.1.41	gsl_linalg_lu_det	203
41.16.1.42	gsl_linalg_lu_invert	203
41.16.1.43	gsl_linalg_lu_ldet	203
41.16.1.44	gsl_linalg_lu_refine	203
41.16.1.45	gsl_linalg_lu_sgndet	203
41.16.1.46	gsl_linalg_lu_solve	203
41.16.1.47	gsl_linalg_lu_svx	203
41.16.1.48	gsl_linalg_qr_decomp	203
41.16.1.49	gsl_linalg_qr_ksolve	203
41.16.1.50	gsl_linalg_qr_ksolve	203
41.16.1.51	gsl_linalg_qr_qtmat	203
41.16.1.52	gsl_linalg_qr_qtvec	203
41.16.1.53	gsl_linalg_qr_qvec	203
41.16.1.54	gsl_linalg_qr_ksolve	203
41.16.1.55	gsl_linalg_qr_ksvx	203
41.16.1.56	gsl_linalg_qr_solve	203
41.16.1.57	gsl_linalg_qr_svx	203
41.16.1.58	gsl_linalg_qr_unpack	204
41.16.1.59	gsl_linalg_qr_update	204
41.16.1.60	gsl_linalg_qrpt_decomp	204
41.16.1.61	gsl_linalg_qrpt_decomp2	204
41.16.1.62	gsl_linalg_qrpt_ksolve	204
41.16.1.63	gsl_linalg_qrpt_ksolve	204
41.16.1.64	gsl_linalg_qrpt_ksvx	204
41.16.1.65	gsl_linalg_qrpt_solve	204
41.16.1.66	gsl_linalg_qrpt_svx	204
41.16.1.67	gsl_linalg_qrpt_update	204
41.16.1.68	gsl_linalg_r_solve	204
41.16.1.69	gsl_linalg_r_svx	204
41.16.1.70	gsl_linalg_solve_cyc_tridiag	204
41.16.1.71	gsl_linalg_solve_symm_cyc_tridiag	204
41.16.1.72	gsl_linalg_solve_symm_tridiag	204
41.16.1.73	gsl_linalg_solve_tridiag	204
41.16.1.74	gsl_linalg_sv_decomp	204

41.16.1.75	fgsl_linalg_sv_decomp_jacobi	204
41.16.1.76	fgsl_linalg_sv_decomp_mod	205
41.16.1.77	fgsl_linalg_sv_solve	205
41.16.1.78	fgsl_linalg_symmtd_decomp	205
41.16.1.79	fgsl_linalg_symmtd_unpack	205
41.16.1.80	fgsl_linalg_symmtd_unpack_t	205
41.17	api/math.finc File Reference	205
41.17.1	Function/Subroutine Documentation	206
41.17.1.1	fgsl_acosh	206
41.17.1.2	fgsl_asinh	206
41.17.1.3	fgsl_atanh	206
41.17.1.4	fgsl_expm1	206
41.17.1.5	fgsl_fcmp	206
41.17.1.6	fgsl_finite	206
41.17.1.7	fgsl_fn_eval	206
41.17.1.8	fgsl_fn_fdf_eval_df	206
41.17.1.9	fgsl_fn_fdf_eval_f	207
41.17.1.10	fgsl_fn_fdf_eval_f_df	207
41.17.1.11	fgsl_frexp	207
41.17.1.12	fgsl_function_fdf_free	207
41.17.1.13	fgsl_function_fdf_init	207
41.17.1.14	fgsl_function_free	207
41.17.1.15	fgsl_function_init	208
41.17.1.16	fgsl_hypot	208
41.17.1.17	fgsl_isinf	208
41.17.1.18	fgsl_isnan	208
41.17.1.19	fgsl_ldexp	208
41.17.1.20	fgsl_log1p	208
41.18	api/min.finc File Reference	208
41.18.1	Function/Subroutine Documentation	209
41.18.1.1	fgsl_min_fminimizer_alloc	209
41.18.1.2	fgsl_min_fminimizer_f_lower	209
41.18.1.3	fgsl_min_fminimizer_f_minimum	209
41.18.1.4	fgsl_min_fminimizer_f_upper	209
41.18.1.5	fgsl_min_fminimizer_free	209
41.18.1.6	fgsl_min_fminimizer_iterate	209
41.18.1.7	fgsl_min_fminimizer_name	209
41.18.1.8	fgsl_min_fminimizer_set	209
41.18.1.9	fgsl_min_fminimizer_set_with_values	209
41.18.1.10	fgsl_min_fminimizer_status	209

41.18.1.1	fgsl_min_fminimizer_x_lower	209
41.18.1.2	fgsl_min_fminimizer_x_minimum	209
41.18.1.3	fgsl_min_fminimizer_x_upper	209
41.18.1.4	fgsl_min_test_interval	209
41.19	api/misc.finc File Reference	210
41.19.1	Function/Subroutine Documentation	210
41.19.1.1	fgsl_name	210
41.19.1.2	fgsl_sizeof_char	210
41.19.1.3	fgsl_sizeof_double	210
41.19.1.4	fgsl_sizeof_float	211
41.19.1.5	fgsl_sizeof_int	211
41.19.1.6	fgsl_sizeof_long	211
41.19.1.7	fgsl_sizeof_size_t	211
41.20	api/montecarlo.finc File Reference	211
41.20.1	Function/Subroutine Documentation	212
41.20.1.1	fgsl_monte_function_free	212
41.20.1.2	fgsl_monte_function_init	212
41.20.1.3	fgsl_monte_function_status	212
41.20.1.4	fgsl_monte_miser_alloc	212
41.20.1.5	fgsl_monte_miser_free	212
41.20.1.6	fgsl_monte_miser_getparams	212
41.20.1.7	fgsl_monte_miser_init	212
41.20.1.8	fgsl_monte_miser_integrate	212
41.20.1.9	fgsl_monte_miser_setparams	212
41.20.1.10	fgsl_monte_miser_status	213
41.20.1.11	fgsl_monte_plain_alloc	213
41.20.1.12	fgsl_monte_plain_free	213
41.20.1.13	fgsl_monte_plain_init	213
41.20.1.14	fgsl_monte_plain_integrate	213
41.20.1.15	fgsl_monte_plain_status	213
41.20.1.16	fgsl_monte_vegas_alloc	213
41.20.1.17	fgsl_monte_vegas_chisq	213
41.20.1.18	fgsl_monte_vegas_free	213
41.20.1.19	fgsl_monte_vegas_getparams	213
41.20.1.20	fgsl_monte_vegas_init	213
41.20.1.21	fgsl_monte_vegas_integrate	213
41.20.1.22	fgsl_monte_vegas_runval	213
41.20.1.23	fgsl_monte_vegas_setparams	213
41.20.1.24	fgsl_monte_vegas_status	213
41.21	api/multifit.finc File Reference	214

41.21.1 Function/Subroutine Documentation	215
41.21.1.1 fgsl_multifit_covar	215
41.21.1.2 fgsl_multifit_fdfsolver_alloc	215
41.21.1.3 fgsl_multifit_fdfsolver_dx	215
41.21.1.4 fgsl_multifit_fdfsolver_f	215
41.21.1.5 fgsl_multifit_fdfsolver_free	215
41.21.1.6 fgsl_multifit_fdfsolver_iterate	215
41.21.1.7 fgsl_multifit_fdfsolver_jac	215
41.21.1.8 fgsl_multifit_fdfsolver_name	215
41.21.1.9 fgsl_multifit_fdfsolver_position	215
41.21.1.10 fgsl_multifit_fdfsolver_set	215
41.21.1.11 fgsl_multifit_fdfsolver_status	215
41.21.1.12 fgsl_multifit_fsolver_alloc	215
41.21.1.13 fgsl_multifit_fsolver_free	215
41.21.1.14 fgsl_multifit_fsolver_iterate	215
41.21.1.15 fgsl_multifit_fsolver_name	215
41.21.1.16 fgsl_multifit_fsolver_position	215
41.21.1.17 fgsl_multifit_fsolver_set	215
41.21.1.18 fgsl_multifit_fsolver_status	215
41.21.1.19 fgsl_multifit_function_fdf_free	215
41.21.1.20 fgsl_multifit_function_fdf_init	215
41.21.1.21 fgsl_multifit_function_free	215
41.21.1.22 fgsl_multifit_function_init	215
41.21.1.23 fgsl_multifit_gradient	216
41.21.1.24 fgsl_multifit_test_delta	216
41.21.1.25 fgsl_multifit_test_gradient	216
41.22 api/multimin.finc File Reference	216
41.22.1 Function/Subroutine Documentation	217
41.22.1.1 fgsl_multimin_fdfminimizer_alloc	217
41.22.1.2 fgsl_multimin_fdfminimizer_free	217
41.22.1.3 fgsl_multimin_fdfminimizer_gradient	217
41.22.1.4 fgsl_multimin_fdfminimizer_iterate	217
41.22.1.5 fgsl_multimin_fdfminimizer_minimum	217
41.22.1.6 fgsl_multimin_fdfminimizer_name	217
41.22.1.7 fgsl_multimin_fdfminimizer_restart	217
41.22.1.8 fgsl_multimin_fdfminimizer_set	217
41.22.1.9 fgsl_multimin_fdfminimizer_status	217
41.22.1.10 fgsl_multimin_fdfminimizer_x	217
41.22.1.11 fgsl_multimin_fminimizer_alloc	217
41.22.1.12 fgsl_multimin_fminimizer_free	217

41.22.1.13	fgsl_multimin_fminimizer_iterate	217
41.22.1.14	fgsl_multimin_fminimizer_minimum	217
41.22.1.15	fgsl_multimin_fminimizer_name	217
41.22.1.16	fgsl_multimin_fminimizer_set	217
41.22.1.17	fgsl_multimin_fminimizer_size	217
41.22.1.18	fgsl_multimin_fminimizer_status	217
41.22.1.19	fgsl_multimin_fminimizer_x	217
41.22.1.20	fgsl_multimin_function_fdf_free	217
41.22.1.21	fgsl_multimin_function_fdf_init	218
41.22.1.22	fgsl_multimin_function_free	218
41.22.1.23	fgsl_multimin_function_init	218
41.22.1.24	fgsl_multimin_test_gradient	218
41.22.1.25	fgsl_multimin_test_size	218
41.23	api/multiroots.finc File Reference	218
41.23.1	Function/Subroutine Documentation	219
41.23.1.1	fgsl_multiroot_fdfsolver_alloc	219
41.23.1.2	fgsl_multiroot_fdfsolver_dx	219
41.23.1.3	fgsl_multiroot_fdfsolver_f	219
41.23.1.4	fgsl_multiroot_fdfsolver_free	219
41.23.1.5	fgsl_multiroot_fdfsolver_iterate	219
41.23.1.6	fgsl_multiroot_fdfsolver_name	219
41.23.1.7	fgsl_multiroot_fdfsolver_root	219
41.23.1.8	fgsl_multiroot_fdfsolver_set	219
41.23.1.9	fgsl_multiroot_fdfsolver_status	219
41.23.1.10	fgsl_multiroot_fsolver_alloc	219
41.23.1.11	fgsl_multiroot_fsolver_dx	219
41.23.1.12	fgsl_multiroot_fsolver_f	219
41.23.1.13	fgsl_multiroot_fsolver_free	219
41.23.1.14	fgsl_multiroot_fsolver_iterate	219
41.23.1.15	fgsl_multiroot_fsolver_name	219
41.23.1.16	fgsl_multiroot_fsolver_root	219
41.23.1.17	fgsl_multiroot_fsolver_set	219
41.23.1.18	fgsl_multiroot_fsolver_status	219
41.23.1.19	fgsl_multiroot_function_fdf_free	220
41.23.1.20	fgsl_multiroot_function_fdf_init	220
41.23.1.21	fgsl_multiroot_function_free	220
41.23.1.22	fgsl_multiroot_function_init	220
41.23.1.23	fgsl_multiroot_test_delta	220
41.23.1.24	fgsl_multiroot_test_residual	220
41.24	api/ntuple.finc File Reference	220

41.24.1 Function/Subroutine Documentation	221
41.24.1.1 fgsl_ntuple_bookdata	221
41.24.1.2 fgsl_ntuple_close	221
41.24.1.3 fgsl_ntuple_create	221
41.24.1.4 fgsl_ntuple_data	221
41.24.1.5 fgsl_ntuple_open	221
41.24.1.6 fgsl_ntuple_project	221
41.24.1.7 fgsl_ntuple_read	221
41.24.1.8 fgsl_ntuple_select_fn_free	221
41.24.1.9 fgsl_ntuple_select_fn_init	221
41.24.1.10 fgsl_ntuple_select_fn_status	221
41.24.1.11 fgsl_ntuple_size	221
41.24.1.12 fgsl_ntuple_status	221
41.24.1.13 fgsl_ntuple_value_fn_free	221
41.24.1.14 fgsl_ntuple_value_fn_init	221
41.24.1.15 fgsl_ntuple_value_fn_status	221
41.24.1.16 fgsl_ntuple_write	221
41.25 api/ode.finc File Reference	221
41.25.1 Function/Subroutine Documentation	223
41.25.1.1 fgsl_odeiv2_control_alloc	223
41.25.1.2 fgsl_odeiv2_control_errlevel	223
41.25.1.3 fgsl_odeiv2_control_free	223
41.25.1.4 fgsl_odeiv2_control_hadjust	223
41.25.1.5 fgsl_odeiv2_control_init	223
41.25.1.6 fgsl_odeiv2_control_name	223
41.25.1.7 fgsl_odeiv2_control_scaled_new	223
41.25.1.8 fgsl_odeiv2_control_set_driver	224
41.25.1.9 fgsl_odeiv2_control_standard_new	224
41.25.1.10 fgsl_odeiv2_control_status	224
41.25.1.11 fgsl_odeiv2_control_y_new	224
41.25.1.12 fgsl_odeiv2_control_yp_new	224
41.25.1.13 fgsl_odeiv2_driver_alloc_scaled_new	224
41.25.1.14 fgsl_odeiv2_driver_alloc_standard_new	224
41.25.1.15 fgsl_odeiv2_driver_alloc_y_new	224
41.25.1.16 fgsl_odeiv2_driver_alloc_yp_new	224
41.25.1.17 fgsl_odeiv2_driver_apply	224
41.25.1.18 fgsl_odeiv2_driver_apply_fixed_step	224
41.25.1.19 fgsl_odeiv2_driver_free	224
41.25.1.20 fgsl_odeiv2_driver_reset	224
41.25.1.21 fgsl_odeiv2_driver_set_hmax	224

41.25.1.22	fgsl_odeiv2_driver_set_hmin	224
41.25.1.23	fgsl_odeiv2_driver_set_nmax	224
41.25.1.24	fgsl_odeiv2_driver_status	224
41.25.1.25	fgsl_odeiv2_evolve_alloc	224
41.25.1.26	fgsl_odeiv2_evolve_apply	225
41.25.1.27	fgsl_odeiv2_evolve_apply_fixed_step	225
41.25.1.28	fgsl_odeiv2_evolve_free	225
41.25.1.29	fgsl_odeiv2_evolve_reset	225
41.25.1.30	fgsl_odeiv2_evolve_set_driver	225
41.25.1.31	fgsl_odeiv2_evolve_status	225
41.25.1.32	fgsl_odeiv2_step_alloc	225
41.25.1.33	fgsl_odeiv2_step_apply	225
41.25.1.34	fgsl_odeiv2_step_free	225
41.25.1.35	fgsl_odeiv2_step_name	225
41.25.1.36	fgsl_odeiv2_step_order	225
41.25.1.37	fgsl_odeiv2_step_reset	225
41.25.1.38	fgsl_odeiv2_step_set_driver	225
41.25.1.39	fgsl_odeiv2_step_status	225
41.25.1.40	fgsl_odeiv2_system_free	225
41.25.1.41	fgsl_odeiv2_system_init	225
41.25.1.42	fgsl_odeiv2_system_status	226
41.25.1.43	fgsl_odeiv_control_alloc	226
41.25.1.44	fgsl_odeiv_control_free	226
41.25.1.45	fgsl_odeiv_control_hadjust	226
41.25.1.46	fgsl_odeiv_control_init	226
41.25.1.47	fgsl_odeiv_control_name	226
41.25.1.48	fgsl_odeiv_control_scaled_new	226
41.25.1.49	fgsl_odeiv_control_standard_new	226
41.25.1.50	fgsl_odeiv_control_status	226
41.25.1.51	fgsl_odeiv_control_y_new	226
41.25.1.52	fgsl_odeiv_control_yp_new	226
41.25.1.53	fgsl_odeiv_evolve_alloc	226
41.25.1.54	fgsl_odeiv_evolve_apply	226
41.25.1.55	fgsl_odeiv_evolve_free	226
41.25.1.56	fgsl_odeiv_evolve_reset	226
41.25.1.57	fgsl_odeiv_evolve_status	226
41.25.1.58	fgsl_odeiv_step_alloc	226
41.25.1.59	fgsl_odeiv_step_apply	226
41.25.1.60	fgsl_odeiv_step_free	226
41.25.1.61	fgsl_odeiv_step_name	226

41.25.1.62	fgsl_odeiv_step_order	227
41.25.1.63	fgsl_odeiv_step_reset	227
41.25.1.64	fgsl_odeiv_step_status	227
41.25.1.65	fgsl_odeiv_system_free	227
41.25.1.66	fgsl_odeiv_system_init	227
41.25.1.67	fgsl_odeiv_system_status	227
41.26	api/permutation.finc File Reference	227
41.26.1	Function/Subroutine Documentation	229
41.26.1.1	fgsl_combination_alloc	229
41.26.1.2	fgsl_combination_calloc	229
41.26.1.3	fgsl_combination_data	229
41.26.1.4	fgsl_combination_fprintf	229
41.26.1.5	fgsl_combination_fread	229
41.26.1.6	fgsl_combination_free	229
41.26.1.7	fgsl_combination_fscanf	229
41.26.1.8	fgsl_combination_fwrite	229
41.26.1.9	fgsl_combination_get	229
41.26.1.10	fgsl_combination_init_first	229
41.26.1.11	fgsl_combination_init_last	229
41.26.1.12	fgsl_combination_k	229
41.26.1.13	fgsl_combination_memcpy	229
41.26.1.14	fgsl_combination_n	229
41.26.1.15	fgsl_combination_next	229
41.26.1.16	fgsl_combination_prev	229
41.26.1.17	fgsl_combination_status	229
41.26.1.18	fgsl_combination_valid	230
41.26.1.19	fgsl_multiset_alloc	230
41.26.1.20	fgsl_multiset_calloc	230
41.26.1.21	fgsl_multiset_data	230
41.26.1.22	fgsl_multiset_fprintf	230
41.26.1.23	fgsl_multiset_fread	230
41.26.1.24	fgsl_multiset_free	230
41.26.1.25	fgsl_multiset_fscanf	230
41.26.1.26	fgsl_multiset_fwrite	230
41.26.1.27	fgsl_multiset_get	230
41.26.1.28	fgsl_multiset_init_first	230
41.26.1.29	fgsl_multiset_init_last	230
41.26.1.30	fgsl_multiset_k	230
41.26.1.31	fgsl_multiset_memcpy	230
41.26.1.32	fgsl_multiset_n	230

41.26.1.33	fgsl_multiset_next	230
41.26.1.34	fgsl_multiset_prev	230
41.26.1.35	fgsl_multiset_status	230
41.26.1.36	fgsl_multiset_valid	230
41.26.1.37	fgsl_permutation_alloc	230
41.26.1.38	fgsl_permutation_calloc	230
41.26.1.39	fgsl_permutation_canonical_cycles	230
41.26.1.40	fgsl_permutation_canonical_to_linear	230
41.26.1.41	fgsl_permutation_data	230
41.26.1.42	fgsl_permutation_fprintf	230
41.26.1.43	fgsl_permutation_fread	230
41.26.1.44	fgsl_permutation_free	231
41.26.1.45	fgsl_permutation_fscanf	231
41.26.1.46	fgsl_permutation_fwrite	231
41.26.1.47	fgsl_permutation_get	231
41.26.1.48	fgsl_permutation_init	231
41.26.1.49	fgsl_permutation_inverse	231
41.26.1.50	fgsl_permutation_inversions	231
41.26.1.51	fgsl_permutation_linear_cycles	231
41.26.1.52	fgsl_permutation_linear_to_canonical	231
41.26.1.53	fgsl_permutation_memcpy	231
41.26.1.54	fgsl_permutation_mul	231
41.26.1.55	fgsl_permutation_next	231
41.26.1.56	fgsl_permutation_prev	231
41.26.1.57	fgsl_permutation_reverse	231
41.26.1.58	fgsl_permutation_size	231
41.26.1.59	fgsl_permutation_status	231
41.26.1.60	fgsl_permutation_swap	231
41.26.1.61	fgsl_permutation_valid	231
41.26.1.62	fgsl_permute	231
41.26.1.63	fgsl_permute_inverse	231
41.26.1.64	fgsl_permute_long	231
41.26.1.65	fgsl_permute_long_inverse	231
41.26.1.66	fgsl_permute_vector	232
41.26.1.67	fgsl_permute_vector_inverse	232
41.26.1.68	fgsl_sizeof_combination	232
41.26.1.69	fgsl_sizeof_multiset	232
41.26.1.70	fgsl_sizeof_permutation	232
41.27	api/poly.finc File Reference	232
41.27.1	Function/Subroutine Documentation	232

41.27.1.1 fgsl_complex_poly_complex_eval	233
41.27.1.2 fgsl_poly_complex_eval	233
41.27.1.3 fgsl_poly_complex_solve	233
41.27.1.4 fgsl_poly_complex_solve_cubic	233
41.27.1.5 fgsl_poly_complex_solve_quadratic	233
41.27.1.6 fgsl_poly_complex_workspace_alloc	233
41.27.1.7 fgsl_poly_complex_workspace_free	233
41.27.1.8 fgsl_poly_complex_workspace_stat	233
41.27.1.9 fgsl_poly_dd_eval	233
41.27.1.10 fgsl_poly_dd_init	233
41.27.1.11 fgsl_poly_dd_taylor	233
41.27.1.12 fgsl_poly_eval	233
41.27.1.13 fgsl_poly_eval_derivs	233
41.27.1.14 fgsl_poly_solve_cubic	233
41.27.1.15 fgsl_poly_solve_quadratic	233
41.28 api/rng.finc File Reference	234
41.28.1 Function/Subroutine Documentation	238
41.28.1.1 fgsl_cdf_beta_p	238
41.28.1.2 fgsl_cdf_beta_pinv	238
41.28.1.3 fgsl_cdf_beta_q	238
41.28.1.4 fgsl_cdf_beta_qinv	238
41.28.1.5 fgsl_cdf_binomial_p	238
41.28.1.6 fgsl_cdf_binomial_q	238
41.28.1.7 fgsl_cdf_cauchy_p	238
41.28.1.8 fgsl_cdf_cauchy_pinv	238
41.28.1.9 fgsl_cdf_cauchy_q	238
41.28.1.10 fgsl_cdf_cauchy_qinv	238
41.28.1.11 fgsl_cdf_chisq_p	238
41.28.1.12 fgsl_cdf_chisq_pinv	238
41.28.1.13 fgsl_cdf_chisq_q	238
41.28.1.14 fgsl_cdf_chisq_qinv	238
41.28.1.15 fgsl_cdf_exponential_p	238
41.28.1.16 fgsl_cdf_exponential_pinv	238
41.28.1.17 fgsl_cdf_exponential_q	238
41.28.1.18 fgsl_cdf_exponential_qinv	238
41.28.1.19 fgsl_cdf_exppow_p	238
41.28.1.20 fgsl_cdf_exppow_q	238
41.28.1.21 fgsl_cdf_fdist_p	239
41.28.1.22 fgsl_cdf_fdist_pinv	239
41.28.1.23 fgsl_cdf_fdist_q	239

41.28.1.24fgsl_cdf_fdist_qinv	239
41.28.1.25fgsl_cdf_flat_p	239
41.28.1.26fgsl_cdf_flat_pinv	239
41.28.1.27fgsl_cdf_flat_q	239
41.28.1.28fgsl_cdf_flat_qinv	239
41.28.1.29fgsl_cdf_gamma_p	239
41.28.1.30fgsl_cdf_gamma_pinv	239
41.28.1.31fgsl_cdf_gamma_q	239
41.28.1.32fgsl_cdf_gamma_qinv	239
41.28.1.33fgsl_cdf_gaussian_p	239
41.28.1.34fgsl_cdf_gaussian_pinv	239
41.28.1.35fgsl_cdf_gaussian_q	239
41.28.1.36fgsl_cdf_gaussian_qinv	239
41.28.1.37fgsl_cdf_geometric_p	239
41.28.1.38fgsl_cdf_geometric_q	239
41.28.1.39fgsl_cdf_gumbel1_p	239
41.28.1.40fgsl_cdf_gumbel1_pinv	239
41.28.1.41fgsl_cdf_gumbel1_q	239
41.28.1.42fgsl_cdf_gumbel1_qinv	240
41.28.1.43fgsl_cdf_gumbel2_p	240
41.28.1.44fgsl_cdf_gumbel2_pinv	240
41.28.1.45fgsl_cdf_gumbel2_q	240
41.28.1.46fgsl_cdf_gumbel2_qinv	240
41.28.1.47fgsl_cdf_hypergeometric_p	240
41.28.1.48fgsl_cdf_hypergeometric_q	240
41.28.1.49fgsl_cdf_laplace_p	240
41.28.1.50fgsl_cdf_laplace_pinv	240
41.28.1.51fgsl_cdf_laplace_q	240
41.28.1.52fgsl_cdf_laplace_qinv	240
41.28.1.53fgsl_cdf_logistic_p	240
41.28.1.54fgsl_cdf_logistic_pinv	240
41.28.1.55fgsl_cdf_logistic_q	240
41.28.1.56fgsl_cdf_logistic_qinv	240
41.28.1.57fgsl_cdf_lognormal_p	240
41.28.1.58fgsl_cdf_lognormal_pinv	240
41.28.1.59fgsl_cdf_lognormal_q	240
41.28.1.60fgsl_cdf_lognormal_qinv	240
41.28.1.61fgsl_cdf_negative_binomial_p	240
41.28.1.62fgsl_cdf_negative_binomial_q	240
41.28.1.63fgsl_cdf_pareto_p	241

41.28.1.64	fgsl_cdf_pareto_pinv	241
41.28.1.65	fgsl_cdf_pareto_q	241
41.28.1.66	fgsl_cdf_pareto_qinv	241
41.28.1.67	fgsl_cdf_pascal_p	241
41.28.1.68	fgsl_cdf_pascal_q	241
41.28.1.69	fgsl_cdf_poisson_p	241
41.28.1.70	fgsl_cdf_poisson_q	241
41.28.1.71	fgsl_cdf_rayleigh_p	241
41.28.1.72	fgsl_cdf_rayleigh_pinv	241
41.28.1.73	fgsl_cdf_rayleigh_q	241
41.28.1.74	fgsl_cdf_rayleigh_qinv	241
41.28.1.75	fgsl_cdf_tdist_p	241
41.28.1.76	fgsl_cdf_tdist_pinv	241
41.28.1.77	fgsl_cdf_tdist_q	241
41.28.1.78	fgsl_cdf_tdist_qinv	241
41.28.1.79	fgsl_cdf_ugaussian_p	241
41.28.1.80	fgsl_cdf_ugaussian_pinv	241
41.28.1.81	fgsl_cdf_ugaussian_q	241
41.28.1.82	fgsl_cdf_ugaussian_qinv	241
41.28.1.83	fgsl_cdf_weibull_p	241
41.28.1.84	fgsl_cdf_weibull_pinv	241
41.28.1.85	fgsl_cdf_weibull_q	241
41.28.1.86	fgsl_cdf_weibull_qinv	242
41.28.1.87	fgsl_qrng_alloc	242
41.28.1.88	fgsl_qrng_clone	242
41.28.1.89	fgsl_qrng_free	242
41.28.1.90	fgsl_qrng_get	242
41.28.1.91	fgsl_qrng_init	242
41.28.1.92	fgsl_qrng_memcpy	242
41.28.1.93	fgsl_qrng_name	242
41.28.1.94	fgsl_qrng_status	242
41.28.1.95	fgsl_ran_bernoulli	242
41.28.1.96	fgsl_ran_bernoulli_pdf	242
41.28.1.97	fgsl_ran_beta	242
41.28.1.98	fgsl_ran_beta_pdf	242
41.28.1.99	fgsl_ran_binomial	242
41.28.1.100	fgsl_ran_binomial_pdf	242
41.28.1.101	fgsl_ran_bivariate_gaussian	242
41.28.1.102	fgsl_ran_bivariate_gaussian_pdf	242
41.28.1.103	fgsl_ran_cauchy	242

41.28.1.104	f gsl_ran_cauchy_pdf	242
41.28.1.105	f gsl_ran_chisq	242
41.28.1.106	f gsl_ran_chisq_pdf	242
41.28.1.107	f gsl_ran_choose	242
41.28.1.108	f gsl_ran_dir_2d	243
41.28.1.109	f gsl_ran_dir_2d_trig_method	243
41.28.1.110	f gsl_ran_dir_3d	243
41.28.1.111	f gsl_ran_dir_nd	243
41.28.1.112	f gsl_ran_dirichlet	243
41.28.1.113	f gsl_ran_dirichlet_lnpdf	243
41.28.1.114	f gsl_ran_dirichlet_pdf	243
41.28.1.115	f gsl_ran_discrete	243
41.28.1.116	f gsl_ran_discrete_free	243
41.28.1.117	f gsl_ran_discrete_pdf	243
41.28.1.118	f gsl_ran_discrete_preproc	243
41.28.1.119	f gsl_ran_discrete_t_status	243
41.28.1.120	f gsl_ran_exponential	243
41.28.1.121	f gsl_ran_exponential_pdf	243
41.28.1.122	f gsl_ran_exppow	243
41.28.1.123	f gsl_ran_exppow_pdf	243
41.28.1.124	f gsl_ran_fdist	243
41.28.1.125	f gsl_ran_fdist_pdf	243
41.28.1.126	f gsl_ran_flat	243
41.28.1.127	f gsl_ran_flat_pdf	243
41.28.1.128	f gsl_ran_gamma	244
41.28.1.129	f gsl_ran_gamma_mt	244
41.28.1.130	f gsl_ran_gamma_pdf	244
41.28.1.131	f gsl_ran_gaussian	244
41.28.1.132	f gsl_ran_gaussian_pdf	244
41.28.1.133	f gsl_ran_gaussian_ratio_method	244
41.28.1.134	f gsl_ran_gaussian_tail	244
41.28.1.135	f gsl_ran_gaussian_tail_pdf	244
41.28.1.136	f gsl_ran_gaussian_ziggurat	244
41.28.1.137	f gsl_ran_geometric	244
41.28.1.138	f gsl_ran_geometric_pdf	244
41.28.1.139	f gsl_ran_gumbel1	244
41.28.1.140	f gsl_ran_gumbel1_pdf	244
41.28.1.141	f gsl_ran_gumbel2	244
41.28.1.142	f gsl_ran_gumbel2_pdf	244
41.28.1.143	f gsl_ran_hypergeometric	244

41.28.1.144	f gsl_ran_hypergeometric_pdf	244
41.28.1.145	f gsl_ran_landau	244
41.28.1.146	f gsl_ran_landau_pdf	244
41.28.1.147	f gsl_ran_laplace	244
41.28.1.148	f gsl_ran_laplace_pdf	244
41.28.1.149	f gsl_ran_levy	245
41.28.1.150	f gsl_ran_levy_skew	245
41.28.1.151	f gsl_ran_logarithmic	245
41.28.1.152	f gsl_ran_logarithmic_pdf	245
41.28.1.153	f gsl_ran_logistic	245
41.28.1.154	f gsl_ran_logistic_pdf	245
41.28.1.155	f gsl_ran_lognormal	245
41.28.1.156	f gsl_ran_lognormal_pdf	245
41.28.1.157	f gsl_ran_multinomial	245
41.28.1.158	f gsl_ran_multinomial_lnpdf	245
41.28.1.159	f gsl_ran_multinomial_pdf	245
41.28.1.160	f gsl_ran_negative_binomial	245
41.28.1.161	f gsl_ran_negative_binomial_pdf	245
41.28.1.162	f gsl_ran_pareto	245
41.28.1.163	f gsl_ran_pareto_pdf	245
41.28.1.164	f gsl_ran_pascal	245
41.28.1.165	f gsl_ran_pascal_pdf	245
41.28.1.166	f gsl_ran_poisson	245
41.28.1.167	f gsl_ran_poisson_pdf	245
41.28.1.168	f gsl_ran_rayleigh	245
41.28.1.169	f gsl_ran_rayleigh_pdf	245
41.28.1.170	f gsl_ran_rayleigh_tail	246
41.28.1.171	f gsl_ran_rayleigh_tail_pdf	246
41.28.1.172	f gsl_ran_sample	246
41.28.1.173	f gsl_ran_shuffle	246
41.28.1.174	f gsl_ran_shuffle_double	246
41.28.1.175	f gsl_ran_shuffle_size_t	246
41.28.1.176	f gsl_ran_tdist	246
41.28.1.177	f gsl_ran_tdist_pdf	246
41.28.1.178	f gsl_ran_ugaussian	246
41.28.1.179	f gsl_ran_ugaussian_pdf	246
41.28.1.180	f gsl_ran_ugaussian_ratio_method	246
41.28.1.181	f gsl_ran_ugaussian_tail	246
41.28.1.182	f gsl_ran_ugaussian_tail_pdf	246
41.28.1.183	f gsl_ran_weibull	246

41.28.1.184	fgsl_rng_weibull_pdf	246
41.28.1.185	fgsl_rng_alloc	246
41.28.1.186	fgsl_rng_c_ptr	246
41.28.1.187	fgsl_rng_clone	246
41.28.1.188	fgsl_rng_env_setup	246
41.28.1.189	fgsl_rng_fread	246
41.28.1.190	fgsl_rng_free	246
41.28.1.191	fgsl_rng_fwrite	246
41.28.1.192	fgsl_rng_get	246
41.28.1.193	fgsl_rng_max	246
41.28.1.194	fgsl_rng_memcpy	247
41.28.1.195	fgsl_rng_min	247
41.28.1.196	fgsl_rng_name	247
41.28.1.197	fgsl_rng_set	247
41.28.1.198	fgsl_rng_status	247
41.28.1.199	fgsl_rng_uniform	247
41.28.1.200	fgsl_rng_uniform_int	247
41.28.1.201	fgsl_rng_uniform_pos	247
41.29	api/roots.finc File Reference	247
41.29.1	Function/Subroutine Documentation	248
41.29.1.1	fgsl_root_fdfsolver_alloc	248
41.29.1.2	fgsl_root_fdfsolver_free	248
41.29.1.3	fgsl_root_fdfsolver_iterate	248
41.29.1.4	fgsl_root_fdfsolver_name	248
41.29.1.5	fgsl_root_fdfsolver_root	248
41.29.1.6	fgsl_root_fdfsolver_set	248
41.29.1.7	fgsl_root_fdfsolver_status	248
41.29.1.8	fgsl_root_fsolver_alloc	248
41.29.1.9	fgsl_root_fsolver_free	248
41.29.1.10	fgsl_root_fsolver_iterate	248
41.29.1.11	fgsl_root_fsolver_name	248
41.29.1.12	fgsl_root_fsolver_root	248
41.29.1.13	fgsl_root_fsolver_set	248
41.29.1.14	fgsl_root_fsolver_status	248
41.29.1.15	fgsl_root_fsolver_x_lower	248
41.29.1.16	fgsl_root_fsolver_x_upper	248
41.29.1.17	fgsl_root_test_delta	248
41.29.1.18	fgsl_root_test_interval	248
41.29.1.19	fgsl_root_test_residual	248
41.30	api/siman.finc File Reference	249

41.30.1 Function/Subroutine Documentation	249
41.30.1.1 fgsl_siman_params_free	249
41.30.1.2 fgsl_siman_params_init	249
41.30.1.3 fgsl_siman_params_t_status	249
41.30.1.4 fgsl_siman_solve	249
41.31 api/sort.finc File Reference	250
41.31.1 Function/Subroutine Documentation	250
41.31.1.1 fgsl_heapsort	250
41.31.1.2 fgsl_heapsort_index	250
41.31.1.3 fgsl_sort_double	250
41.31.1.4 fgsl_sort_double_index	251
41.31.1.5 fgsl_sort_double_largest	251
41.31.1.6 fgsl_sort_double_largest_index	251
41.31.1.7 fgsl_sort_double_smallest	251
41.31.1.8 fgsl_sort_double_smallest_index	251
41.31.1.9 fgsl_sort_long	251
41.31.1.10 fgsl_sort_long_index	251
41.31.1.11 fgsl_sort_long_largest	251
41.31.1.12 fgsl_sort_long_largest_index	251
41.31.1.13 fgsl_sort_long_smallest	251
41.31.1.14 fgsl_sort_long_smallest_index	251
41.31.1.15 fgsl_sort_vector	251
41.31.1.16 fgsl_sort_vector_index	251
41.31.1.17 fgsl_sort_vector_largest	251
41.31.1.18 fgsl_sort_vector_largest_index	251
41.31.1.19 fgsl_sort_vector_smallest	251
41.31.1.20 fgsl_sort_vector_smallest_index	251
41.32 api/specfunc.finc File Reference	252
41.32.1 Function/Subroutine Documentation	260
41.32.1.1 fgsl_sf_airy_ai	260
41.32.1.2 fgsl_sf_airy_ai_deriv	260
41.32.1.3 fgsl_sf_airy_ai_deriv_e	260
41.32.1.4 fgsl_sf_airy_ai_deriv_scaled	260
41.32.1.5 fgsl_sf_airy_ai_deriv_scaled_e	260
41.32.1.6 fgsl_sf_airy_ai_e	261
41.32.1.7 fgsl_sf_airy_ai_scaled	261
41.32.1.8 fgsl_sf_airy_ai_scaled_e	261
41.32.1.9 fgsl_sf_airy_bi	261
41.32.1.10 fgsl_sf_airy_bi_deriv	261
41.32.1.11 fgsl_sf_airy_bi_deriv_e	261

41.32.1.12	fgsl_sf_airy_bi_deriv_scaled	261
41.32.1.13	fgsl_sf_airy_bi_deriv_scaled_e	261
41.32.1.14	fgsl_sf_airy_bi_e	261
41.32.1.15	fgsl_sf_airy_bi_scaled	261
41.32.1.16	fgsl_sf_airy_bi_scaled_e	261
41.32.1.17	fgsl_sf_airy_zero_ai	261
41.32.1.18	fgsl_sf_airy_zero_ai_deriv	261
41.32.1.19	fgsl_sf_airy_zero_ai_deriv_e	261
41.32.1.20	fgsl_sf_airy_zero_ai_e	261
41.32.1.21	fgsl_sf_airy_zero_bi	261
41.32.1.22	fgsl_sf_airy_zero_bi_deriv	261
41.32.1.23	fgsl_sf_airy_zero_bi_deriv_e	261
41.32.1.24	fgsl_sf_airy_zero_bi_e	261
41.32.1.25	fgsl_sf_angle_restrict_pos	261
41.32.1.26	fgsl_sf_angle_restrict_pos_e	261
41.32.1.27	fgsl_sf_angle_restrict_symm	261
41.32.1.28	fgsl_sf_angle_restrict_symm_e	261
41.32.1.29	fgsl_sf_atanint	261
41.32.1.30	fgsl_sf_atanint_e	262
41.32.1.31	fgsl_sf_bessel_ic0	262
41.32.1.32	fgsl_sf_bessel_ic0_e	262
41.32.1.33	fgsl_sf_bessel_ic0_scaled	262
41.32.1.34	fgsl_sf_bessel_ic0_scaled_e	262
41.32.1.35	fgsl_sf_bessel_ic1	262
41.32.1.36	fgsl_sf_bessel_ic1_e	262
41.32.1.37	fgsl_sf_bessel_ic1_scaled	262
41.32.1.38	fgsl_sf_bessel_ic1_scaled_e	262
41.32.1.39	fgsl_sf_bessel_icn	262
41.32.1.40	fgsl_sf_bessel_icn_array	262
41.32.1.41	fgsl_sf_bessel_icn_e	262
41.32.1.42	fgsl_sf_bessel_icn_scaled	262
41.32.1.43	fgsl_sf_bessel_icn_scaled_array	262
41.32.1.44	fgsl_sf_bessel_icn_scaled_e	262
41.32.1.45	fgsl_sf_bessel_inu	262
41.32.1.46	fgsl_sf_bessel_inu_e	262
41.32.1.47	fgsl_sf_bessel_inu_scaled	262
41.32.1.48	fgsl_sf_bessel_inu_scaled_e	262
41.32.1.49	fgsl_sf_bessel_is0_scaled	262
41.32.1.50	fgsl_sf_bessel_is0_scaled_e	262
41.32.1.51	fgsl_sf_bessel_is1_scaled	262

41.32.1.52	fgsl_sf_bessel_is1_scaled_e	262
41.32.1.53	fgsl_sf_bessel_is2_scaled	263
41.32.1.54	fgsl_sf_bessel_is2_scaled_e	263
41.32.1.55	fgsl_sf_bessel_isl_scaled	263
41.32.1.56	fgsl_sf_bessel_isl_scaled_array	263
41.32.1.57	fgsl_sf_bessel_isl_scaled_e	263
41.32.1.58	fgsl_sf_bessel_jc0	263
41.32.1.59	fgsl_sf_bessel_jc0_e	263
41.32.1.60	fgsl_sf_bessel_jc1	263
41.32.1.61	fgsl_sf_bessel_jc1_e	263
41.32.1.62	fgsl_sf_bessel_jcn	263
41.32.1.63	fgsl_sf_bessel_jcn_array	263
41.32.1.64	fgsl_sf_bessel_jcn_e	263
41.32.1.65	fgsl_sf_bessel_jnu	263
41.32.1.66	fgsl_sf_bessel_jnu_e	263
41.32.1.67	fgsl_sf_bessel_js0	263
41.32.1.68	fgsl_sf_bessel_js0_e	263
41.32.1.69	fgsl_sf_bessel_js1	263
41.32.1.70	fgsl_sf_bessel_js1_e	263
41.32.1.71	fgsl_sf_bessel_js2	263
41.32.1.72	fgsl_sf_bessel_js2_e	263
41.32.1.73	fgsl_sf_bessel_jsl	263
41.32.1.74	fgsl_sf_bessel_jsl_array	263
41.32.1.75	fgsl_sf_bessel_jsl_e	263
41.32.1.76	fgsl_sf_bessel_jsl_stepped_array	263
41.32.1.77	fgsl_sf_bessel_kc0	264
41.32.1.78	fgsl_sf_bessel_kc0_e	264
41.32.1.79	fgsl_sf_bessel_kc0_scaled	264
41.32.1.80	fgsl_sf_bessel_kc0_scaled_e	264
41.32.1.81	fgsl_sf_bessel_kc1	264
41.32.1.82	fgsl_sf_bessel_kc1_e	264
41.32.1.83	fgsl_sf_bessel_kc1_scaled	264
41.32.1.84	fgsl_sf_bessel_kc1_scaled_e	264
41.32.1.85	fgsl_sf_bessel_kcn	264
41.32.1.86	fgsl_sf_bessel_kcn_array	264
41.32.1.87	fgsl_sf_bessel_kcn_e	264
41.32.1.88	fgsl_sf_bessel_kcn_scaled	264
41.32.1.89	fgsl_sf_bessel_kcn_scaled_array	264
41.32.1.90	fgsl_sf_bessel_kcn_scaled_e	264
41.32.1.91	fgsl_sf_bessel_knu	264

41.32.1.92	f gsl_sf_bessel_knu_e	264
41.32.1.93	f gsl_sf_bessel_knu_scaled	264
41.32.1.94	f gsl_sf_bessel_knu_scaled_e	264
41.32.1.95	f gsl_sf_bessel_ks0_scaled	264
41.32.1.96	f gsl_sf_bessel_ks0_scaled_e	264
41.32.1.97	f gsl_sf_bessel_ks1_scaled	264
41.32.1.98	f gsl_sf_bessel_ks1_scaled_e	264
41.32.1.99	f gsl_sf_bessel_ks2_scaled	264
41.32.1.100	f gsl_sf_bessel_ks2_scaled_e	265
41.32.1.101	f gsl_sf_bessel_ksl_scaled	265
41.32.1.102	f gsl_sf_bessel_ksl_scaled_array	265
41.32.1.103	f gsl_sf_bessel_ksl_scaled_e	265
41.32.1.104	f gsl_sf_bessel_lnknu	265
41.32.1.105	f gsl_sf_bessel_lnknu_e	265
41.32.1.106	f gsl_sf_bessel_sequence_jnu_e	265
41.32.1.107	f gsl_sf_bessel_yc0	265
41.32.1.108	f gsl_sf_bessel_yc0_e	265
41.32.1.109	f gsl_sf_bessel_yc1	265
41.32.1.110	f gsl_sf_bessel_yc1_e	265
41.32.1.111	f gsl_sf_bessel_ycn	265
41.32.1.112	f gsl_sf_bessel_ycn_array	265
41.32.1.113	f gsl_sf_bessel_ycn_e	265
41.32.1.114	f gsl_sf_bessel_ynu	265
41.32.1.115	f gsl_sf_bessel_ynu_e	265
41.32.1.116	f gsl_sf_bessel_ys0	265
41.32.1.117	f gsl_sf_bessel_ys0_e	265
41.32.1.118	f gsl_sf_bessel_ys1	265
41.32.1.119	f gsl_sf_bessel_ys1_e	265
41.32.1.120	f gsl_sf_bessel_ys2	265
41.32.1.121	f gsl_sf_bessel_ys2_e	265
41.32.1.122	f gsl_sf_bessel_ysl	266
41.32.1.123	f gsl_sf_bessel_ysl_array	266
41.32.1.124	f gsl_sf_bessel_ysl_e	266
41.32.1.125	f gsl_sf_bessel_zero_jc0	266
41.32.1.126	f gsl_sf_bessel_zero_jc0_e	266
41.32.1.127	f gsl_sf_bessel_zero_jc1	266
41.32.1.128	f gsl_sf_bessel_zero_jc1_e	266
41.32.1.129	f gsl_sf_bessel_zero_jnu	266
41.32.1.130	f gsl_sf_bessel_zero_jnu_e	266
41.32.1.131	f gsl_sf_beta	266

41.32.1.132	fosl_sf_beta_e	266
41.32.1.133	fosl_sf_beta_inc	266
41.32.1.134	fosl_sf_beta_inc_e	266
41.32.1.135	fosl_sf_chi	266
41.32.1.136	fosl_sf_chi_e	266
41.32.1.137	fosl_sf_choose	266
41.32.1.138	fosl_sf_choose_e	266
41.32.1.139	fosl_sf_ci	266
41.32.1.140	fosl_sf_ci_e	266
41.32.1.141	fosl_sf_clausen	266
41.32.1.142	fosl_sf_clausen_e	266
41.32.1.143	fosl_sf_complex_cos_e	266
41.32.1.144	fosl_sf_complex_dilog_e	266
41.32.1.145	fosl_sf_complex_log_e	267
41.32.1.146	fosl_sf_complex_logsin_e	267
41.32.1.147	fosl_sf_complex_sin_e	267
41.32.1.148	fosl_sf_conicalp_0	267
41.32.1.149	fosl_sf_conicalp_0_e	267
41.32.1.150	fosl_sf_conicalp_1	267
41.32.1.151	fosl_sf_conicalp_1_e	267
41.32.1.152	fosl_sf_conicalp_cyl_reg	267
41.32.1.153	fosl_sf_conicalp_cyl_reg_e	267
41.32.1.154	fosl_sf_conicalp_half	267
41.32.1.155	fosl_sf_conicalp_half_e	267
41.32.1.156	fosl_sf_conicalp_mhalf	267
41.32.1.157	fosl_sf_conicalp_mhalf_e	267
41.32.1.158	fosl_sf_conicalp_sph_reg	267
41.32.1.159	fosl_sf_conicalp_sph_reg_e	267
41.32.1.160	fosl_sf_cos_err_e	267
41.32.1.161	fosl_sf_coulomb_cl_array	267
41.32.1.162	fosl_sf_coulomb_cl_e	267
41.32.1.163	fosl_sf_coulomb_wave_f_array	267
41.32.1.164	fosl_sf_coulomb_wave_fg_array	268
41.32.1.165	fosl_sf_coulomb_wave_fg_e	268
41.32.1.166	fosl_sf_coulomb_wave_fgp_array	268
41.32.1.167	fosl_sf_coulomb_wave_sphf_array	268
41.32.1.168	fosl_sf_coupling_3j	268
41.32.1.169	fosl_sf_coupling_3j_e	268
41.32.1.170	fosl_sf_coupling_6j	268
41.32.1.171	fosl_sf_coupling_6j_e	268

41.32.1.172	fosl_sf_coupling_9j	268
41.32.1.173	fosl_sf_coupling_9j_e	268
41.32.1.174	fosl_sf_dawson	268
41.32.1.175	fosl_sf_dawson_e	268
41.32.1.176	fosl_sf_debye_1	268
41.32.1.177	fosl_sf_debye_1_e	268
41.32.1.178	fosl_sf_debye_2	268
41.32.1.179	fosl_sf_debye_2_e	268
41.32.1.180	fosl_sf_debye_3	269
41.32.1.181	fosl_sf_debye_3_e	269
41.32.1.182	fosl_sf_debye_4	269
41.32.1.183	fosl_sf_debye_4_e	269
41.32.1.184	fosl_sf_debye_5	269
41.32.1.185	fosl_sf_debye_5_e	269
41.32.1.186	fosl_sf_debye_6	269
41.32.1.187	fosl_sf_debye_6_e	269
41.32.1.188	fosl_sf_dilog	269
41.32.1.189	fosl_sf_dilog_e	269
41.32.1.190	fosl_sf_doublefact	269
41.32.1.191	fosl_sf_doublefact_e	269
41.32.1.192	fosl_sf_ellint_d	269
41.32.1.193	fosl_sf_ellint_d_e	269
41.32.1.194	fosl_sf_ellint_e	269
41.32.1.195	fosl_sf_ellint_e_e	269
41.32.1.196	fosl_sf_ellint_ecomp	269
41.32.1.197	fosl_sf_ellint_ecomp_e	269
41.32.1.198	fosl_sf_ellint_f	269
41.32.1.199	fosl_sf_ellint_f_e	269
41.32.1.200	fosl_sf_ellint_kcomp	269
41.32.1.201	fosl_sf_ellint_kcomp_e	269
41.32.1.202	fosl_sf_ellint_p	269
41.32.1.203	fosl_sf_ellint_p_e	270
41.32.1.204	fosl_sf_ellint_pcomp	270
41.32.1.205	fosl_sf_ellint_pcomp_e	270
41.32.1.206	fosl_sf_ellint_rc	270
41.32.1.207	fosl_sf_ellint_rc_e	270
41.32.1.208	fosl_sf_ellint_rd	270
41.32.1.209	fosl_sf_ellint_rd_e	270
41.32.1.210	fosl_sf_ellint_rf	270
41.32.1.211	fosl_sf_ellint_rf_e	270

41.32.1.212	fgsl_sf_ellint_rj	270
41.32.1.213	fgsl_sf_ellint_rj_e	270
41.32.1.214	fgsl_sf_elljac_e	270
41.32.1.215	fgsl_sf_erf	270
41.32.1.216	fgsl_sf_erf_e	270
41.32.1.217	fgsl_sf_erf_q	270
41.32.1.218	fgsl_sf_erf_q_e	270
41.32.1.219	fgsl_sf_erf_z	270
41.32.1.220	fgsl_sf_erf_z_e	270
41.32.1.221	fgsl_sf_erfc	270
41.32.1.222	fgsl_sf_erfc_e	270
41.32.1.223	fgsl_sf_eta	270
41.32.1.224	fgsl_sf_eta_e	270
41.32.1.225	fgsl_sf_eta_int	271
41.32.1.226	fgsl_sf_eta_int_e	271
41.32.1.227	fgsl_sf_exp	271
41.32.1.228	fgsl_sf_exp_e	271
41.32.1.229	fgsl_sf_exp_e10_e	271
41.32.1.230	fgsl_sf_exp_err_e	271
41.32.1.231	fgsl_sf_exp_err_e10_e	271
41.32.1.232	fgsl_sf_exp_mult	271
41.32.1.233	fgsl_sf_exp_mult_e	271
41.32.1.234	fgsl_sf_exp_mult_e10_e	271
41.32.1.235	fgsl_sf_exp_mult_err_e	271
41.32.1.236	fgsl_sf_exp_mult_err_e10_e	271
41.32.1.237	fgsl_sf_expint_3	271
41.32.1.238	fgsl_sf_expint_3_e	271
41.32.1.239	fgsl_sf_expint_e1	271
41.32.1.240	fgsl_sf_expint_e1_e	271
41.32.1.241	fgsl_sf_expint_e2	271
41.32.1.242	fgsl_sf_expint_e2_e	271
41.32.1.243	fgsl_sf_expint_ei	271
41.32.1.244	fgsl_sf_expint_ei_e	271
41.32.1.245	fgsl_sf_expint_en	271
41.32.1.246	fgsl_sf_expint_en_e	271
41.32.1.247	fgsl_sf_expm1	271
41.32.1.248	fgsl_sf_expm1_e	271
41.32.1.249	fgsl_sf_exprel	272
41.32.1.250	fgsl_sf_exprel_2	272
41.32.1.251	fgsl_sf_exprel_2_e	272

41.32.1.252	fosl_sf_exprel_e	272
41.32.1.253	fosl_sf_exprel_n	272
41.32.1.254	fosl_sf_exprel_n_e	272
41.32.1.255	fosl_sf_fact	272
41.32.1.256	fosl_sf_fact_e	272
41.32.1.257	fosl_sf_fermi_dirac_0	272
41.32.1.258	fosl_sf_fermi_dirac_0_e	272
41.32.1.259	fosl_sf_fermi_dirac_1	272
41.32.1.260	fosl_sf_fermi_dirac_1_e	272
41.32.1.261	fosl_sf_fermi_dirac_2	272
41.32.1.262	fosl_sf_fermi_dirac_2_e	272
41.32.1.263	fosl_sf_fermi_dirac_3half	272
41.32.1.264	fosl_sf_fermi_dirac_3half_e	272
41.32.1.265	fosl_sf_fermi_dirac_half	272
41.32.1.266	fosl_sf_fermi_dirac_half_e	272
41.32.1.267	fosl_sf_fermi_dirac_inc_0	272
41.32.1.268	fosl_sf_fermi_dirac_inc_0_e	272
41.32.1.269	fosl_sf_fermi_dirac_int	272
41.32.1.270	fosl_sf_fermi_dirac_int_e	272
41.32.1.271	fosl_sf_fermi_dirac_m1	272
41.32.1.272	fosl_sf_fermi_dirac_m1_e	272
41.32.1.273	fosl_sf_fermi_dirac_mhalf	273
41.32.1.274	fosl_sf_fermi_dirac_mhalf_e	273
41.32.1.275	fosl_sf_gamma	273
41.32.1.276	fosl_sf_gamma_e	273
41.32.1.277	fosl_sf_gamma_inc	273
41.32.1.278	fosl_sf_gamma_inc_e	273
41.32.1.279	fosl_sf_gamma_inc_p	273
41.32.1.280	fosl_sf_gamma_inc_p_e	273
41.32.1.281	fosl_sf_gamma_inc_q	273
41.32.1.282	fosl_sf_gamma_inc_q_e	273
41.32.1.283	fosl_sf_gammainv	273
41.32.1.284	fosl_sf_gammainv_e	273
41.32.1.285	fosl_sf_gammastar	273
41.32.1.286	fosl_sf_gammastar_e	273
41.32.1.287	fosl_sf_gegenpoly_1	273
41.32.1.288	fosl_sf_gegenpoly_1_e	273
41.32.1.289	fosl_sf_gegenpoly_2	273
41.32.1.290	fosl_sf_gegenpoly_2_e	273
41.32.1.291	fosl_sf_gegenpoly_3	273

41.32.1.292	fsl_sf_gegenpoly_3_e	273
41.32.1.293	fsl_sf_gegenpoly_array	273
41.32.1.294	fsl_sf_gegenpoly_n	273
41.32.1.295	fsl_sf_gegenpoly_n_e	273
41.32.1.296	fsl_sf_hazard	274
41.32.1.297	fsl_sf_hazard_e	274
41.32.1.298	fsl_sf_hydrogenic	274
41.32.1.299	fsl_sf_hydrogenicr_1	274
41.32.1.300	fsl_sf_hydrogenicr_1_e	274
41.32.1.301	fsl_sf_hydrogenicr_e	274
41.32.1.302	fsl_sf_hyperg_0f1	274
41.32.1.303	fsl_sf_hyperg_0f1_e	274
41.32.1.304	fsl_sf_hyperg_1f1	274
41.32.1.305	fsl_sf_hyperg_1f1_e	274
41.32.1.306	fsl_sf_hyperg_1f1_int	274
41.32.1.307	fsl_sf_hyperg_1f1_int_e	274
41.32.1.308	fsl_sf_hyperg_2f0	274
41.32.1.309	fsl_sf_hyperg_2f0_e	274
41.32.1.310	fsl_sf_hyperg_2f1	274
41.32.1.311	fsl_sf_hyperg_2f1_conj	274
41.32.1.312	fsl_sf_hyperg_2f1_conj_e	274
41.32.1.313	fsl_sf_hyperg_2f1_conj_renorm	274
41.32.1.314	fsl_sf_hyperg_2f1_conj_renorm_e	274
41.32.1.315	fsl_sf_hyperg_2f1_e	274
41.32.1.316	fsl_sf_hyperg_2f1_renorm	275
41.32.1.317	fsl_sf_hyperg_2f1_renorm_e	275
41.32.1.318	fsl_sf_hyperg_u	275
41.32.1.319	fsl_sf_hyperg_u_e	275
41.32.1.320	fsl_sf_hyperg_u_e10_e	275
41.32.1.321	fsl_sf_hyperg_u_int	275
41.32.1.322	fsl_sf_hyperg_u_int_e	275
41.32.1.323	fsl_sf_hyperg_u_int_e10_e	275
41.32.1.324	fsl_sf_hypot	275
41.32.1.325	fsl_sf_hypot_e	275
41.32.1.326	fsl_sf_hzeta	275
41.32.1.327	fsl_sf_hzeta_e	275
41.32.1.328	fsl_sf_laguerre_1	275
41.32.1.329	fsl_sf_laguerre_1_e	275
41.32.1.330	fsl_sf_laguerre_2	275
41.32.1.331	fsl_sf_laguerre_2_e	275

41.32.1.332	fgsl_sf_laguerre_3	275
41.32.1.333	fgsl_sf_laguerre_3_e	275
41.32.1.334	fgsl_sf_laguerre_n	275
41.32.1.335	fgsl_sf_laguerre_n_e	275
41.32.1.336	fgsl_sf_lambert_w0	275
41.32.1.337	fgsl_sf_lambert_w0_e	276
41.32.1.338	fgsl_sf_lambert_wm1	276
41.32.1.339	fgsl_sf_lambert_wm1_e	276
41.32.1.340	fgsl_sf_legendre_array_size	276
41.32.1.341	fgsl_sf_legendre_h3d	276
41.32.1.342	fgsl_sf_legendre_h3d_0	276
41.32.1.343	fgsl_sf_legendre_h3d_0_e	276
41.32.1.344	fgsl_sf_legendre_h3d_1	276
41.32.1.345	fgsl_sf_legendre_h3d_1_e	276
41.32.1.346	fgsl_sf_legendre_h3d_array	276
41.32.1.347	fgsl_sf_legendre_h3d_e	276
41.32.1.348	fgsl_sf_legendre_p1	276
41.32.1.349	fgsl_sf_legendre_p1_e	276
41.32.1.350	fgsl_sf_legendre_p2	276
41.32.1.351	fgsl_sf_legendre_p2_e	276
41.32.1.352	fgsl_sf_legendre_p3	276
41.32.1.353	fgsl_sf_legendre_p3_e	276
41.32.1.354	fgsl_sf_legendre_pl	276
41.32.1.355	fgsl_sf_legendre_pl_array	276
41.32.1.356	fgsl_sf_legendre_pl_deriv_array	276
41.32.1.357	fgsl_sf_legendre_pl_e	277
41.32.1.358	fgsl_sf_legendre_plm	277
41.32.1.359	fgsl_sf_legendre_plm_array	277
41.32.1.360	fgsl_sf_legendre_plm_deriv_array	277
41.32.1.361	fgsl_sf_legendre_plm_e	277
41.32.1.362	fgsl_sf_legendre_q0	277
41.32.1.363	fgsl_sf_legendre_q0_e	277
41.32.1.364	fgsl_sf_legendre_q1	277
41.32.1.365	fgsl_sf_legendre_q1_e	277
41.32.1.366	fgsl_sf_legendre_ql	277
41.32.1.367	fgsl_sf_legendre_ql_e	277
41.32.1.368	fgsl_sf_legendre_sphplm	277
41.32.1.369	fgsl_sf_legendre_sphplm_array	277
41.32.1.370	fgsl_sf_legendre_sphplm_deriv_array	277
41.32.1.371	fgsl_sf_legendre_sphplm_e	277

41.32.1.372	fgsl_sf_Inbeta	277
41.32.1.373	fgsl_sf_Inbeta_e	277
41.32.1.374	fgsl_sf_Inchoose	277
41.32.1.375	fgsl_sf_Inchoose_e	277
41.32.1.376	fgsl_sf_Incosh	277
41.32.1.377	fgsl_sf_Incosh_e	278
41.32.1.378	fgsl_sf_Indoublefact	278
41.32.1.379	fgsl_sf_Indoublefact_e	278
41.32.1.380	fgsl_sf_Infact	278
41.32.1.381	fgsl_sf_Infact_e	278
41.32.1.382	fgsl_sf_Ingamma	278
41.32.1.383	fgsl_sf_Ingamma_complex_e	278
41.32.1.384	fgsl_sf_Ingamma_e	278
41.32.1.385	fgsl_sf_Ingamma_sgn_e	278
41.32.1.386	fgsl_sf_Inpoch	278
41.32.1.387	fgsl_sf_Inpoch_e	278
41.32.1.388	fgsl_sf_Inpoch_sgn_e	278
41.32.1.389	fgsl_sf_Insinh	278
41.32.1.390	fgsl_sf_Insinh_e	278
41.32.1.391	fgsl_sf_log	278
41.32.1.392	fgsl_sf_log_1plusx	278
41.32.1.393	fgsl_sf_log_1plusx_e	278
41.32.1.394	fgsl_sf_log_1plusx_mx	278
41.32.1.395	fgsl_sf_log_1plusx_mx_e	278
41.32.1.396	fgsl_sf_log_abs	278
41.32.1.397	fgsl_sf_log_abs_e	278
41.32.1.398	fgsl_sf_log_e	278
41.32.1.399	fgsl_sf_log_erfc	278
41.32.1.400	fgsl_sf_log_erfc_e	278
41.32.1.401	fgsl_sf_multiply_e	278
41.32.1.402	fgsl_sf_multiply_err_e	279
41.32.1.403	fgsl_sf_poch	279
41.32.1.404	fgsl_sf_poch_e	279
41.32.1.405	fgsl_sf_pochrel	279
41.32.1.406	fgsl_sf_pochrel_e	279
41.32.1.407	fgsl_sf_polar_to_rect	279
41.32.1.408	fgsl_sf_psi	279
41.32.1.409	fgsl_sf_psi_1	279
41.32.1.410	fgsl_sf_psi_1_e	279
41.32.1.411	fgsl_sf_psi_1_int	279

41.32.1.412	fgsl_sf_psi_1_int_e	279
41.32.1.413	fgsl_sf_psi_1piy	279
41.32.1.414	fgsl_sf_psi_1piy_e	279
41.32.1.415	fgsl_sf_psi_e	279
41.32.1.416	fgsl_sf_psi_int	279
41.32.1.417	fgsl_sf_psi_int_e	279
41.32.1.418	fgsl_sf_psi_n	279
41.32.1.419	fgsl_sf_psi_n_e	279
41.32.1.420	fgsl_sf_rect_to_polar	279
41.32.1.421	fgsl_sf_shi	279
41.32.1.422	fgsl_sf_shi_e	279
41.32.1.423	fgsl_sf_si	279
41.32.1.424	fgsl_sf_si_e	279
41.32.1.425	fgsl_sf_sin_err_e	279
41.32.1.426	fgsl_sf_sinc	279
41.32.1.427	fgsl_sf_sinc_e	280
41.32.1.428	fgsl_sf_synchrotron_1	280
41.32.1.429	fgsl_sf_synchrotron_1_e	280
41.32.1.430	fgsl_sf_synchrotron_2	280
41.32.1.431	fgsl_sf_synchrotron_2_e	280
41.32.1.432	fgsl_sf_taylorcoeff	280
41.32.1.433	fgsl_sf_taylorcoeff_e	280
41.32.1.434	fgsl_sf_transport_2	280
41.32.1.435	fgsl_sf_transport_2_e	280
41.32.1.436	fgsl_sf_transport_3	280
41.32.1.437	fgsl_sf_transport_3_e	280
41.32.1.438	fgsl_sf_transport_4	280
41.32.1.439	fgsl_sf_transport_4_e	280
41.32.1.440	fgsl_sf_transport_5	280
41.32.1.441	fgsl_sf_transport_5_e	280
41.32.1.442	fgsl_sf_zeta	280
41.32.1.443	fgsl_sf_zeta_e	280
41.32.1.444	fgsl_sf_zeta_int	280
41.32.1.445	fgsl_sf_zeta_int_e	280
41.32.1.446	fgsl_sf_zetam1	280
41.32.1.447	fgsl_sf_zetam1_e	280
41.32.1.448	fgsl_sf_zetam1_int	280
41.32.1.449	fgsl_sf_zetam1_int_e	280
41.32.1.450	fgsl_sf_to_fgsl_sf	280
41.32.1.451	fgsl_sfe10_to_fgsl_sfe10	281

41.33api/statistics.finc File Reference	281
41.33.1 Function/Subroutine Documentation	282
41.33.1.1 fgsl_stats_absdev	282
41.33.1.2 fgsl_stats_absdev_m	282
41.33.1.3 fgsl_stats_correlation	282
41.33.1.4 fgsl_stats_covariance	282
41.33.1.5 fgsl_stats_covariance_m	282
41.33.1.6 fgsl_stats_kurtosis	282
41.33.1.7 fgsl_stats_kurtosis_m_sd	282
41.33.1.8 fgsl_stats_lag1_autocorrelation	282
41.33.1.9 fgsl_stats_lag1_autocorrelation_m	282
41.33.1.10fgsl_stats_max	282
41.33.1.11fgsl_stats_max_index	282
41.33.1.12fgsl_stats_mean	282
41.33.1.13fgsl_stats_median_from_sorted_data	282
41.33.1.14fgsl_stats_min	283
41.33.1.15fgsl_stats_min_index	283
41.33.1.16fgsl_stats_minmax	283
41.33.1.17fgsl_stats_minmax_index	283
41.33.1.18fgsl_stats_quantile_from_sorted_data	283
41.33.1.19fgsl_stats_sd	283
41.33.1.20fgsl_stats_sd_m	283
41.33.1.21fgsl_stats_sd_with_fixed_mean	283
41.33.1.22fgsl_stats_skew	283
41.33.1.23fgsl_stats_skew_m_sd	283
41.33.1.24fgsl_stats_variance	283
41.33.1.25fgsl_stats_variance_m	283
41.33.1.26fgsl_stats_variance_with_fixed_mean	283
41.33.1.27fgsl_stats_wabsdev	283
41.33.1.28fgsl_stats_wabsdev_m	283
41.33.1.29fgsl_stats_wkurtosis	283
41.33.1.30fgsl_stats_wkurtosis_m_sd	283
41.33.1.31fgsl_stats_wmean	284
41.33.1.32fgsl_stats_wsd	284
41.33.1.33fgsl_stats_wsd_m	284
41.33.1.34fgsl_stats_wsd_with_fixed_mean	284
41.33.1.35fgsl_stats_wskew	284
41.33.1.36fgsl_stats_wskew_m_sd	284
41.33.1.37fgsl_stats_wvariance	284
41.33.1.38fgsl_stats_wvariance_m	284

41.33.1.39fgsl_stats_wvariance_with_fixed_mean	284
41.34api/sum_levin.finc File Reference	284
41.34.1 Function/Subroutine Documentation	285
41.34.1.1 fgsl_sum_levin_u_accel	285
41.34.1.2 fgsl_sum_levin_u_alloc	285
41.34.1.3 fgsl_sum_levin_u_free	285
41.34.1.4 fgsl_sum_levin_utrunc_accel	285
41.34.1.5 fgsl_sum_levin_utrunc_alloc	285
41.34.1.6 fgsl_sum_levin_utrunc_free	285
41.35api/wavelet.finc File Reference	285
41.35.1 Function/Subroutine Documentation	286
41.35.1.1 fgsl_sizeof_wavelet	286
41.35.1.2 fgsl_sizeof_wavelet_workspace	286
41.35.1.3 fgsl_wavelet2d_nstransform	286
41.35.1.4 fgsl_wavelet2d_nstransform_forward	286
41.35.1.5 fgsl_wavelet2d_nstransform_inverse	286
41.35.1.6 fgsl_wavelet2d_nstransform_matrix	286
41.35.1.7 fgsl_wavelet2d_nstransform_matrix_forward	286
41.35.1.8 fgsl_wavelet2d_nstransform_matrix_inverse	286
41.35.1.9 fgsl_wavelet2d_transform	286
41.35.1.10fgsl_wavelet2d_transform_forward	287
41.35.1.11fgsl_wavelet2d_transform_inverse	287
41.35.1.12fgsl_wavelet2d_transform_matrix	287
41.35.1.13fgsl_wavelet2d_transform_matrix_forward	287
41.35.1.14fgsl_wavelet2d_transform_matrix_inverse	287
41.35.1.15fgsl_wavelet_alloc	287
41.35.1.16fgsl_wavelet_free	287
41.35.1.17fgsl_wavelet_name	287
41.35.1.18fgsl_wavelet_status	287
41.35.1.19fgsl_wavelet_transform	287
41.35.1.20fgsl_wavelet_transform_forward	287
41.35.1.21fgsl_wavelet_transform_inverse	287
41.35.1.22fgsl_wavelet_workspace_alloc	287
41.35.1.23fgsl_wavelet_workspace_free	287
41.35.1.24fgsl_wavelet_workspace_status	287
41.36fgsl.F90 File Reference	288
41.37interface/generics.finc File Reference	291

Chapter 1

Main Page

Interface module for use of GSL from Fortran

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

doc/examples

subdirectory of the source package.

Chapter 2

Introduction

1. Introductory notes:

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

2. Additional routines:

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

3. Structure of the documentation:

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

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

5. Inlining of GSL routines is not possible.

6. Macros are not supported:

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

Chapter 3

Comments on vectors and matrices

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

Chapter 4

Comments on basis splines

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

Chapter 5

Comments on chebyshev approximation

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

Chapter 10

Comments on error handling

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

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

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

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

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](https://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](https://api.min.finc) for the API documentation.

Chapter 21

Comments on miscellaneous support routines

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

Chapter 22

Comments on monte carlo routines

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

Chapter 23

Comments on nonlinear least squares fitting

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

Chapter 24

Comments on multidimensional minimization

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

Chapter 25

Comments on multidimensional root finding

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

Chapter 26

Comments on ntuples

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

Chapter 27

Comments on ordinary differential equations

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

Chapter 28

Comments on permutations, combinations and multisets

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

Chapter 29

Comments on polynomials

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

Chapter 30

Comments on random numbers

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

Chapter 31

Comments on root finding

Please go to api.roots.finc 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](https://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
gsl_sf_bessel_J0	fgsl_sf_bessel_jc0
gsl_sf_bessel_J0_e	fgsl_sf_bessel_jc0_e
gsl_sf_bessel_J1	fgsl_sf_bessel_jc1
gsl_sf_bessel_J1_e	fgsl_sf_bessel_jc1_e
gsl_sf_bessel_Jn	fgsl_sf_bessel_jcn
gsl_sf_bessel_Jn_e	fgsl_sf_bessel_jcn_e
gsl_sf_bessel_Jn_array	fgsl_sf_bessel_jcn_array
gsl_sf_bessel_Y0	fgsl_sf_bessel_yc0
gsl_sf_bessel_Y0_e	fgsl_sf_bessel_yc0_e
gsl_sf_bessel_Y1	fgsl_sf_bessel_yc1
gsl_sf_bessel_Y1_e	fgsl_sf_bessel_yc1_e
gsl_sf_bessel_Yn	fgsl_sf_bessel_ycn
gsl_sf_bessel_Yn_e	fgsl_sf_bessel_ycn_e
gsl_sf_bessel_Yn_array	fgsl_sf_bessel_ycn_array
gsl_sf_bessel_I0	fgsl_sf_bessel_ic0
gsl_sf_bessel_I0_e	fgsl_sf_bessel_ic0_e
gsl_sf_bessel_I1	fgsl_sf_bessel_ic1
gsl_sf_bessel_I1_e	fgsl_sf_bessel_ic1_e
gsl_sf_bessel_In	fgsl_sf_bessel_icn
gsl_sf_bessel_In_e	fgsl_sf_bessel_icn_e
gsl_sf_bessel_In_array	fgsl_sf_bessel_icn_array
gsl_sf_bessel_I0_scaled	fgsl_sf_bessel_ic0_scaled
gsl_sf_bessel_I0_scaled_e	fgsl_sf_bessel_ic0_scaled_e
gsl_sf_bessel_I1_scaled	fgsl_sf_bessel_ic1_scaled
gsl_sf_bessel_I1_scaled_e	fgsl_sf_bessel_ic1_scaled_e
gsl_sf_bessel_In_scaled	fgsl_sf_bessel_icn_scaled
gsl_sf_bessel_In_scaled_e	fgsl_sf_bessel_icn_scaled_e
gsl_sf_bessel_In_scaled_array	fgsl_sf_bessel_icn_scaled_array

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

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

Chapter 35

Comments on statistical functions

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

Chapter 36

Comments on series acceleration

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

Chapter 37

Comments on wavelet transforms

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

Chapter 38

Data Type Index

38.1 Data Types List

Here are the data types with brief descriptions:

assignment(=)	83
fgsl	84
fgsl::fgsl_bspline_deriv_workspace	116
fgsl::fgsl_bspline_workspace	117
fgsl::fgsl_cheb_series	117
fgsl::fgsl_combination	117
fgsl::fgsl_dht	118
fgsl::fgsl_eigen_gen_workspace	118
fgsl::fgsl_eigen_genherm_workspace	118
fgsl::fgsl_eigen_genhermv_workspace	119
fgsl::fgsl_eigen_gensymm_workspace	119
fgsl::fgsl_eigen_gensymmv_workspace	119
fgsl::fgsl_eigen_genv_workspace	119
fgsl::fgsl_eigen_herm_workspace	120
fgsl::fgsl_eigen_hermv_workspace	120
fgsl::fgsl_eigen_nonsymm_workspace	120
fgsl::fgsl_eigen_nonsymmv_workspace	121
fgsl::fgsl_eigen_symm_workspace	121
fgsl::fgsl_eigen_symmv_workspace	121
fgsl::fgsl_error_handler_t	121
fgsl::fgsl_fft_complex_wavetable	122
fgsl::fgsl_fft_complex_workspace	122
fgsl::fgsl_fft_halfcomplex_wavetable	122
fgsl::fgsl_fft_real_wavetable	123
fgsl::fgsl_fft_real_workspace	123
fgsl::fgsl_file	123
fgsl::fgsl_function	123
fgsl::fgsl_function_fdf	124
fgsl::fgsl_histogram	124
fgsl::fgsl_histogram2d	124
fgsl::fgsl_histogram2d_pdf	125
fgsl::fgsl_histogram_pdf	125
fgsl_ieee_fprintf	125
fgsl_ieee_printf	125
fgsl::fgsl_integration_cquad_workspace	126
fgsl::fgsl_integration_glfixed_table	126
fgsl::fgsl_integration_qawo_table	126
fgsl::fgsl_integration_qaws_table	127

fgsl::fgsl_integration_workspace	127
fgsl::fgsl_interp	127
fgsl::fgsl_interp_accel	128
fgsl::fgsl_interp_type	128
fgsl::fgsl_matrix	128
fgsl_matrix_align	128
fgsl::fgsl_matrix_complex	129
fgsl_matrix_free	129
fgsl_matrix_init	130
fgsl::fgsl_min_fminimizer	130
fgsl::fgsl_min_fminimizer_type	130
fgsl::fgsl_mode_t	131
fgsl::fgsl_monte_function	131
fgsl::fgsl_monte_miser_state	131
fgsl::fgsl_monte_plain_state	131
fgsl::fgsl_monte_vegas_state	132
fgsl::fgsl_multifit_fdfsolver	132
fgsl::fgsl_multifit_fdfsolver_type	132
fgsl::fgsl_multifit_fsolver	133
fgsl::fgsl_multifit_fsolver_type	133
fgsl::fgsl_multifit_function	133
fgsl::fgsl_multifit_function_fdf	133
fgsl::fgsl_multifit_linear_workspace	134
fgsl::fgsl_multimin_fdfminimizer	134
fgsl::fgsl_multimin_fdfminimizer_type	134
fgsl::fgsl_multimin_fminimizer	135
fgsl::fgsl_multimin_fminimizer_type	135
fgsl::fgsl_multimin_function	135
fgsl::fgsl_multimin_function_fdf	135
fgsl::fgsl_multiroot_fdfsolver	136
fgsl::fgsl_multiroot_fdfsolver_type	136
fgsl::fgsl_multiroot_fsolver	136
fgsl::fgsl_multiroot_fsolver_type	137
fgsl::fgsl_multiroot_function	137
fgsl::fgsl_multiroot_function_fdf	137
fgsl::fgsl_multiset	137
fgsl::fgsl_ntuple	138
fgsl::fgsl_ntuple_select_fn	138
fgsl::fgsl_ntuple_value_fn	138
fgsl_obj_c_ptr	139
fgsl::fgsl_odeiv2_control	139
fgsl::fgsl_odeiv2_control_type	139
fgsl::fgsl_odeiv2_driver	140
fgsl::fgsl_odeiv2_evolve	140
fgsl::fgsl_odeiv2_step	140
fgsl::fgsl_odeiv2_step_type	140
fgsl::fgsl_odeiv2_system	141
fgsl::fgsl_odeiv_control	141
fgsl::fgsl_odeiv_control_type	141
fgsl::fgsl_odeiv_evolve	142
fgsl::fgsl_odeiv_step	142
fgsl::fgsl_odeiv_step_type	142
fgsl::fgsl_odeiv_system	142
fgsl::fgsl_permutation	143
fgsl_permute	143
fgsl_permute_inverse	143
fgsl::fgsl_poly_complex_workspace	144
fgsl::fgsl_qrng	144

fgsl::fgsl_qrng_type	144
fgsl::fgsl_ran_discrete_t	145
fgsl_ran_shuffle	145
fgsl::fgsl_rng	145
fgsl::fgsl_rng_type	146
fgsl::fgsl_root_fdfsolver	146
fgsl::fgsl_root_fdfsolver_type	146
fgsl::fgsl_root_fsolver	147
fgsl::fgsl_root_fsolver_type	147
fgsl::fgsl_sf_result	147
fgsl::fgsl_sf_result_e10	148
fgsl::fgsl_siman_params_t	148
fgsl_sizeof	149
fgsl_sort	150
fgsl_sort_index	150
fgsl_sort_largest	151
fgsl_sort_largest_index	151
fgsl_sort_smallest	151
fgsl_sort_smallest_index	152
fgsl::fgsl_spline	152
fgsl::fgsl_sum_levin_u_workspace	152
fgsl::fgsl_sum_levin_ustrunc_workspace	153
fgsl::fgsl_vector	153
fgsl_vector_align	153
fgsl::fgsl_vector_complex	154
fgsl_vector_free	154
fgsl_vector_init	155
fgsl::fgsl_wavelet	155
fgsl::fgsl_wavelet_type	155
fgsl::fgsl_wavelet_workspace	156
fgsl_well_defined	156
fgsl::gsl_complex	159
fgsl::gsl_sf_result	159
fgsl::gsl_sf_result_e10	160

Chapter 39

File Index

39.1 File List

Here is a list of all files with brief descriptions:

fgsl.F90	288
api/array.finc	161
api/bspline.finc	168
api/chebyshev.finc	169
api/complex.finc	171
api/deriv.finc	173
api/dht.finc	174
api/eigen.finc	175
api/error.finc	179
api/fft.finc	180
api/fit.finc	182
api/histogram.finc	184
api/ieee.finc	190
api/integration.finc	191
api/interp.finc	194
api/io.finc	197
api/linalg.finc	199
api/math.finc	205
api/min.finc	208
api/misc.finc	210
api/montecarlo.finc	211
api/multifit.finc	214
api/multimin.finc	216
api/multiroots.finc	218
api/ntuple.finc	220
api/ode.finc	221
api/permutation.finc	227
api/poly.finc	232
api/rng.finc	234
api/roots.finc	247
api/siman.finc	249
api/sort.finc	250
api/specfunc.finc	252
api/statistics.finc	281
api/sum_levin.finc	284
api/wavelet.finc	285
interface/generics.finc	291

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 ()`

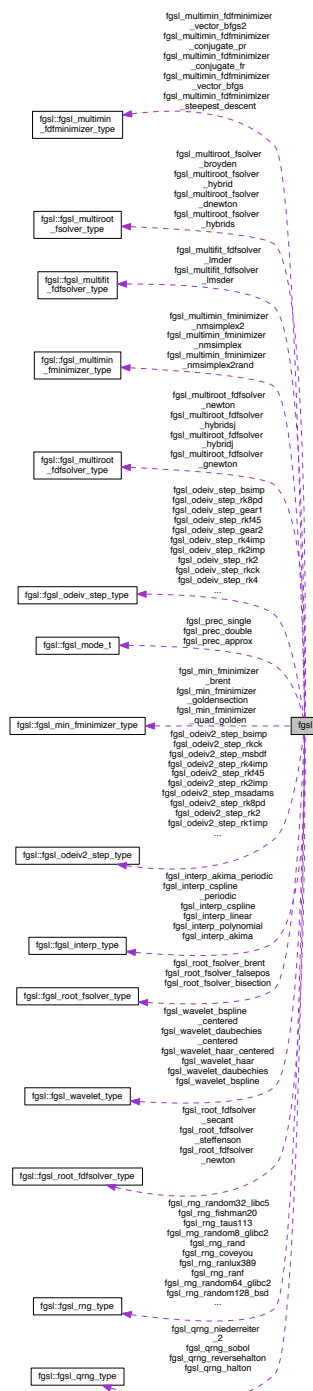
40.1.1.8 `assignment(=)::gsl_sfe10_to_fgsl_sfe10 ()`

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

- [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_fdsolver](#)
- type [fgsl_multifit_fdsolver_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_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_ustrunc_workspace](#)
- type [fgsl_vector](#)
- type [fgsl_vector_complex](#)
- type [fgsl_wavelet](#)
- type [fgsl_wavelet_type](#)
- type [fgsl_wavelet_workspace](#)
- type [gsl_complex](#)
- type [gsl_sf_result](#)
- type [gsl_sf_result_e10](#)

Public Attributes

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

- integer([fgsl_int](#)), parameter,
public [fgsl_ebadlen](#) = 19
- integer([fgsl_int](#)), parameter,
public [fgsl_enotsqr](#) = 20
- integer([fgsl_int](#)), parameter,
public [fgsl_esing](#) = 21
- integer([fgsl_int](#)), parameter,
public [fgsl_ediverge](#) = 22
- integer([fgsl_int](#)), parameter,
public [fgsl_eunsup](#) = 23
- integer([fgsl_int](#)), parameter,
public [fgsl_eunimpl](#) = 24
- integer([fgsl_int](#)), parameter,
public [fgsl_ecache](#) = 25
- integer([fgsl_int](#)), parameter,
public [fgsl_etable](#) = 26
- integer([fgsl_int](#)), parameter,
public [fgsl_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_lmpi` = 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_numzepto` = 1e-21_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_numyocto` = 1e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_speed_of_light` = 2.99792458e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_gravitational_constant` = 6.673e-11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_plancks_constant_h` = 6.62606896e-34_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_plancks_constant_hbar` = 1.05457162825e-34_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_astronomical_unit` = 1.49597870691e11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_light_year` = 9.46053620707e15_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkssa_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
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public `fgsl_const_mksa_proton_magnetic_moment` = 1.410606633e-26_fgsl_double
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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
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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
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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` = 3.52777777778e-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_mksha_angstrom` = 1e-10_fgsl_double
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public `fgsl_const_mksha_hectare` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_acre` = 4.04685642241e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_barn` = 1e-28_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_liter` = 1e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_us_gallon` = 3.78541178402e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_quart` = 9.46352946004e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_pint` = 4.73176473002e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_cup` = 2.36588236501e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_fluid_ounce` = 2.95735295626e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_tablespoon` = 1.47867647813e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_tspoon` = 4.92892159375e-6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_canadian_gallon` = 4.54609e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_uk_gallon` = 4.546092e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_miles_per_hour` = 4.4704e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_kilometers_per_hour` = 2.77777777778e-1_fgsl_double
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public `fgsl_const_mksha_knot` = 5.14444444444e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_pound_mass` = 4.5359237e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_ounce_mass` = 2.8349523125e-2_fgsl_double
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public `fgsl_const_mksha_ton` = 9.0718474e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_metric_ton` = 1e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_uk_ton` = 1.0160469088e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_troy_ounce` = 3.1103475e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_carat` = 2e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_unified_atomic_mass` = 1.660538782e-27_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_gram_force` = 9.80665e-3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_pound_force` = 4.44822161526e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mksha_kilopound_force` = 4.44822161526e3_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_poundal` = 1.38255e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_calorie` = 4.1868e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_btu` = 1.05505585262e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_therm` = 1.05506e8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_horsepower` = 7.457e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_bar` = 1e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_std_atmosphere` = 1.01325e5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_torr` = 1.33322368421e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_meter_of_mercury` = 1.33322368421e5_fgsl_double
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public `fgsl_const_mkسا_inch_of_mercury` = 3.38638815789e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_inch_of_water` = 2.490889e2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_psi` = 6.89475729317e3_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_poise` = 1e-1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_stokes` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_faraday` = 9.64853429775e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_electron_charge` = 1.602176487e-19_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_gauss` = 1e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkساstilb` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_lumen` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_lux` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_phot` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_footcandle` = 1.076e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_lambert` = 1e4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_footlambert` = 1.07639104e1_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_curie` = 3.7e10_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_roentgen` = 2.58e-4_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_rad` = 1e-2_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkسا_solar_mass` = 1.98892e30_fgsl_double

- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_bohr_radius` = 5.291772083e-11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_newton` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_dyne` = 1e-5_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_joule` = 1e0_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_erg` = 1e-7_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_stefan_boltzmann_constant` = 5.67040047374e-8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_thomson_cross_section` = 6.65245893699e-29_fgsl_double
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public `fgsl_const_mkxa_vacuum_permittivity` = 8.854187817e-12_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_vacuum_permeability` = 1.25663706144e-6_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_mkxa_debye` = 3.33564095198e-30_fgsl_double
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public `fgsl_const_cgsm_gravitational_constant` = 6.673e-8_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_plancks_constant_h` = 6.62606896e-27_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_plancks_constant_hbar` = 1.05457162825e-27_fgsl_double
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public `fgsl_const_cgsm_astronomical_unit` = 1.49597870691e13_fgsl_double
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public `fgsl_const_cgsm_light_year` = 9.46053620707e17_fgsl_double
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public `fgsl_const_cgsm_parsec` = 3.08567758135e18_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_grav_accel` = 9.80665e2_fgsl_double
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public `fgsl_const_cgsm_electron_volt` = 1.602176487e-12_fgsl_double
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public `fgsl_const_cgsm_mass_muon` = 1.88353109e-25_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mass_proton` = 1.67262158e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_mass_neutron` = 1.67492716e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_rydberg` = 2.17987196968e-11_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_boltzmann` = 1.3806504e-16_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_bohr_magneton` = 9.27400899e-21_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_nuclear_magneton` = 5.05078317e-24_fgsl_double
- `real(fgsl_double)`, parameter,
public `fgsl_const_cgsm_electron_magnetic_moment` = 9.28476362e-21_fgsl_double

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

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

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

- `type(fgsl_interp_type),`
parameter, public `fgsl_interp_polynomial = fgsl_interp_type(2)`
- `type(fgsl_interp_type),`
parameter, public `fgsl_interp_cspline = fgsl_interp_type(3)`
- `type(fgsl_interp_type),`
parameter, public `fgsl_interp_cspline_periodic = fgsl_interp_type(4)`
- `type(fgsl_interp_type),`
parameter, public `fgsl_interp_akima = fgsl_interp_type(5)`
- `type(fgsl_interp_type),`
parameter, public `fgsl_interp_akima_periodic = fgsl_interp_type(6)`
- `integer(c_int), parameter, public fgsl_eigen_sort_val_asc = 0`
- `integer(c_int), parameter, public fgsl_eigen_sort_val_desc = 1`
- `integer(c_int), parameter, public fgsl_eigen_sort_abs_asc = 2`
- `integer(c_int), parameter, public fgsl_eigen_sort_abs_desc = 3`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss15 = 1`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss21 = 2`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss31 = 3`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss41 = 4`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss51 = 5`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_gauss61 = 6`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_cosine = 0`
- `integer(fgsl_int), parameter,`
public `fgsl_integ_sine = 1`
- `type(fgsl_rng_type), public fgsl_rng_default = fgsl_rng_type(c_null_ptr, -1)`
- `type(fgsl_rng_type), public fgsl_rng_borosh13 = fgsl_rng_type(c_null_ptr, 1)`
- `type(fgsl_rng_type), public fgsl_rng_coveyou = fgsl_rng_type(c_null_ptr, 2)`
- `type(fgsl_rng_type), public fgsl_rng_cmrg = fgsl_rng_type(c_null_ptr, 3)`
- `type(fgsl_rng_type), public fgsl_rng_fishman18 = fgsl_rng_type(c_null_ptr, 4)`
- `type(fgsl_rng_type), public fgsl_rng_fishman20 = fgsl_rng_type(c_null_ptr, 5)`
- `type(fgsl_rng_type), public fgsl_rng_fishman2x = fgsl_rng_type(c_null_ptr, 6)`
- `type(fgsl_rng_type), public fgsl_rng_gfsr4 = fgsl_rng_type(c_null_ptr, 7)`
- `type(fgsl_rng_type), public fgsl_rng_knuthran = fgsl_rng_type(c_null_ptr, 8)`
- `type(fgsl_rng_type), public fgsl_rng_knuthran2 = fgsl_rng_type(c_null_ptr, 9)`
- `type(fgsl_rng_type), public fgsl_rng_lecuyer21 = fgsl_rng_type(c_null_ptr, 10)`
- `type(fgsl_rng_type), public fgsl_rng_minstd = fgsl_rng_type(c_null_ptr, 11)`
- `type(fgsl_rng_type), public fgsl_rng_mrg = fgsl_rng_type(c_null_ptr, 12)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937 = fgsl_rng_type(c_null_ptr, 13)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937_1999 = fgsl_rng_type(c_null_ptr, 14)`
- `type(fgsl_rng_type), public fgsl_rng_mt19937_1998 = fgsl_rng_type(c_null_ptr, 15)`
- `type(fgsl_rng_type), public fgsl_rng_r250 = fgsl_rng_type(c_null_ptr, 16)`
- `type(fgsl_rng_type), public fgsl_rng_ran0 = fgsl_rng_type(c_null_ptr, 17)`
- `type(fgsl_rng_type), public fgsl_rng_ran1 = fgsl_rng_type(c_null_ptr, 18)`
- `type(fgsl_rng_type), public fgsl_rng_ran2 = fgsl_rng_type(c_null_ptr, 19)`
- `type(fgsl_rng_type), public fgsl_rng_ran3 = fgsl_rng_type(c_null_ptr, 20)`
- `type(fgsl_rng_type), public fgsl_rng_rand = fgsl_rng_type(c_null_ptr, 21)`
- `type(fgsl_rng_type), public fgsl_rng_rand48 = fgsl_rng_type(c_null_ptr, 22)`
- `type(fgsl_rng_type), public fgsl_rng_random128_bsd = fgsl_rng_type(c_null_ptr, 23)`
- `type(fgsl_rng_type), public fgsl_rng_random128_glibc2 = fgsl_rng_type(c_null_ptr, 24)`

- `type(fgsl_rng_type), public fgsl_rng_random128_libc5 = fgsl_rng_type(c_null_ptr, 25)`
- `type(fgsl_rng_type), public fgsl_rng_random256_bsd = fgsl_rng_type(c_null_ptr, 26)`
- `type(fgsl_rng_type), public fgsl_rng_random256_glibc2 = fgsl_rng_type(c_null_ptr, 27)`
- `type(fgsl_rng_type), public fgsl_rng_random256_libc5 = fgsl_rng_type(c_null_ptr, 28)`
- `type(fgsl_rng_type), public fgsl_rng_random32_bsd = fgsl_rng_type(c_null_ptr, 29)`
- `type(fgsl_rng_type), public fgsl_rng_random32_glibc2 = fgsl_rng_type(c_null_ptr, 30)`
- `type(fgsl_rng_type), public fgsl_rng_random32_libc5 = fgsl_rng_type(c_null_ptr, 31)`
- `type(fgsl_rng_type), public fgsl_rng_random64_bsd = fgsl_rng_type(c_null_ptr, 32)`
- `type(fgsl_rng_type), public fgsl_rng_random64_glibc2 = fgsl_rng_type(c_null_ptr, 33)`
- `type(fgsl_rng_type), public fgsl_rng_random64_libc5 = fgsl_rng_type(c_null_ptr, 34)`
- `type(fgsl_rng_type), public fgsl_rng_random8_bsd = fgsl_rng_type(c_null_ptr, 35)`
- `type(fgsl_rng_type), public fgsl_rng_random8_glibc2 = fgsl_rng_type(c_null_ptr, 36)`
- `type(fgsl_rng_type), public fgsl_rng_random8_libc5 = fgsl_rng_type(c_null_ptr, 37)`
- `type(fgsl_rng_type), public fgsl_rng_random_bsd = fgsl_rng_type(c_null_ptr, 38)`
- `type(fgsl_rng_type), public fgsl_rng_random_glibc2 = fgsl_rng_type(c_null_ptr, 39)`
- `type(fgsl_rng_type), public fgsl_rng_random_libc5 = fgsl_rng_type(c_null_ptr, 40)`
- `type(fgsl_rng_type), public fgsl_rng_randu = fgsl_rng_type(c_null_ptr, 41)`
- `type(fgsl_rng_type), public fgsl_rng_ranf = fgsl_rng_type(c_null_ptr, 42)`
- `type(fgsl_rng_type), public fgsl_rng_ranlux = fgsl_rng_type(c_null_ptr, 43)`
- `type(fgsl_rng_type), public fgsl_rng_ranlux389 = fgsl_rng_type(c_null_ptr, 44)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxd1 = fgsl_rng_type(c_null_ptr, 45)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxd2 = fgsl_rng_type(c_null_ptr, 46)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs0 = fgsl_rng_type(c_null_ptr, 47)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs1 = fgsl_rng_type(c_null_ptr, 48)`
- `type(fgsl_rng_type), public fgsl_rng_ranlxs2 = fgsl_rng_type(c_null_ptr, 49)`
- `type(fgsl_rng_type), public fgsl_rng_ranmar = fgsl_rng_type(c_null_ptr, 50)`
- `type(fgsl_rng_type), public fgsl_rng_slatec = fgsl_rng_type(c_null_ptr, 51)`
- `type(fgsl_rng_type), public fgsl_rng_taus = fgsl_rng_type(c_null_ptr, 52)`
- `type(fgsl_rng_type), public fgsl_rng_taus2 = fgsl_rng_type(c_null_ptr, 53)`
- `type(fgsl_rng_type), public fgsl_rng_taus113 = fgsl_rng_type(c_null_ptr, 54)`
- `type(fgsl_rng_type), public fgsl_rng_transputer = fgsl_rng_type(c_null_ptr, 55)`
- `type(fgsl_rng_type), public fgsl_rng_tt800 = fgsl_rng_type(c_null_ptr, 56)`
- `type(fgsl_rng_type), public fgsl_rng_uni = fgsl_rng_type(c_null_ptr, 57)`
- `type(fgsl_rng_type), public fgsl_rng_uni32 = fgsl_rng_type(c_null_ptr, 58)`
- `type(fgsl_rng_type), public fgsl_rng_vax = fgsl_rng_type(c_null_ptr, 59)`
- `type(fgsl_rng_type), public fgsl_rng_waterman14 = fgsl_rng_type(c_null_ptr, 60)`
- `type(fgsl_rng_type), public fgsl_rng_zuf = fgsl_rng_type(c_null_ptr, 61)`
- `type(fgsl_rng_type), public fgsl_rng_knuthran2002 = fgsl_rng_type(c_null_ptr, 62)`
- `integer(fgsl_long), dimension(c,
name='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_msbdof = 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_solver_type),`
parameter, public `fgsl_root_solver_bisection = fgsl_root_solver_type(1)`
- `type(fgsl_root_solver_type),`
parameter, public `fgsl_root_solver_brent = fgsl_root_solver_type(2)`
- `type(fgsl_root_solver_type),`
parameter, public `fgsl_root_solver_falsepos = fgsl_root_solver_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_solver_type),`
parameter, public `fgsl_multiroot_solver_dnewton = fgsl_multiroot_solver_type(1)`
- `type(fgsl_multiroot_solver_type),`
parameter, public `fgsl_multiroot_solver_broyden = fgsl_multiroot_solver_type(2)`
- `type(fgsl_multiroot_solver_type),`
parameter, public `fgsl_multiroot_solver_hybrid = fgsl_multiroot_solver_type(3)`
- `type(fgsl_multiroot_solver_type),`
parameter, public `fgsl_multiroot_solver_hybrids = fgsl_multiroot_solver_type(4)`
- `type(fgsl_multiroot_fdfsolver_type),`
parameter, public `fgsl_multiroot_fdfsolver_newton = fgsl_multiroot_fdfsolver_type(1)`
- `type(fgsl_multiroot_fdfsolver_type),`
parameter, public `fgsl_multiroot_fdfsolver_gnewton = fgsl_multiroot_fdfsolver_type(2)`
- `type(fgsl_multiroot_fdfsolver_type),`
parameter, public `fgsl_multiroot_fdfsolver_hybridj = fgsl_multiroot_fdfsolver_type(3)`
- `type(fgsl_multiroot_fdfsolver_type),`
parameter, public `fgsl_multiroot_fdfsolver_hybridjsj = fgsl_multiroot_fdfsolver_type(4)`
- `type(fgsl_multimin_fminimizer_type),`
parameter, public `fgsl_multimin_fminimizer_nmsimplex = fgsl_multimin_fminimizer_type(1)`
- `type(fgsl_multimin_fminimizer_type),`
parameter, public `fgsl_multimin_fminimizer_nmsimplex2 = fgsl_multimin_fminimizer_type(2)`
- `type(fgsl_multimin_fminimizer_type),`
parameter, public `fgsl_multimin_fminimizer_nmsimplex2rand = fgsl_multimin_fminimizer_type(3)`
- `type(fgsl_multimin_fdfminimizer_type),`
parameter, public `fgsl_multimin_fdfminimizer_steepest_descent = fgsl_multimin_fdfminimizer_type(1)`
- `type(fgsl_multimin_fdfminimizer_type),`
parameter, public `fgsl_multimin_fdfminimizer_conjugate_pr = fgsl_multimin_fdfminimizer_type(2)`
- `type(fgsl_multimin_fdfminimizer_type),`
parameter, public `fgsl_multimin_fdfminimizer_conjugate_fr = fgsl_multimin_fdfminimizer_type(3)`
- `type(fgsl_multimin_fdfminimizer_type),`
parameter, public `fgsl_multimin_fdfminimizer_vector_bfgs = fgsl_multimin_fdfminimizer_type(4)`
- `type(fgsl_multimin_fdfminimizer_type),`
parameter, public `fgsl_multimin_fdfminimizer_vector_bfgs2 = fgsl_multimin_fdfminimizer_type(5)`
- `type(fgsl_multifit_fdfsolver_type),`
parameter, public `fgsl_multifit_fdfsolver_lmder = fgsl_multifit_fdfsolver_type(1)`
- `type(fgsl_multifit_fdfsolver_type),`
parameter, public `fgsl_multifit_fdfsolver_lmsder = fgsl_multifit_fdfsolver_type(2)`

40.2.1 Member Data Documentation

- 40.2.1.1 integer(fgsl_long), dimension(c, name='gsl_rng_default_seed'), public fgsl::bind
- 40.2.1.2 integer, parameter, public fgsl::fgsl_char = c_char
- 40.2.1.3 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_acre = 4.04685642241e7_fgsl_double
- 40.2.1.4 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_angstrom = 1e-8_fgsl_double
- 40.2.1.5 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_astronomical_unit = 1.49597870691e13_fgsl_double
- 40.2.1.6 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_bar = 1e6_fgsl_double
- 40.2.1.7 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_barn = 1e-24_fgsl_double
- 40.2.1.8 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_bohr_magneton = 9.27400899e-21_fgsl_double
- 40.2.1.9 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_bohr_radius = 5.291772083e-9_fgsl_double
- 40.2.1.10 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_boltzmann = 1.3806504e-16_fgsl_double
- 40.2.1.11 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_btu = 1.05505585262e10_fgsl_double
- 40.2.1.12 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_calorie = 4.1868e7_fgsl_double
- 40.2.1.13 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_canadian_gallon = 4.54609e3_fgsl_double
- 40.2.1.14 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_carat = 2e-1_fgsl_double
- 40.2.1.15 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_cup = 2.36588236501e2_fgsl_double
- 40.2.1.16 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_curie = 3.7e10_fgsl_double
- 40.2.1.17 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_day = 8.64e4_fgsl_double
- 40.2.1.18 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_dyne = 1e0_fgsl_double
- 40.2.1.19 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_electron_charge = 1.602176487e-20_fgsl_double
- 40.2.1.20 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_electron_magnetic_moment = 9.28476362e-21_fgsl_double
- 40.2.1.21 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_electron_volt = 1.602176487e-12_fgsl_double
- 40.2.1.22 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_erg = 1e0_fgsl_double
- 40.2.1.23 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_faraday = 9.64853429775e3_fgsl_double
- 40.2.1.24 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_fathom = 1.8288e2_fgsl_double
- 40.2.1.25 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_fluid_ounce = 2.95735295626e1_fgsl_double
- 40.2.1.26 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_foot = 3.048e1_fgsl_double
- 40.2.1.27 real(fgsl_double), parameter, public fgsl::fgsl_const_cgsm_footcandle = 1.076e-3_fgsl_double

- 40.2.1.28 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_footlambert = 1.07639104e-3_fgsl_double`
- 40.2.1.29 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gauss = 1e0_fgsl_double`
- 40.2.1.30 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gram_force = 9.80665e2_fgsl_double`
- 40.2.1.31 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_grav_accel = 9.80665e2_fgsl_double`
- 40.2.1.32 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_gravitational_constant = 6.673e-8_fgsl_double`
- 40.2.1.33 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_hectare = 1e8_fgsl_double`
- 40.2.1.34 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_horsepower = 7.457e9_fgsl_double`
- 40.2.1.35 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_hour = 3.6e3_fgsl_double`
- 40.2.1.36 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch = 2.54e0_fgsl_double`
- 40.2.1.37 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch_of_mercury = 3.38638815789e4_fgsl_double`
- 40.2.1.38 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_inch_of_water = 2.490889e3_fgsl_double`
- 40.2.1.39 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_joule = 1e7_fgsl_double`
- 40.2.1.40 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_kilometers_per_hour = 2.77777777778e1_fgsl_double`
- 40.2.1.41 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_kilopound_force = 4.44822161526e8_fgsl_double`
- 40.2.1.42 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_knot = 5.14444444444e1_fgsl_double`
- 40.2.1.43 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lambert = 1e0_fgsl_double`
- 40.2.1.44 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_light_year = 9.46053620707e17_fgsl_double`
- 40.2.1.45 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_liter = 1e3_fgsl_double`
- 40.2.1.46 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lumen = 1e0_fgsl_double`
- 40.2.1.47 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_lux = 1e-4_fgsl_double`
- 40.2.1.48 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_electron = 9.10938188e-28_fgsl_double`
- 40.2.1.49 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_muon = 1.88353109e-25_fgsl_double`
- 40.2.1.50 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_neutron = 1.67492716e-24_fgsl_double`
- 40.2.1.51 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mass_proton = 1.67262158e-24_fgsl_double`
- 40.2.1.52 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_meter_of_mercury = 1.33322368421e6_fgsl_double`
- 40.2.1.53 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_metric_ton = 1e6_fgsl_double`
- 40.2.1.54 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_micron = 1e-4_fgsl_double`
- 40.2.1.55 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mil = 2.54e-3_fgsl_double`

- 40.2.1.56 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_mile = 1.609344e5_fgsl_double`
- 40.2.1.57 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_miles_per_hour = 4.4704e1_fgsl_double`
- 40.2.1.58 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_minute = 6e1_fgsl_double`
- 40.2.1.59 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_molar_gas = 8.314472e7_fgsl_double`
- 40.2.1.60 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_nautical_mile = 1.852e5_fgsl_double`
- 40.2.1.61 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_newton = 1e5_fgsl_double`
- 40.2.1.62 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_nuclear_magneton = 5.05078317e-24_fgsl_double`
- 40.2.1.63 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_ounce_mass = 2.8349523125e1_fgsl_double`
- 40.2.1.64 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_parsec = 3.08567758135e18_fgsl_double`
- 40.2.1.65 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_phot = 1e0_fgsl_double`
- 40.2.1.66 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pint = 4.73176473002e2_fgsl_double`
- 40.2.1.67 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_plancks_constant_h = 6.62606896e-27_fgsl_double`
- 40.2.1.68 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_plancks_constant_hbar = 1.05457162825e-27_fgsl_double`
- 40.2.1.69 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_point = 3.52777777778e-2_fgsl_double`
- 40.2.1.70 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_poise = 1e0_fgsl_double`
- 40.2.1.71 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pound_force = 4.44822161526e5_fgsl_double`
- 40.2.1.72 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_pound_mass = 4.5359237e2_fgsl_double`
- 40.2.1.73 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_poundal = 1.38255e4_fgsl_double`
- 40.2.1.74 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_proton_magnetic_moment = 1.410606633e-23_fgsl_double`
- 40.2.1.75 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_psi = 6.89475729317e4_fgsl_double`
- 40.2.1.76 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_quart = 9.46352946004e2_fgsl_double`
- 40.2.1.77 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_rad = 1e2_fgsl_double`
- 40.2.1.78 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_roentgen = 2.58e-8_fgsl_double`
- 40.2.1.79 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_rydberg = 2.17987196968e-11_fgsl_double`
- 40.2.1.80 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_solar_mass = 1.98892e33_fgsl_double`
- 40.2.1.81 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_speed_of_light = 2.99792458e10_fgsl_double`
- 40.2.1.82 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_standard_gas_volume = 2.2710981e4_fgsl_double`
- 40.2.1.83 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_std_atmosphere = 1.01325e6_fgsl_double`

- 40.2.1.84 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stefan_boltzmann_constant = 5.67040047374e-5_fgsl_double`
- 40.2.1.85 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stilb = 1e0_fgsl_double`
- 40.2.1.86 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_stokes = 1e0_fgsl_double`
- 40.2.1.87 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_tablespoon = 1.47867647813e1_fgsl_double`
- 40.2.1.88 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_tespoon = 4.92892159375e0_fgsl_double`
- 40.2.1.89 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_texpoint = 3.51459803515e-2_fgsl_double`
- 40.2.1.90 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_therm = 1.05506e15_fgsl_double`
- 40.2.1.91 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_thomson_cross_section = 6.65245893699e-25_fgsl_double`
- 40.2.1.92 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_ton = 9.0718474e5_fgsl_double`
- 40.2.1.93 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_torr = 1.33322368421e3_fgsl_double`
- 40.2.1.94 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_troy_ounce = 3.1103475e1_fgsl_double`
- 40.2.1.95 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_uk_gallon = 4.546092e3_fgsl_double`
- 40.2.1.96 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_uk_ton = 1.0160469088e6_fgsl_double`
- 40.2.1.97 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_unified_atomic_mass = 1.660538782e-24_fgsl_double`
- 40.2.1.98 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_us_gallon = 3.78541178402e3_fgsl_double`
- 40.2.1.99 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_week = 6.048e5_fgsl_double`
- 40.2.1.100 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_cgsm_yard = 9.144e1_fgsl_double`
- 40.2.1.101 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_acre = 4.04685642241e3_fgsl_double`
- 40.2.1.102 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_angstrom = 1e-10_fgsl_double`
- 40.2.1.103 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_astronomical_unit = 1.49597870691e11_fgsl_double`
- 40.2.1.104 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_bar = 1e5_fgsl_double`
- 40.2.1.105 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_barn = 1e-28_fgsl_double`
- 40.2.1.106 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_bohr_magneton = 9.27400899e-24_fgsl_double`
- 40.2.1.107 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_bohr_radius = 5.291772083e-11_fgsl_double`
- 40.2.1.108 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_boltzmann = 1.3806504e-23_fgsl_double`
- 40.2.1.109 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_btu = 1.05505585262e3_fgsl_double`
- 40.2.1.110 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_calorie = 4.1868e0_fgsl_double`
- 40.2.1.111 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkasa_canadian_gallon = 4.54609e-3_fgsl_double`

- 40.2.1.112 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_carat = 2e-4_fgsl_double`
- 40.2.1.113 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_cup = 2.36588236501e-4_fgsl_double`
- 40.2.1.114 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_curie = 3.7e10_fgsl_double`
- 40.2.1.115 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_day = 8.64e4_fgsl_double`
- 40.2.1.116 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_debye = 3.33564095198e-30_fgsl_double`
- 40.2.1.117 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_dyne = 1e-5_fgsl_double`
- 40.2.1.118 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_electron_charge = 1.602176487e-19_fgsl_double`
- 40.2.1.119 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_electron_magnetic_moment = 9.28476362e-24_fgsl_double`
- 40.2.1.120 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_electron_volt = 1.602176487e-19_fgsl_double`
- 40.2.1.121 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_erg = 1e-7_fgsl_double`
- 40.2.1.122 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_faraday = 9.64853429775e4_fgsl_double`
- 40.2.1.123 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_fathom = 1.8288e0_fgsl_double`
- 40.2.1.124 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_fluid_ounce = 2.95735295626e-5_fgsl_double`
- 40.2.1.125 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_foot = 3.048e-1_fgsl_double`
- 40.2.1.126 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_footcandle = 1.076e1_fgsl_double`
- 40.2.1.127 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_footlambert = 1.07639104e1_fgsl_double`
- 40.2.1.128 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_gauss = 1e-4_fgsl_double`
- 40.2.1.129 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_gram_force = 9.80665e-3_fgsl_double`
- 40.2.1.130 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_grav_accel = 9.80665e0_fgsl_double`
- 40.2.1.131 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_gravitational_constant = 6.673e-11_fgsl_double`
- 40.2.1.132 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_hectare = 1e4_fgsl_double`
- 40.2.1.133 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_horsepower = 7.457e2_fgsl_double`
- 40.2.1.134 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_hour = 3.6e3_fgsl_double`
- 40.2.1.135 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_inch = 2.54e-2_fgsl_double`
- 40.2.1.136 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_inch_of_mercury = 3.38638815789e3_fgsl_double`
- 40.2.1.137 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_inch_of_water = 2.490889e2_fgsl_double`
- 40.2.1.138 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_joule = 1e0_fgsl_double`
- 40.2.1.139 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_kilometers_per_hour = 2.77777777778e-1_fgsl_double`

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

40.2.1.158 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_molar_gas = 8.314472e0_fgsl_double`

40.2.1.159 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_nautical_mile = 1.852e3_fgsl_double`

40.2.1.160 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_newton = 1e0_fgsl_double`

40.2.1.161 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_nuclear_magneton = 5.05078317e-27_fgsl_double`

40.2.1.162 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_ounce_mass = 2.8349523125e-2_fgsl_double`

40.2.1.163 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_parsec = 3.08567758135e16_fgsl_double`

40.2.1.164 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_phot = 1e4_fgsl_double`

40.2.1.165 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_pint = 4.73176473002e-4_fgsl_double`

40.2.1.166 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_plancks_constant_h = 6.62606896e-34_fgsl_double`

40.2.1.167 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mkسا_plancks_constant_hbar = 1.05457162825e-34_fgsl_double`

- 40.2.1.168 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_point = 3.52777777778e-4_fgsl_double`
- 40.2.1.169 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_poise = 1e-1_fgsl_double`
- 40.2.1.170 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_pound_force = 4.44822161526e0_fgsl_double`
- 40.2.1.171 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_pound_mass = 4.5359237e-1_fgsl_double`
- 40.2.1.172 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_poundal = 1.38255e-1_fgsl_double`
- 40.2.1.173 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_proton_magnetic_moment = 1.410606633e-26_fgsl_double`
- 40.2.1.174 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_psi = 6.89475729317e3_fgsl_double`
- 40.2.1.175 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_quart = 9.46352946004e-4_fgsl_double`
- 40.2.1.176 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_rad = 1e-2_fgsl_double`
- 40.2.1.177 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_roentgen = 2.58e-4_fgsl_double`
- 40.2.1.178 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_rydberg = 2.17987196968e-18_fgsl_double`
- 40.2.1.179 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_solar_mass = 1.98892e30_fgsl_double`
- 40.2.1.180 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_speed_of_light = 2.99792458e8_fgsl_double`
- 40.2.1.181 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_standard_gas_volume = 2.2710981e-2_fgsl_double`
- 40.2.1.182 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_std_atmosphere = 1.01325e5_fgsl_double`
- 40.2.1.183 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_stefan_boltzmann_constant = 5.67040047374e-8_fgsl_double`
- 40.2.1.184 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkساstilb = 1e4_fgsl_double`
- 40.2.1.185 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_stokes = 1e-4_fgsl_double`
- 40.2.1.186 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_tablespoon = 1.47867647813e-5_fgsl_double`
- 40.2.1.187 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_tespoon = 4.92892159375e-6_fgsl_double`
- 40.2.1.188 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_texpoint = 3.51459803515e-4_fgsl_double`
- 40.2.1.189 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_therm = 1.05506e8_fgsl_double`
- 40.2.1.190 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_thomson_cross_section = 6.65245893699e-29_fgsl_double`
- 40.2.1.191 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_ton = 9.0718474e2_fgsl_double`
- 40.2.1.192 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_torr = 1.33322368421e2_fgsl_double`
- 40.2.1.193 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_troy_ounce = 3.1103475e-2_fgsl_double`
- 40.2.1.194 `real(fgsl_double), parameter, public fgsl::fgsl_const_mkسا_uk_gallon = 4.546092e-3_fgsl_double`

40.2.1.195 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_uk_ton = 1.0160469088e3_fgsl_double`

40.2.1.196 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_unified_atomic_mass = 1.660538782e-27_fgsl_double`

40.2.1.197 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_us_gallon = 3.78541178402e-3_fgsl_double`

40.2.1.198 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_vacuum_permeability = 1.25663706144e-6_fgsl_double`

40.2.1.199 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_vacuum_permittivity = 8.854187817e-12_fgsl_double`

40.2.1.200 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_week = 6.048e5_fgsl_double`

40.2.1.201 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_mksha_yard = 9.144e-1_fgsl_double`

40.2.1.202 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_atto = 1e-18_fgsl_double`

40.2.1.203 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_avogadro = 6.02214199E23_fgsl_double`

40.2.1.204 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_exa = 1e18_fgsl_double`

40.2.1.205 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_femto = 1e-15_fgsl_double`

40.2.1.206 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_fine_structure = 7.297352533E-3_fgsl_double`

40.2.1.207 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_giga = 1e9_fgsl_double`

40.2.1.208 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_kilo = 1e3_fgsl_double`

40.2.1.209 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_mega = 1e6_fgsl_double`

40.2.1.210 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_micro = 1e-6_fgsl_double`

40.2.1.211 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_milli = 1e-3_fgsl_double`

40.2.1.212 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_nano = 1e-9_fgsl_double`

40.2.1.213 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_peta = 1e15_fgsl_double`

40.2.1.214 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_pico = 1e-12_fgsl_double`

40.2.1.215 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_tera = 1e12_fgsl_double`

40.2.1.216 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_yocto = 1e-24_fgsl_double`

40.2.1.217 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_yotta = 1e24_fgsl_double`

40.2.1.218 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_numzepto = 1e-21_fgsl_double`

40.2.1.219 `real(fgsl_double)`, parameter, public `fgsl::fgsl_const_num_zetta = 1e21_fgsl_double`

40.2.1.220 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_continue = -2`

40.2.1.221 `integer`, parameter, public `fgsl::fgsl_double = c_double`

40.2.1.222 `integer`, parameter, public `fgsl::fgsl_double_complex = c_double_complex`

- 40.2.1.223 `integer(fgsl_int), parameter, public fgsl::fgsl_ebadfunc = 9`
- 40.2.1.224 `integer(fgsl_int), parameter, public fgsl::fgsl_ebadlen = 19`
- 40.2.1.225 `integer(fgsl_int), parameter, public fgsl::fgsl_ebadtol = 13`
- 40.2.1.226 `integer(fgsl_int), parameter, public fgsl::fgsl_ecache = 25`
- 40.2.1.227 `integer(fgsl_int), parameter, public fgsl::fgsl_ediverge = 22`
- 40.2.1.228 `integer(fgsl_int), parameter, public fgsl::fgsl_edom = 1`
- 40.2.1.229 `integer(fgsl_int), parameter, public fgsl::fgsl_efactor = 6`
- 40.2.1.230 `integer(fgsl_int), parameter, public fgsl::fgsl_efault = 3`
- 40.2.1.231 `integer(c_int), parameter, public fgsl::fgsl_eigen_sort_abs_asc = 2`
- 40.2.1.232 `integer(c_int), parameter, public fgsl::fgsl_eigen_sort_abs_desc = 3`
- 40.2.1.233 `integer(c_int), parameter, public fgsl::fgsl_eigen_sort_val_asc = 0`
- 40.2.1.234 `integer(c_int), parameter, public fgsl::fgsl_eigen_sort_val_desc = 1`
- 40.2.1.235 `integer(fgsl_int), parameter, public fgsl::fgsl_einval = 4`
- 40.2.1.236 `integer(fgsl_int), parameter, public fgsl::fgsl_eloss = 17`
- 40.2.1.237 `integer(fgsl_int), parameter, public fgsl::fgsl_emaxiter = 11`
- 40.2.1.238 `integer(fgsl_int), parameter, public fgsl::fgsl_enomem = 8`
- 40.2.1.239 `integer(fgsl_int), parameter, public fgsl::fgsl_enoproj = 27`
- 40.2.1.240 `integer(fgsl_int), parameter, public fgsl::fgsl_enoproj = 28`
- 40.2.1.241 `integer(fgsl_int), parameter, public fgsl::fgsl_enotsqr = 20`
- 40.2.1.242 `integer(fgsl_int), parameter, public fgsl::fgsl_eof = 32`
- 40.2.1.243 `integer(fgsl_int), parameter, public fgsl::fgsl_eovrflw = 16`
- 40.2.1.244 `integer(fgsl_int), parameter, public fgsl::fgsl_erange = 2`
- 40.2.1.245 `integer(fgsl_int), parameter, public fgsl::fgsl_eround = 18`
- 40.2.1.246 `integer(fgsl_int), parameter, public fgsl::fgsl_erunaway = 10`
- 40.2.1.247 `integer(fgsl_int), parameter, public fgsl::fgsl_esanity = 7`
- 40.2.1.248 `integer(fgsl_int), parameter, public fgsl::fgsl_esing = 21`
- 40.2.1.249 `integer(fgsl_int), parameter, public fgsl::fgsl_etable = 26`
- 40.2.1.250 `integer(fgsl_int), parameter, public fgsl::fgsl_etol = 14`

- 40.2.1.251 integer(fgsl_int), parameter, public fgsl::fgsl_etolf = 29
- 40.2.1.252 integer(fgsl_int), parameter, public fgsl::fgsl_etolg = 31
- 40.2.1.253 integer(fgsl_int), parameter, public fgsl::fgsl_etolx = 30
- 40.2.1.254 integer(fgsl_int), parameter, public fgsl::fgsl_eundrflw = 15
- 40.2.1.255 integer(fgsl_int), parameter, public fgsl::fgsl_eunimpl = 24
- 40.2.1.256 integer(fgsl_int), parameter, public fgsl::fgsl_eunsup = 23
- 40.2.1.257 integer, parameter, public fgsl::fgsl_extended = selected_real_kind(13)
- 40.2.1.258 integer(fgsl_int), parameter, public fgsl::fgsl_ezerodiv = 12
- 40.2.1.259 integer(fgsl_int), parameter, public fgsl::fgsl_failure = -1
- 40.2.1.260 integer, parameter, public fgsl::fgsl_float = c_float
- 40.2.1.261 character(kind=fgsl_char, len=*), parameter, public fgsl::fgsl_gslbase =GSL_VERSION
- 40.2.1.262 integer, parameter, public fgsl::fgsl_int = c_int
- 40.2.1.263 integer(fgsl_int), parameter, public fgsl::fgsl_integ_cosine = 0
- 40.2.1.264 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss15 = 1
- 40.2.1.265 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss21 = 2
- 40.2.1.266 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss31 = 3
- 40.2.1.267 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss41 = 4
- 40.2.1.268 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss51 = 5
- 40.2.1.269 integer(fgsl_int), parameter, public fgsl::fgsl_integ_gauss61 = 6
- 40.2.1.270 integer(fgsl_int), parameter, public fgsl::fgsl_integ_sine = 1
- 40.2.1.271 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_akima = fgsl_interp_type(5)
- 40.2.1.272 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_akima_periodic = fgsl_interp_type(6)
- 40.2.1.273 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_cspline = fgsl_interp_type(3)
- 40.2.1.274 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_cspline_periodic = fgsl_interp_type(4)
- 40.2.1.275 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_linear = fgsl_interp_type(1)
- 40.2.1.276 type(fgsl_interp_type), parameter, public fgsl::fgsl_interp_polynomial = fgsl_interp_type(2)
- 40.2.1.277 integer, parameter, public fgsl::fgsl_long = c_long
- 40.2.1.278 type(fgsl_min_fminimizer_type), parameter, public fgsl::fgsl_min_fminimizer_brent = fgsl_min_fminimizer_type(2)

- 40.2.1.279 `type(fgsl_min_fminimizer_type)`, parameter, public `fgsl::fgsl_min_fminimizer_goldensection = fgsl_min_fminimizer_type(1)`
- 40.2.1.280 `type(fgsl_min_fminimizer_type)`, parameter, public `fgsl::fgsl_min_fminimizer_quad_golden = fgsl_min_fminimizer_type(3)`
- 40.2.1.281 `type(fgsl_multifit_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_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_conjugate_fr = fgsl_multimin_fdfminimizer_type(3)`
- 40.2.1.284 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_conjugate_pr = fgsl_multimin_fdfminimizer_type(2)`
- 40.2.1.285 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_steepest_descent = fgsl_multimin_fdfminimizer_type(1)`
- 40.2.1.286 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_vector_bfgs = fgsl_multimin_fdfminimizer_type(4)`
- 40.2.1.287 `type(fgsl_multimin_fdfminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fdfminimizer_vector_bfgs2 = fgsl_multimin_fdfminimizer_type(5)`
- 40.2.1.288 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex = fgsl_multimin_fminimizer_type(1)`
- 40.2.1.289 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex2 = fgsl_multimin_fminimizer_type(2)`
- 40.2.1.290 `type(fgsl_multimin_fminimizer_type)`, parameter, public `fgsl::fgsl_multimin_fminimizer_nmsimplex2rand = fgsl_multimin_fminimizer_type(3)`
- 40.2.1.291 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_gnewton = fgsl_multiroot_fdfsolver_type(2)`
- 40.2.1.292 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_hybridj = fgsl_multiroot_fdfsolver_type(3)`
- 40.2.1.293 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_hybridsj = fgsl_multiroot_fdfsolver_type(4)`
- 40.2.1.294 `type(fgsl_multiroot_fdfsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fdfsolver_newton = fgsl_multiroot_fdfsolver_type(1)`
- 40.2.1.295 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_broyden = fgsl_multiroot_fsolver_type(2)`
- 40.2.1.296 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_dnewton = fgsl_multiroot_fsolver_type(1)`
- 40.2.1.297 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_hybrid = fgsl_multiroot_fsolver_type(3)`

- 40.2.1.298 `type(fgsl_multiroot_fsolver_type)`, parameter, public `fgsl::fgsl_multiroot_fsolver_hybrids = fgsl_multiroot_fsolver_type(4)`
- 40.2.1.299 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_bsimp = fgsl_odeiv2_step_type(9)`
- 40.2.1.300 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_msadams = fgsl_odeiv2_step_type(10)`
- 40.2.1.301 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step.msbsd = fgsl_odeiv2_step_type(11)`
- 40.2.1.302 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk1imp = fgsl_odeiv2_step_type(6)`
- 40.2.1.303 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk2 = fgsl_odeiv2_step_type(1)`
- 40.2.1.304 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk2imp = fgsl_odeiv2_step_type(7)`
- 40.2.1.305 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk4 = fgsl_odeiv2_step_type(2)`
- 40.2.1.306 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk4imp = fgsl_odeiv2_step_type(8)`
- 40.2.1.307 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rk8pd = fgsl_odeiv2_step_type(5)`
- 40.2.1.308 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rkck = fgsl_odeiv2_step_type(4)`
- 40.2.1.309 `type(fgsl_odeiv2_step_type)`, parameter, public `fgsl::fgsl_odeiv2_step_rkf45 = fgsl_odeiv2_step_type(3)`
- 40.2.1.310 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_odeiv_hadj_dec = -1`
- 40.2.1.311 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_odeiv_hadj_inc = 1`
- 40.2.1.312 `integer(fgsl_int)`, parameter, public `fgsl::fgsl_odeiv_hadj_nil = 0`
- 40.2.1.313 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_bsimp = fgsl_odeiv_step_type(9)`
- 40.2.1.314 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_gear1 = fgsl_odeiv_step_type(10)`
- 40.2.1.315 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_gear2 = fgsl_odeiv_step_type(11)`
- 40.2.1.316 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk2 = fgsl_odeiv_step_type(1)`
- 40.2.1.317 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk2imp = fgsl_odeiv_step_type(6)`
- 40.2.1.318 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk2simp = fgsl_odeiv_step_type(7)`
- 40.2.1.319 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk4 = fgsl_odeiv_step_type(2)`
- 40.2.1.320 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk4imp = fgsl_odeiv_step_type(8)`
- 40.2.1.321 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rk8pd = fgsl_odeiv_step_type(5)`
- 40.2.1.322 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rkck = fgsl_odeiv_step_type(4)`
- 40.2.1.323 `type(fgsl_odeiv_step_type)`, parameter, public `fgsl::fgsl_odeiv_step_rkf45 = fgsl_odeiv_step_type(3)`
- 40.2.1.324 `integer`, parameter, public `fgsl::fgsl_pathmax = 2048`

- 40.2.1.325 `type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_approx = fgsl_mode_t(2)`
- 40.2.1.326 `type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_double = fgsl_mode_t(0)`
- 40.2.1.327 `type(fgsl_mode_t), parameter, public fgsl::fgsl_prec_single = fgsl_mode_t(1)`
- 40.2.1.328 `type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_halton = fgsl_qrng_type(3)`
- 40.2.1.329 `type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_niederreiter_2 = fgsl_qrng_type(1)`
- 40.2.1.330 `type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_reversehalton = fgsl_qrng_type(4)`
- 40.2.1.331 `type(fgsl_qrng_type), parameter, public fgsl::fgsl_qrng_sobol = fgsl_qrng_type(2)`
- 40.2.1.332 `type(fgsl_rng_type), public fgsl::fgsl_rng_borosh13 = fgsl_rng_type(c_null_ptr, 1)`
- 40.2.1.333 `type(fgsl_rng_type), public fgsl::fgsl_rng_cmrg = fgsl_rng_type(c_null_ptr, 3)`
- 40.2.1.334 `type(fgsl_rng_type), public fgsl::fgsl_rng_coveyou = fgsl_rng_type(c_null_ptr, 2)`
- 40.2.1.335 `type(fgsl_rng_type), public fgsl::fgsl_rng_default = fgsl_rng_type(c_null_ptr, -1)`
- 40.2.1.336 `integer(fgsl_long), public fgsl::fgsl_rng_default_seed`
- 40.2.1.337 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman18 = fgsl_rng_type(c_null_ptr, 4)`
- 40.2.1.338 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman20 = fgsl_rng_type(c_null_ptr, 5)`
- 40.2.1.339 `type(fgsl_rng_type), public fgsl::fgsl_rng_fishman2x = fgsl_rng_type(c_null_ptr, 6)`
- 40.2.1.340 `type(fgsl_rng_type), public fgsl::fgsl_rng_gfsr4 = fgsl_rng_type(c_null_ptr, 7)`
- 40.2.1.341 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran = fgsl_rng_type(c_null_ptr, 8)`
- 40.2.1.342 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran2 = fgsl_rng_type(c_null_ptr, 9)`
- 40.2.1.343 `type(fgsl_rng_type), public fgsl::fgsl_rng_knuthran2002 = fgsl_rng_type(c_null_ptr, 62)`
- 40.2.1.344 `type(fgsl_rng_type), public fgsl::fgsl_rng_lecuyer21 = fgsl_rng_type(c_null_ptr, 10)`
- 40.2.1.345 `type(fgsl_rng_type), public fgsl::fgsl_rng_minstd = fgsl_rng_type(c_null_ptr, 11)`
- 40.2.1.346 `type(fgsl_rng_type), public fgsl::fgsl_rng_mrg = fgsl_rng_type(c_null_ptr, 12)`
- 40.2.1.347 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937 = fgsl_rng_type(c_null_ptr, 13)`
- 40.2.1.348 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937_1998 = fgsl_rng_type(c_null_ptr, 15)`
- 40.2.1.349 `type(fgsl_rng_type), public fgsl::fgsl_rng_mt19937_1999 = fgsl_rng_type(c_null_ptr, 14)`
- 40.2.1.350 `type(fgsl_rng_type), public fgsl::fgsl_rng_r250 = fgsl_rng_type(c_null_ptr, 16)`
- 40.2.1.351 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran0 = fgsl_rng_type(c_null_ptr, 17)`
- 40.2.1.352 `type(fgsl_rng_type), public fgsl::fgsl_rng_ran1 = fgsl_rng_type(c_null_ptr, 18)`

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

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

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

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

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

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

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

40.2.1.360 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_bsd = fgsl_rng_type(c_null_ptr, 26)`

40.2.1.361 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_glibc2 = fgsl_rng_type(c_null_ptr, 27)`

40.2.1.362 `type(fgsl_rng_type), public fgsl::fgsl_rng_random256_libc5 = fgsl_rng_type(c_null_ptr, 28)`

40.2.1.363 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_bsd = fgsl_rng_type(c_null_ptr, 29)`

40.2.1.364 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_glibc2 = fgsl_rng_type(c_null_ptr, 30)`

40.2.1.365 `type(fgsl_rng_type), public fgsl::fgsl_rng_random32_libc5 = fgsl_rng_type(c_null_ptr, 31)`

40.2.1.366 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_bsd = fgsl_rng_type(c_null_ptr, 32)`

40.2.1.367 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_glibc2 = fgsl_rng_type(c_null_ptr, 33)`

40.2.1.368 `type(fgsl_rng_type), public fgsl::fgsl_rng_random64_libc5 = fgsl_rng_type(c_null_ptr, 34)`

40.2.1.369 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_bsd = fgsl_rng_type(c_null_ptr, 35)`

40.2.1.370 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_glibc2 = fgsl_rng_type(c_null_ptr, 36)`

40.2.1.371 `type(fgsl_rng_type), public fgsl::fgsl_rng_random8_libc5 = fgsl_rng_type(c_null_ptr, 37)`

40.2.1.372 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_bsd = fgsl_rng_type(c_null_ptr, 38)`

40.2.1.373 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_glibc2 = fgsl_rng_type(c_null_ptr, 39)`

40.2.1.374 `type(fgsl_rng_type), public fgsl::fgsl_rng_random_libc5 = fgsl_rng_type(c_null_ptr, 40)`

40.2.1.375 `type(fgsl_rng_type), public fgsl::fgsl_rng_randu = fgsl_rng_type(c_null_ptr, 41)`

40.2.1.376 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranf = fgsl_rng_type(c_null_ptr, 42)`

40.2.1.377 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlux = fgsl_rng_type(c_null_ptr, 43)`

40.2.1.378 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlux389 = fgsl_rng_type(c_null_ptr, 44)`

40.2.1.379 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxd1 = fgsl_rng_type(c_null_ptr, 45)`

40.2.1.380 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxd2 = fgsl_rng_type(c_null_ptr, 46)`

- 40.2.1.381 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs0 = fgsl_rng_type(c_null_ptr, 47)`
- 40.2.1.382 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs1 = fgsl_rng_type(c_null_ptr, 48)`
- 40.2.1.383 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranlxs2 = fgsl_rng_type(c_null_ptr, 49)`
- 40.2.1.384 `type(fgsl_rng_type), public fgsl::fgsl_rng_ranmar = fgsl_rng_type(c_null_ptr, 50)`
- 40.2.1.385 `type(fgsl_rng_type), public fgsl::fgsl_rng_slatec = fgsl_rng_type(c_null_ptr, 51)`
- 40.2.1.386 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus = fgsl_rng_type(c_null_ptr, 52)`
- 40.2.1.387 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus113 = fgsl_rng_type(c_null_ptr, 54)`
- 40.2.1.388 `type(fgsl_rng_type), public fgsl::fgsl_rng_taus2 = fgsl_rng_type(c_null_ptr, 53)`
- 40.2.1.389 `type(fgsl_rng_type), public fgsl::fgsl_rng_transputer = fgsl_rng_type(c_null_ptr, 55)`
- 40.2.1.390 `type(fgsl_rng_type), public fgsl::fgsl_rng_tt800 = fgsl_rng_type(c_null_ptr, 56)`
- 40.2.1.391 `type(fgsl_rng_type), public fgsl::fgsl_rng_uni = fgsl_rng_type(c_null_ptr, 57)`
- 40.2.1.392 `type(fgsl_rng_type), public fgsl::fgsl_rng_uni32 = fgsl_rng_type(c_null_ptr, 58)`
- 40.2.1.393 `type(fgsl_rng_type), public fgsl::fgsl_rng_vax = fgsl_rng_type(c_null_ptr, 59)`
- 40.2.1.394 `type(fgsl_rng_type), public fgsl::fgsl_rng_waterman14 = fgsl_rng_type(c_null_ptr, 60)`
- 40.2.1.395 `type(fgsl_rng_type), public fgsl::fgsl_rng_zuf = fgsl_rng_type(c_null_ptr, 61)`
- 40.2.1.396 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_newton = fgsl_root_fdfsolver_type(1)`
- 40.2.1.397 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_secant = fgsl_root_fdfsolver_type(2)`
- 40.2.1.398 `type(fgsl_root_fdfsolver_type), parameter, public fgsl::fgsl_root_fdfsolver_steffenson = fgsl_root_fdfsolver_type(3)`
- 40.2.1.399 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_bisection = fgsl_root_fsolver_type(1)`
- 40.2.1.400 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_brent = fgsl_root_fsolver_type(2)`
- 40.2.1.401 `type(fgsl_root_fsolver_type), parameter, public fgsl::fgsl_root_fsolver_falsepos = fgsl_root_fsolver_type(3)`
- 40.2.1.402 `integer, parameter, public fgsl::fgsl_size_t = c_size_t`
- 40.2.1.403 `integer, parameter, public fgsl::fgsl_strmax = 128`
- 40.2.1.404 `integer(fgsl_int), parameter, public fgsl::fgsl_success = 0`
- 40.2.1.405 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_importance = 1`
- 40.2.1.406 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_importance_only = 0`
- 40.2.1.407 `integer(c_int), parameter, public fgsl::fgsl_vegas_mode_stratified = -1`

40.2.1.408 `character(kind=fgsl_char, len=*)`, parameter, public `fgsl::fgsl_version = PACKAGE_VERSION`

40.2.1.409 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_bspline = fgsl_wavelet_type(5)`

40.2.1.410 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_bspline_centered = fgsl_wavelet_type(6)`

40.2.1.411 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_daubechies = fgsl_wavelet_type(1)`

40.2.1.412 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_daubechies_centered = fgsl_wavelet_type(2)`

40.2.1.413 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_haar = fgsl_wavelet_type(3)`

40.2.1.414 `type(fgsl_wavelet_type)`, parameter, public `fgsl::fgsl_wavelet_haar_centered = fgsl_wavelet_type(4)`

40.2.1.415 `real(fgsl_extended)`, parameter, public `fgsl::m_1_pi = 0.31830988618379067153776752675_fgsl_extended`

40.2.1.416 `real(fgsl_extended)`, parameter, public `fgsl::m_2_pi = 0.63661977236758134307553505349_fgsl_extended`

40.2.1.417 `real(fgsl_extended)`, parameter, public `fgsl::m_2_sqrtpi = 1.12837916709551257389615890312_fgsl_extended`

40.2.1.418 `real(fgsl_extended)`, parameter, public `fgsl::m_e = 2.71828182845904523536028747135_fgsl_extended`

40.2.1.419 `real(fgsl_extended)`, parameter, public `fgsl::m_euler = 0.57721566490153286060651209008_fgsl_extended`

40.2.1.420 `real(fgsl_extended)`, parameter, public `fgsl::m_ln10 = 2.30258509299404568401799145468_fgsl_extended`

40.2.1.421 `real(fgsl_extended)`, parameter, public `fgsl::m_ln2 = 0.69314718055994530941723212146_fgsl_extended`

40.2.1.422 `real(fgsl_extended)`, parameter, public `fgsl::m_lnp1 = 1.14472988584940017414342735135_fgsl_extended`

40.2.1.423 `real(fgsl_extended)`, parameter, public `fgsl::m_log10e = 0.43429448190325182765112891892_fgsl_extended`

40.2.1.424 `real(fgsl_extended)`, parameter, public `fgsl::m_log2e = 1.44269504088896340735992468100_fgsl_extended`

40.2.1.425 `real(fgsl_extended)`, parameter, public `fgsl::m_pi = 3.14159265358979323846264338328_fgsl_extended`

40.2.1.426 `real(fgsl_extended)`, parameter, public `fgsl::m_pi_2 = 1.57079632679489661923132169164_fgsl_extended`

40.2.1.427 `real(fgsl_extended)`, parameter, public `fgsl::m_pi_4 = 0.78539816339744830961566084582_fgsl_extended`

40.2.1.428 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt1_2 = 0.70710678118654752440084436210_fgsl_extended`

40.2.1.429 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt2 = 1.41421356237309504880168872421_fgsl_extended`

40.2.1.430 `real(fgsl_extended)`, parameter, public `fgsl::m_sqrt3 = 1.73205080756887729352744634151_fgsl_extended`

40.2.1.431 `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)` [fgsl_bspline_deriv_workspace](#)

40.3.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.4 fgsl::fgsl_bspline_workspace Type Reference

Public Attributes

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

40.4.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.5 fgsl::fgsl_cheb_series Type Reference

Public Attributes

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

40.5.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.6 fgsl::fgsl_combination Type Reference

Public Attributes

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

40.6.1 Member Data Documentation

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

40.10.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.11 fgsl::fgsl_eigen_gensymm_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_gensymm_workspace = c_null_ptr`

40.11.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.12 fgsl::fgsl_eigen_gensymmv_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_gensymmv_workspace = c_null_ptr`

40.12.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.13 fgsl::fgsl_eigen_genv_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_genv_workspace = c_null_ptr`

40.13.1 Member Data Documentation

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

40.17.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.18 fgsl::fgsl_eigen_symm_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_symm_workspace = c_null_ptr`

40.18.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.19 fgsl::fgsl_eigen_symmv_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_eigen_symmv_workspace = c_null_ptr`

40.19.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.20 fgsl::fgsl_error_handler_t Type Reference

Public Attributes

- `type(c_funptr) fgsl_error_handler_t = c_null_funptr`

40.20.1 Member Data Documentation

40.20.1.1 `type(c_funptr) fgsl::fgsl_error_handler_t::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) fgsl_histogram2d_pdf = c_null_ptr`

40.31.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.32 fgsl::fgsl_histogram_pdf Type Reference

Public Attributes

- `type(c_ptr) fgsl_histogram_pdf = c_null_ptr`

40.32.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.33 fgsl_ieee_fprintf Interface Reference

Public Member Functions

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

40.33.1 Member Function/Subroutine Documentation

40.33.1.1 `fgsl_ieee_fprintf::fgsl_ieee_fprintf_double ()`

40.33.1.2 `fgsl_ieee_fprintf::fgsl_ieee_fprintf_float ()`

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

- [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 files:

- [interface/generics.finc](#)

40.35 `fgsl::fgsl_integration_cquad_workspace` Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_cquad_workspace = c_null_ptr`

40.35.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.36 `fgsl::fgsl_integration_glfixed_table` Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_glfixed_table = c_null_ptr`

40.36.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.37 `fgsl::fgsl_integration_qawo_table` Type Reference

Public Attributes

- `type(c_ptr) fgsl_integration_qawo_table = c_null_ptr`

40.37.1 Member Data Documentation

40.37.1.1 `type(c_ptr) fgsl::fgsl_integration_qawo_table::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)` [fgsl_interp_accel](#) = `c_null_ptr`

40.41.1 Member Data Documentation

40.41.1.1 `type(c_ptr)` `fgsl::fgsl_interp_accel::fgsl_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)` [fgsl_matrix](#) = `c_null_ptr`

40.43.1 Member Data Documentation

40.43.1.1 `type(c_ptr)` `fgsl::fgsl_matrix::fgsl_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 files:

- [interface/generics.finc](#)

40.45 fgsl::fgsl_matrix_complex Type Reference

Public Attributes

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

40.45.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.46 fgsl_matrix_free Interface Reference

Public Member Functions

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

40.46.1 Constructor & Destructor Documentation

40.46.1.1 fgsl_matrix_free::fgsl_matrix_free ()

40.46.2 Member Function/Subroutine Documentation

40.46.2.1 fgsl_matrix_free::fgsl_matrix_complex_free ()

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

- [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 files:

- [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) fgsl::fgsl_multifit_linear_workspace = c_null_ptr`

40.61.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.62 fgsl::fgsl_multimin_fdfminimizer Type Reference

Public Attributes

- `type(c_ptr) fgsl::fgsl_multimin_fdfminimizer = c_null_ptr`

40.62.1 Member Data Documentation

40.62.1.1 `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](#)

40.63 fgsl::fgsl_multimin_fdfminimizer_type Type Reference

Public Attributes

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

40.63.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.64 fgsl::fgsl_multimin_fminimizer Type Reference

Public Attributes

- `type(c_ptr) gsl_multimin_fminimizer = c_null_ptr`

40.64.1 Member Data Documentation

40.64.1.1 `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](#)

40.65 fgsl::fgsl_multimin_fminimizer_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.65.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.66 fgsl::fgsl_multimin_function Type Reference

Public Attributes

- `type(c_ptr) gsl_multimin_function = c_null_ptr`

40.66.1 Member Data Documentation

40.66.1.1 `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](#)

40.67 fgsl::fgsl_multimin_function_fdf Type Reference

Public Attributes

- `type(c_ptr) gsl_multimin_function_fdf = c_null_ptr`

40.67.1 Member Data Documentation

40.67.1.1 `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](#)

40.68 fgsl::fgsl_multiroot_fdfsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multiroot_fdfsolver = c_null_ptr`

40.68.1 Member Data Documentation

40.68.1.1 `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](#)

40.69 fgsl::fgsl_multiroot_fdfsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.69.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.70 fgsl::fgsl_multiroot_fsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_multiroot_fsolver = c_null_ptr`

40.70.1 Member Data Documentation

40.70.1.1 `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](#)

40.71 fgsl::fgsl_multiroot_fsolver_type Type Reference

Public Attributes

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

40.71.1 Member Data Documentation

40.71.1.1 integer(c_int) fgsl::fgsl_multiroot_fsolver_type::which = 0

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

- [fgsl.F90](#)

40.72 fgsl::fgsl_multiroot_function Type Reference

Public Attributes

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

40.72.1 Member Data Documentation

40.72.1.1 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](#)

40.73 fgsl::fgsl_multiroot_function_fdf Type Reference

Public Attributes

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

40.73.1 Member Data Documentation

40.73.1.1 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](#)

40.74 fgsl::fgsl_multiset Type Reference

Public Attributes

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

40.74.1 Member Data Documentation

40.74.1.1 `type(c_ptr) fgsl::fgsl_multiset::gsl_multiset = c_null_ptr`

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

- [fgsl.F90](#)

40.75 fgsl::fgsl_ntuple Type Reference

Public Attributes

- `type(c_ptr) gsl_ntuple = c_null_ptr`

40.75.1 Member Data Documentation

40.75.1.1 `type(c_ptr) fgsl::fgsl_ntuple::gsl_ntuple = c_null_ptr`

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

- [fgsl.F90](#)

40.76 fgsl::fgsl_ntuple_select_fn Type Reference

Public Attributes

- `type(c_ptr) gsl_ntuple_select_fn = c_null_ptr`

40.76.1 Member Data Documentation

40.76.1.1 `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](#)

40.77 fgsl::fgsl_ntuple_value_fn Type Reference

Public Attributes

- `type(c_ptr) gsl_ntuple_value_fn = c_null_ptr`

40.77.1 Member Data Documentation

40.77.1.1 `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](#)

40.78 fgsl_obj_c_ptr Interface Reference

Public Member Functions

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

40.78.1 Member Function/Subroutine Documentation

40.78.1.1 `fgsl_obj_c_ptr::fgsl_matrix_c_ptr ()`

40.78.1.2 `fgsl_obj_c_ptr::fgsl_rng_c_ptr ()`

40.78.1.3 `fgsl_obj_c_ptr::fgsl_vector_c_ptr ()`

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

- [interface/generics.finc](#)

40.79 fgsl::fgsl_odeiv2_control Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_control = c_null_ptr`

40.79.1 Member Data Documentation

40.79.1.1 `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](#)

40.80 fgsl::fgsl_odeiv2_control_type Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_control_type = c_null_ptr`

40.80.1 Member Data Documentation

40.80.1.1 `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](#)

40.81 fgsl::fgsl_odeiv2_driver Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_driver = c_null_ptr`

40.81.1 Member Data Documentation

40.81.1.1 `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](#)

40.82 fgsl::fgsl_odeiv2_evolve Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_evolve`

40.82.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.83 fgsl::fgsl_odeiv2_step Type Reference

Public Attributes

- `type(c_ptr) gsl_odeiv2_step = c_null_ptr`

40.83.1 Member Data Documentation

40.83.1.1 `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](#)

40.84 fgsl::fgsl_odeiv2_step_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.84.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.85 fgsl::fgsl_odeiv2_system Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv2_system = c_null_ptr`

40.85.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.86 fgsl::fgsl_odeiv_control Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv_control = c_null_ptr`

40.86.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.87 fgsl::fgsl_odeiv_control_type Type Reference

Public Attributes

- `type(c_ptr) fgsl_odeiv_control_type = c_null_ptr`

40.87.1 Member Data Documentation

40.87.1.1 `type(c_ptr) fgsl::fgsl_odeiv_control_type::fgsl_odeiv_control_type = c_null_ptr`

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

- [fgsl.F90](#)

40.88 fgsl::fgsl_odeiv_evolve Type Reference

Public Attributes

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

40.88.1 Member Data Documentation

40.88.1.1 `type(c_ptr)` `fgsl::fgsl_odeiv_evolve::fgsl_odeiv_evolve`

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

- [fgsl.F90](#)

40.89 fgsl::fgsl_odeiv_step Type Reference

Public Attributes

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

40.89.1 Member Data Documentation

40.89.1.1 `type(c_ptr)` `fgsl::fgsl_odeiv_step::fgsl_odeiv_step` = `c_null_ptr`

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

- [fgsl.F90](#)

40.90 fgsl::fgsl_odeiv_step_type Type Reference

Public Attributes

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

40.90.1 Member Data Documentation

40.90.1.1 `integer(c_int)` `fgsl::fgsl_odeiv_step_type::which` = 0

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

- [fgsl.F90](#)

40.91 fgsl::fgsl_odeiv_system Type Reference

Public Attributes

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

40.91.1 Member Data Documentation

40.91.1.1 `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](#)

40.92 fgsl::fgsl_permutation Type Reference

Public Attributes

- `type(c_ptr) fgsl_permutation = c_null_ptr`

40.92.1 Member Data Documentation

40.92.1.1 `type(c_ptr) fgsl::fgsl_permutation::gsl_permutation = c_null_ptr`

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

- [fgsl.F90](#)

40.93 fgsl_permute Interface Reference

Public Member Functions

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

40.93.1 Constructor & Destructor Documentation

40.93.1.1 `fgsl_permute::fgsl_permute ()`

40.93.2 Member Function/Subroutine Documentation

40.93.2.1 `fgsl_permute::fgsl_permute_long ()`

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

- [interface/generics.finc](#)

40.94 fgsl_permute_inverse Interface Reference

Public Member Functions

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

40.94.1 Constructor & Destructor Documentation

40.94.1.1 `fgsl_permute_inverse::fgsl_permute_inverse ()`

40.94.2 Member Function/Subroutine Documentation

40.94.2.1 `fgsl_permute_inverse::fgsl_permute_long_inverse ()`

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

- [interface/generics.finc](#)

40.95 `fgsl::fgsl_poly_complex_workspace` Type Reference

Public Attributes

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

40.95.1 Member Data Documentation

40.95.1.1 `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](#)

40.96 `fgsl::fgsl_qrng` Type Reference

Public Attributes

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

40.96.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.97 `fgsl::fgsl_qrng_type` Type Reference

Public Attributes

- `integer(fgsl_int)` `type = 0`

40.97.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.98 fgsl::fgsl_ran_discrete_t Type Reference

Public Attributes

- `type(c_ptr) fgsl_ran_discrete_t`

40.98.1 Member Data Documentation

40.98.1.1 `type(c_ptr) fgsl::fgsl_ran_discrete_t::fgsl_ran_discrete_t`

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

- [fgsl.F90](#)

40.99 fgsl_ran_shuffle Interface Reference

Public Member Functions

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

40.99.1 Constructor & Destructor Documentation

40.99.1.1 `fgsl_ran_shuffle::fgsl_ran_shuffle ()`

40.99.2 Member Function/Subroutine Documentation

40.99.2.1 `fgsl_ran_shuffle::fgsl_ran_shuffle_double ()`

40.99.2.2 `fgsl_ran_shuffle::fgsl_ran_shuffle_size_t ()`

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

- [interface/generics.finc](#)

40.100 fgsl::fgsl_rng Type Reference

Public Attributes

- `type(c_ptr) fgsl_rng`

40.100.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.101 `fgsl::fgsl_rng_type` Type Reference

Public Attributes

- `type(c_ptr) gsl_rng_type`
- `integer(fgsl_int) type = 0`

40.101.1 Member Data Documentation

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

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

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

- [fgsl.F90](#)

40.102 `fgsl::fgsl_root_fdfsolver` Type Reference

Public Attributes

- `type(c_ptr) gsl_root_fdfsolver = c_null_ptr`

40.102.1 Member Data Documentation

40.102.1.1 `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](#)

40.103 `fgsl::fgsl_root_fdfsolver_type` Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.103.1 Member Data Documentation

40.103.1.1 `integer(c_int) fgsl::fgsl_root_fdfsolver_type::which = 0`

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

- [fgsl.F90](#)

40.104 fgsl::fgsl_root_fsolver Type Reference

Public Attributes

- `type(c_ptr) fgsl_root_fsolver = c_null_ptr`

40.104.1 Member Data Documentation

40.104.1.1 `type(c_ptr) fgsl::fgsl_root_fsolver::fgsl_root_fsolver = c_null_ptr`

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

- [fgsl.F90](#)

40.105 fgsl::fgsl_root_fsolver_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.105.1 Member Data Documentation

40.105.1.1 `integer(c_int) fgsl::fgsl_root_fsolver_type::which = 0`

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

- [fgsl.F90](#)

40.106 fgsl::fgsl_sf_result Type Reference

Public Attributes

- `real(fgsl_double) val`
- `real(fgsl_double) err`

40.106.1 Member Data Documentation

40.106.1.1 `real(fgsl_double) fgsl::fgsl_sf_result::err`

40.106.1.2 `real(fgsl_double) fgsl::fgsl_sf_result::val`

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

- [fgsl.F90](#)

40.107 fgsl::fgsl_sf_result_e10 Type Reference

Public Attributes

- `real(fgsl_double) val`
- `real(fgsl_double) err`
- `integer(fgsl_int) e10`

40.107.1 Member Data Documentation

40.107.1.1 `integer(fgsl_int) fgsl::fgsl_sf_result_e10::e10`

40.107.1.2 `real(fgsl_double) fgsl::fgsl_sf_result_e10::err`

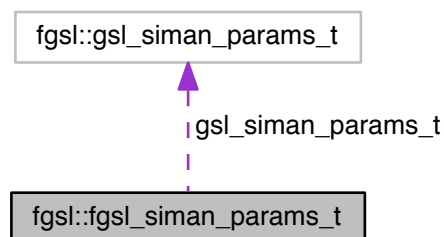
40.107.1.3 `real(fgsl_double) fgsl::fgsl_sf_result_e10::val`

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

- [fgsl.F90](#)

40.108 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()`

40.108.1 Member Data Documentation

40.108.1.1 `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](#)

40.109 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](#)

40.109.1 Member Function/Subroutine Documentation

40.109.1.1 [fgsl_sizeof::fgsl_sizeof_char \(\)](#)

40.109.1.2 [fgsl_sizeof::fgsl_sizeof_combination \(\)](#)

40.109.1.3 [fgsl_sizeof::fgsl_sizeof_double \(\)](#)

40.109.1.4 [fgsl_sizeof::fgsl_sizeof_float \(\)](#)

40.109.1.5 [fgsl_sizeof::fgsl_sizeof_int \(\)](#)

40.109.1.6 [fgsl_sizeof::fgsl_sizeof_integration_qawo_table \(\)](#)

40.109.1.7 [fgsl_sizeof::fgsl_sizeof_integration_qaws_table \(\)](#)

40.109.1.8 [fgsl_sizeof::fgsl_sizeof_integration_workspace \(\)](#)

40.109.1.9 [fgsl_sizeof::fgsl_sizeof_interp \(\)](#)

40.109.1.10 [fgsl_sizeof::fgsl_sizeof_matrix \(\)](#)

40.109.1.11 [fgsl_sizeof::fgsl_sizeof_matrix_complex \(\)](#)

40.109.1.12 [fgsl_sizeof::fgsl_sizeof_multiset \(\)](#)

40.109.1.13 [fgsl_sizeof::fgsl_sizeof_permutation \(\)](#)

40.109.1.14 [fgsl_sizeof::fgsl_sizeof_size_t \(\)](#)

40.109.1.15 [fgsl_sizeof::fgsl_sizeof_vector \(\)](#)

40.109.1.16 `fgsl_sizeof::fgsl_sizeof_vector_complex ()`

40.109.1.17 `fgsl_sizeof::fgsl_sizeof_wavelet ()`

40.109.1.18 `fgsl_sizeof::fgsl_sizeof_wavelet_workspace ()`

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

- [interface/generics.finc](#)

40.110 `fgsl_sort` Interface Reference

Public Member Functions

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

40.110.1 Member Function/Subroutine Documentation

40.110.1.1 `fgsl_sort::fgsl_sort_double ()`

40.110.1.2 `fgsl_sort::fgsl_sort_long ()`

40.110.1.3 `fgsl_sort::fgsl_sort_vector ()`

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

- [interface/generics.finc](#)

40.111 `fgsl_sort_index` Interface Reference

Public Member Functions

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

40.111.1 Member Function/Subroutine Documentation

40.111.1.1 `fgsl_sort_index::fgsl_sort_double_index ()`

40.111.1.2 `fgsl_sort_index::fgsl_sort_long_index ()`

40.111.1.3 `fgsl_sort_index::fgsl_sort_vector_index ()`

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

- [interface/generics.finc](#)

40.112 fgsl_sort_largest Interface Reference

Public Member Functions

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

40.112.1 Member Function/Subroutine Documentation

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

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

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

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

- [interface/generics.finc](#)

40.113 fgsl_sort_largest_index Interface Reference

Public Member Functions

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

40.113.1 Member Function/Subroutine Documentation

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

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

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

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

- [interface/generics.finc](#)

40.114 fgsl_sort_smallest Interface Reference

Public Member Functions

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

40.114.1 Member Function/Subroutine Documentation

40.114.1.1 `fgsl_sort_smallest::fgsl_sort_double_smallest ()`

40.114.1.2 `fgsl_sort_smallest::fgsl_sort_long_smallest ()`

40.114.1.3 `fgsl_sort_smallest::fgsl_sort_vector_smallest ()`

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

- [interface/generics.finc](#)

40.115 `fgsl_sort_smallest_index` Interface Reference

Public Member Functions

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

40.115.1 Member Function/Subroutine Documentation

40.115.1.1 `fgsl_sort_smallest_index::fgsl_sort_double_smallest_index ()`

40.115.1.2 `fgsl_sort_smallest_index::fgsl_sort_long_smallest_index ()`

40.115.1.3 `fgsl_sort_smallest_index::fgsl_sort_vector_smallest_index ()`

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

- [interface/generics.finc](#)

40.116 `fgsl::fgsl_spline` Type Reference

Public Attributes

- `type(c_ptr) gsl_spline = c_null_ptr`

40.116.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.117 `fgsl::fgsl_sum_levin_u_workspace` Type Reference

Public Attributes

- `type(c_ptr) gsl_sum_levin_u_workspace = c_null_ptr`

40.117.1 Member Data Documentation

40.117.1.1 `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](#)

40.118 fgsl::fgsl_sum_levin_utrunc_workspace Type Reference

Public Attributes

- `type(c_ptr) fgsl_sum_levin_utrunc_workspace = c_null_ptr`

40.118.1 Member Data Documentation

40.118.1.1 `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](#)

40.119 fgsl::fgsl_vector Type Reference

Public Attributes

- `type(c_ptr) fgsl_vector = c_null_ptr`

40.119.1 Member Data Documentation

40.119.1.1 `type(c_ptr) fgsl::fgsl_vector::gsl_vector = c_null_ptr`

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

- [fgsl.F90](#)

40.120 fgsl_vector_align Interface Reference

Public Member Functions

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

40.120.1 Constructor & Destructor Documentation

40.120.1.1 `fgsl_vector_align::fgsl_vector_align ()`

40.120.2 Member Function/Subroutine Documentation

40.120.2.1 `fgsl_vector_align::fgsl_vector_complex_align ()`

40.120.2.2 `fgsl_vector_align::fgsl_vector_complex_pointer_align ()`

40.120.2.3 `fgsl_vector_align::fgsl_vector_pointer_align ()`

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

- [interface/generics.finc](#)

40.121 fgsl::fgsl_vector_complex Type Reference

Public Attributes

- `type(c_ptr) gsl_vector_complex = c_null_ptr`

40.121.1 Member Data Documentation

40.121.1.1 `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](#)

40.122 fgsl_vector_free Interface Reference

Public Member Functions

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

40.122.1 Constructor & Destructor Documentation

40.122.1.1 `fgsl_vector_free::fgsl_vector_free ()`

40.122.2 Member Function/Subroutine Documentation

40.122.2.1 `fgsl_vector_free::fgsl_vector_complex_free ()`

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

- [interface/generics.finc](#)

40.123 fgsl_vector_init Interface Reference

Public Member Functions

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

40.123.1 Constructor & Destructor Documentation

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

40.123.2 Member Function/Subroutine Documentation

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

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

- interface/[generics.finc](#)

40.124 fgsl::fgsl_wavelet Type Reference

Public Attributes

- `type(c_ptr) gsl_wavelet = c_null_ptr`

40.124.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.125 fgsl::fgsl_wavelet_type Type Reference

Public Attributes

- `integer(c_int) which = 0`

40.125.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.126 fgsl::fgsl_wavelet_workspace Type Reference

Public Attributes

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

40.126.1 Member Data Documentation

40.126.1.1 `type(c_ptr)` `fgsl::fgsl_wavelet_workspace::gsl_wavelet_workspace`

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

- [fgsl.F90](#)

40.127 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](#)

40.127.1 Member Function/Subroutine Documentation

- 40.127.1.1 [fgsl_well_defined::fgsl_cheb_series_status \(\)](#)
- 40.127.1.2 [fgsl_well_defined::fgsl_combination_status \(\)](#)
- 40.127.1.3 [fgsl_well_defined::fgsl_dht_status \(\)](#)
- 40.127.1.4 [fgsl_well_defined::fgsl_error_handler_status \(\)](#)
- 40.127.1.5 [fgsl_well_defined::fgsl_file_status \(\)](#)
- 40.127.1.6 [fgsl_well_defined::fgsl_histogram_status \(\)](#)
- 40.127.1.7 [fgsl_well_defined::fgsl_integration_cquad_workspace_status \(\)](#)
- 40.127.1.8 [fgsl_well_defined::fgsl_integration_glfixed_table_status \(\)](#)
- 40.127.1.9 [fgsl_well_defined::fgsl_integration_qawo_table_status \(\)](#)
- 40.127.1.10 [fgsl_well_defined::fgsl_integration_qaws_table_status \(\)](#)
- 40.127.1.11 [fgsl_well_defined::fgsl_integration_workspace_status \(\)](#)
- 40.127.1.12 [fgsl_well_defined::fgsl_interp_accel_status \(\)](#)
- 40.127.1.13 [fgsl_well_defined::fgsl_interp_status \(\)](#)
- 40.127.1.14 [fgsl_well_defined::fgsl_matrix_complex_status \(\)](#)
- 40.127.1.15 [fgsl_well_defined::fgsl_matrix_status \(\)](#)
- 40.127.1.16 [fgsl_well_defined::fgsl_min_fminimizer_status \(\)](#)
- 40.127.1.17 [fgsl_well_defined::fgsl_monte_function_status \(\)](#)

40.127.1.18 fgsl_well_defined::fgsl_monte_miser_status ()

40.127.1.19 fgsl_well_defined::fgsl_monte_plain_status ()

40.127.1.20 fgsl_well_defined::fgsl_monte_vegas_status ()

40.127.1.21 fgsl_well_defined::fgsl_multifit_fdfsolver_status ()

40.127.1.22 fgsl_well_defined::fgsl_multifit_fsolver_status ()

40.127.1.23 fgsl_well_defined::fgsl_multifit_status ()

40.127.1.24 fgsl_well_defined::fgsl_multimin_fdfminimizer_status ()

40.127.1.25 fgsl_well_defined::fgsl_multimin_fminimizer_status ()

40.127.1.26 fgsl_well_defined::fgsl_multiroot_fdfsolver_status ()

40.127.1.27 fgsl_well_defined::fgsl_multiroot_fsolver_status ()

40.127.1.28 fgsl_well_defined::fgsl_multiset_status ()

40.127.1.29 fgsl_well_defined::fgsl_ntuple_select_fn_status ()

40.127.1.30 fgsl_well_defined::fgsl_ntuple_status ()

40.127.1.31 fgsl_well_defined::fgsl_ntuple_value_fn_status ()

40.127.1.32 fgsl_well_defined::fgsl_odeiv2_control_status ()

40.127.1.33 fgsl_well_defined::fgsl_odeiv2_driver_status ()

40.127.1.34 fgsl_well_defined::fgsl_odeiv2_evolve_status ()

40.127.1.35 fgsl_well_defined::fgsl_odeiv2_step_status ()

40.127.1.36 fgsl_well_defined::fgsl_odeiv2_system_status ()

40.127.1.37 fgsl_well_defined::fgsl_odeiv_control_status ()

40.127.1.38 fgsl_well_defined::fgsl_odeiv_evolve_status ()

40.127.1.39 fgsl_well_defined::fgsl_odeiv_step_status ()

40.127.1.40 fgsl_well_defined::fgsl_odeiv_system_status ()

40.127.1.41 fgsl_well_defined::fgsl_permutation_status ()

40.127.1.42 fgsl_well_defined::fgsl_poly_complex_workspace_stat ()

40.127.1.43 fgsl_well_defined::fgsl_qrng_status ()

40.127.1.44 fgsl_well_defined::fgsl_ran_discrete_t_status ()

40.127.1.45 fgsl_well_defined::fgsl_rng_status ()

- 40.127.1.46 `fgsl_well_defined::fgsl_root_fdfsolver_status ()`
- 40.127.1.47 `fgsl_well_defined::fgsl_root_fsolver_status ()`
- 40.127.1.48 `fgsl_well_defined::fgsl_siman_params_t_status ()`
- 40.127.1.49 `fgsl_well_defined::fgsl_spline_status ()`
- 40.127.1.50 `fgsl_well_defined::fgsl_vector_complex_status ()`
- 40.127.1.51 `fgsl_well_defined::fgsl_vector_status ()`
- 40.127.1.52 `fgsl_well_defined::fgsl_wavelet_status ()`
- 40.127.1.53 `fgsl_well_defined::fgsl_wavelet_workspace_status ()`

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

- [interface/generics.finc](#)

40.128 fgsl::gsl_complex Type Reference

Public Attributes

- `real(c_double), dimension(2)` [dat](#)

40.128.1 Member Data Documentation

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

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

- [fgsl.F90](#)

40.129 fgsl::gsl_sf_result Type Reference

Public Attributes

- `real(c_double)` [val](#)
- `real(c_double)` [err](#)

40.129.1 Member Data Documentation

- 40.129.1.1 `real(c_double)` `fgsl::gsl_sf_result::err`
- 40.129.1.2 `real(c_double)` `fgsl::gsl_sf_result::val`

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

- [fgsl.F90](#)

40.130 fgsl::gsl_sf_result_e10 Type Reference

Public Attributes

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

40.130.1 Member Data Documentation

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

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

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

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

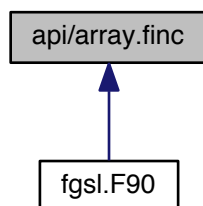
- [fgsl.F90](#)

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_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.

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) *fmt*)

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>fmt</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) *fmt*)

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

Parameters

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

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

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

Parameters

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

Returns

new object of type `fgsl_matrix`.

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

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

Parameters

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

Returns

Status

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

41.1.1.14 `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.

41.1.1.15 `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.

41.1.1.16 `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.

41.1.1.17 `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.

41.1.1.18 `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.

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

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

Parameters

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

Returns

Status

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

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

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

Parameters

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

Returns

Status

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

41.1.1.23 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](#).

41.1.1.24 `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`

41.1.1.25 `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

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

41.1.1.27 `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.

41.1.1.28 `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](#).

41.1.1.29 `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`

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

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

Parameters

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

Returns

Status

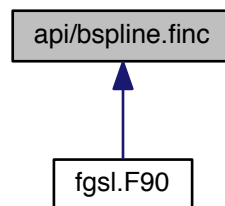
41.1.1.31 logical function `fgsl_vector_status (type(fgsl_vector), intent(in) vector)`

41.1.1.32 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

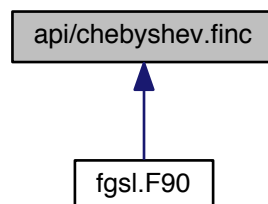
- type(`fgsl_bspline_workspace`)
function `fgsl_bspline_alloc` (`k`, `nbreak`)
- subroutine `fgsl_bspline_free` (`w`)
- type(`fgsl_bspline_deriv_workspace`)
function `fgsl_bspline_deriv_alloc` (`k`)
- subroutine `fgsl_bspline_deriv_free` (`w`)
- integer(`fgsl_int`) function `fgsl_bspline_knots` (`breakpts`, `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`)

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_uniform (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_bspline_workspace), intent(inout) w)`
- 41.2.1.12 `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

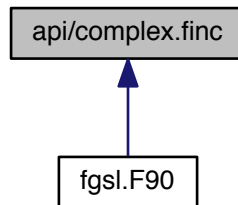
- `type(fgsl_cheb_series)` function `fgsl_cheb_alloc` (*n*)
- subroutine `fgsl_cheb_free` (*cs*)
- `integer(fgsl_int)` function `fgsl_cheb_init` (*cs*, *f*, *a*, *b*)
- `integer(fgsl_size_t)` function `fgsl_cheb_order` (*cs*)
- `integer(fgsl_size_t)` function `fgsl_cheb_size` (*cs*)
- `real(fgsl_double)` function,
dimension(:), pointer `fgsl_cheb_coeffs` (*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_coeffs` (`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*)

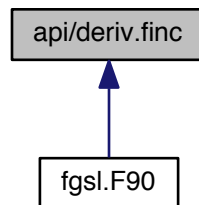
41.4.1.22 `complex(fgsl_double_complex) function fgsl_complex_log_b (complex(fgsl_double_complex), intent(in) z, complex(fgsl_double_complex), intent(in) b)`

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(fgsl_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

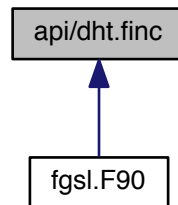
41.5.1.1 integer(fgsl_int) function `fgsl_deriv_backward (type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) h, real(fgsl_double), intent(out) result, real(fgsl_double), intent(out) abserr)`

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*)

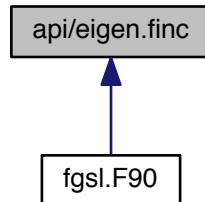
41.6.1.6 type(fgsl_dht) function [fgsl_dht_new](#) (integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), intent(in) *nu*, real(fgsl_double), intent(in) *xmax*)

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

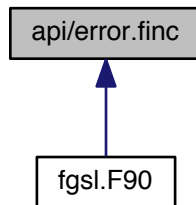
- 41.7.1.1 integer(*fgsl_int*) function `fgsl_eigen_gen` (type(*fgsl_matrix*), intent(inout) *a*, type(*fgsl_matrix*), intent(inout) *b*, type(*fgsl_vector_complex*), intent(inout) *alpha*, type(*fgsl_vector*), intent(inout) *beta*, type(*fgsl_eigen_gen_workspace*) *w*)
- 41.7.1.2 type(*fgsl_eigen_gen_workspace*) 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, 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) even, integer(fgsl_int), intent(in) sort_type)`

41.8 api/error.finc File Reference

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



Functions/Subroutines

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

41.8.1 Function/Subroutine Documentation

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

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

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

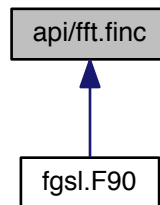
41.8.1.4 type(fgsl_error_handler_t) function [fgsl_set_error_handler](#) (type(fgsl_error_handler_t), intent(in) *new_handler*)

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

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

41.9 api/fft.finc File Reference

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



Functions/Subroutines

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

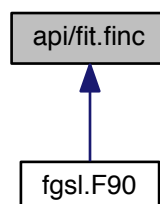
41.9.1 Function/Subroutine Documentation

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

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

41.10 api/fit.finc File Reference

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



Functions/Subroutines

- integer(fgsl_int) function [fgsl_fit_linear](#) (x, xstride, y, ystride, n, c0, c1, cov00, cov01, cov11, sumsq)

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

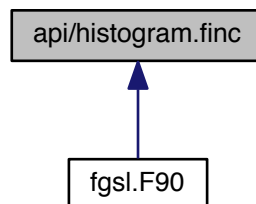
41.10.1 Function/Subroutine Documentation

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

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

41.11 api/histogram.finc File Reference

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



Functions/Subroutines

- `type(fgsl_histogram) function fgsl_histogram_alloc (n)`

- integer(fgsl_int) function [fgsl_histogram_set_ranges](#) (h, range, size)
- integer(fgsl_int) function [fgsl_histogram_set_ranges_uniform](#) (h, xmin, xmax)
- subroutine [fgsl_histogram_free](#) (h)
- integer(fgsl_int) function [fgsl_histogram_memcpy](#) (dest, src)
- type(fgsl_histogram) function [fgsl_histogram_clone](#) (src)
- integer(fgsl_int) function [fgsl_histogram_increment](#) (h, x)
- integer(fgsl_int) function [fgsl_histogram_accumulate](#) (h, x, weight)
- real(fgsl_double) function [fgsl_histogram_get](#) (h, i)
- integer(fgsl_int) function [fgsl_histogram_get_range](#) (h, i, lower, upper)
- real(fgsl_double) function [fgsl_histogram_max](#) (h)
- real(fgsl_double) function [fgsl_histogram_min](#) (h)
- integer(fgsl_size_t) function [fgsl_histogram_bins](#) (h)
- subroutine [fgsl_histogram_reset](#) (h)
- integer(fgsl_int) function [fgsl_histogram_find](#) (h, x, i)
- real(fgsl_double) function [fgsl_histogram_max_val](#) (h)
- integer(fgsl_size_t) function [fgsl_histogram_max_bin](#) (h)
- real(fgsl_double) function [fgsl_histogram_min_val](#) (h)
- integer(fgsl_size_t) function [fgsl_histogram_min_bin](#) (h)
- real(fgsl_double) function [fgsl_histogram_mean](#) (h)
- real(fgsl_double) function [fgsl_histogram_sigma](#) (h)
- real(fgsl_double) function [fgsl_histogram_sum](#) (h)
- real(fgsl_double) function [fgsl_histogram_equal_bins_p](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram_add](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram_sub](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram_mul](#) (h1, h2)
- real(fgsl_double) function [fgsl_histogram_div](#) (h1, h2)
- integer(fgsl_int) function [fgsl_histogram_scale](#) (h, scale)
- integer(fgsl_int) function [fgsl_histogram_shift](#) (h, offset)
- integer(fgsl_int) function [fgsl_histogram_fwrite](#) (stream, h)
- integer(fgsl_int) function [fgsl_histogram_fread](#) (stream, h)
- integer(fgsl_int) function [fgsl_histogram_fprintf](#) (stream, h, range_format, bin_format)
- integer(fgsl_int) function [fgsl_histogram_fscanf](#) (stream, h)
- type(fgsl_histogram_pdf) function [fgsl_histogram_pdf_alloc](#) (n)
- integer(fgsl_int) function [fgsl_histogram_pdf_init](#) (p, h)
- subroutine [fgsl_histogram_pdf_free](#) (p)
- real(fgsl_double) function [fgsl_histogram_pdf_sample](#) (p, r)
- type(fgsl_histogram2d) function [fgsl_histogram2d_alloc](#) (nx, ny)
- integer(fgsl_int) function [fgsl_histogram2d_set_ranges](#) (h, xrange, xsize, yrange, ysize)
- integer(fgsl_int) function [fgsl_histogram2d_set_ranges_uniform](#) (h, xmin, xmax, ymin, ymax)
- subroutine [fgsl_histogram2d_free](#) (h)
- integer(fgsl_int) function [fgsl_histogram2d_memcpy](#) (dest, src)
- type(fgsl_histogram2d) function [fgsl_histogram2d_clone](#) (src)
- integer(fgsl_int) function [fgsl_histogram2d_increment](#) (h, x, y)
- integer(fgsl_int) function [fgsl_histogram2d_accumulate](#) (h, x, y, weight)
- real(fgsl_double) function [fgsl_histogram2d_get](#) (h, i, j)
- integer(fgsl_int) function [fgsl_histogram2d_get_xrange](#) (h, i, xlower, xupper)
- integer(fgsl_int) function [fgsl_histogram2d_get_yrange](#) (h, i, ylower, yupper)
- real(fgsl_double) function [fgsl_histogram2d_xmax](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_xmin](#) (h)
- integer(fgsl_size_t) function [fgsl_histogram2d_nx](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_ymax](#) (h)
- real(fgsl_double) function [fgsl_histogram2d_ymin](#) (h)
- integer(fgsl_size_t) function [fgsl_histogram2d_ny](#) (h)
- subroutine [fgsl_histogram2d_reset](#) (h)
- integer(fgsl_int) function [fgsl_histogram2d_find](#) (h, x, y, i, j)

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

41.11.1 Function/Subroutine Documentation

- 41.11.1.1 `integer(fgsl_int)` function `fgsl_histogram2d_accumulate` (`type(fgsl_histogram2d)`, *intent(inout)* *h*, `real(fgsl_double)`, *intent(in)* *x*, `real(fgsl_double)`, *intent(in)* *y*, `real(fgsl_double)`, *intent(in)* *weight*)
- 41.11.1.2 `real(fgsl_double)` function `fgsl_histogram2d_add` (`type(fgsl_histogram2d)`, *intent(inout)* *h1*, `type(fgsl_histogram2d)`, *intent(in)* *h2*)
- 41.11.1.3 `type(fgsl_histogram2d)` function `fgsl_histogram2d_alloc` (`integer(fgsl_size_t)`, *intent(in)* *nx*, `integer(fgsl_size_t)`, *intent(in)* *ny*)
- 41.11.1.4 `type(fgsl_histogram2d)` function `fgsl_histogram2d_clone` (`type(fgsl_histogram2d)`, *intent(in)* *src*)
- 41.11.1.5 `real(fgsl_double)` function `fgsl_histogram2d_cov` (`type(fgsl_histogram2d)`, *intent(in)* *h*)
- 41.11.1.6 `real(fgsl_double)` function `fgsl_histogram2d_div` (`type(fgsl_histogram2d)`, *intent(inout)* *h1*, `type(fgsl_histogram2d)`, *intent(in)* *h2*)
- 41.11.1.7 `real(fgsl_double)` function `fgsl_histogram2d_equal_bins_p` (`type(fgsl_histogram2d)`, *intent(in)* *h1*, `type(fgsl_histogram2d)`, *intent(in)* *h2*)
- 41.11.1.8 `integer(fgsl_int)` function `fgsl_histogram2d_find` (`type(fgsl_histogram2d)`, *intent(in)* *h*, `real(fgsl_double)`, *intent(in)* *x*, `real(fgsl_double)`, *intent(in)* *y*, `integer(fgsl_size_t)`, *intent(out)* *i*, `integer(fgsl_size_t)`, *intent(out)* *j*)
- 41.11.1.9 `integer(fgsl_int)` function `fgsl_histogram2d_fprintf` (`type(fgsl_file)`, *intent(in)* *stream*, `type(fgsl_histogram2d)`, *intent(in)* *h*, `character(kind=fgsl_char, len=*)`, *intent(in)* *range_format*, `character(kind=fgsl_char, len=*)`, *intent(in)* *bin_format*)

- 41.11.1.10 integer(fgsl_int) function fgsl_histogram2d_fread (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.11 subroutine fgsl_histogram2d_free (type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.12 integer(fgsl_int) function fgsl_histogram2d_fscanf (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(inout) *h*)
- 41.11.1.13 integer(fgsl_int) function fgsl_histogram2d_fwrite (type(fgsl_file), intent(in) *stream*, type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.14 real(fgsl_double) function fgsl_histogram2d_get (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, integer(fgsl_size_t), intent(in) *j*)
- 41.11.1.15 integer(fgsl_int) function fgsl_histogram2d_get_xrange (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, real(fgsl_double), intent(out) *xlower*, real(fgsl_double), intent(out) *xupper*)
- 41.11.1.16 integer(fgsl_int) function fgsl_histogram2d_get_yrange (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(in) *i*, real(fgsl_double), intent(out) *ylower*, real(fgsl_double), intent(out) *yupper*)
- 41.11.1.17 integer(fgsl_int) function fgsl_histogram2d_increment (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*)
- 41.11.1.18 subroutine fgsl_histogram2d_max_bin (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(out) *i*, integer(fgsl_size_t), intent(out) *j*)
- 41.11.1.19 real(fgsl_double) function fgsl_histogram2d_max_val (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.20 integer(fgsl_int) function fgsl_histogram2d_memcpy (type(fgsl_histogram2d), intent(inout) *dest*, type(fgsl_histogram2d), intent(in) *src*)
- 41.11.1.21 subroutine fgsl_histogram2d_min_bin (type(fgsl_histogram2d), intent(in) *h*, integer(fgsl_size_t), intent(out) *i*, integer(fgsl_size_t), intent(out) *j*)
- 41.11.1.22 real(fgsl_double) function fgsl_histogram2d_min_val (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.23 real(fgsl_double) function fgsl_histogram2d_mul (type(fgsl_histogram2d), intent(inout) *h1*, type(fgsl_histogram2d), intent(in) *h2*)
- 41.11.1.24 integer(fgsl_size_t) function fgsl_histogram2d_nx (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.25 integer(fgsl_size_t) function fgsl_histogram2d_ny (type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.26 type(fgsl_histogram2d_pdf) function fgsl_histogram2d_pdf_alloc (integer(fgsl_size_t), intent(in) *nx*, integer(fgsl_size_t), intent(in) *ny*)
- 41.11.1.27 subroutine fgsl_histogram2d_pdf_free (type(fgsl_histogram2d_pdf), intent(inout) *p*)
- 41.11.1.28 integer(fgsl_int) function fgsl_histogram2d_pdf_init (type(fgsl_histogram2d_pdf), intent(inout) *p*, type(fgsl_histogram2d), intent(in) *h*)
- 41.11.1.29 integer(fgsl_int) function fgsl_histogram2d_pdf_sample (type(fgsl_histogram2d_pdf), intent(in) *p*, real(fgsl_double), intent(in) *r1*, real(fgsl_double), intent(in) *r2*, real(fgsl_double), intent(out) *x*, real(fgsl_double), intent(out) *y*)
- 41.11.1.30 subroutine fgsl_histogram2d_reset (type(fgsl_histogram2d), intent(inout) *h*)

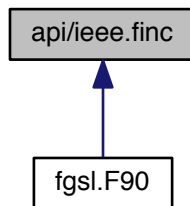
- 41.11.1.31 integer(fgsl_int) function fgsl_histogram2d_scale (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), intent(in) *scale*)
- 41.11.1.32 integer(fgsl_int) function fgsl_histogram2d_set_ranges (type(fgsl_histogram2d), intent(inout) *h*, real(fgsl_double), dimension(:), intent(in)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

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

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

41.12 api/ieee.finc File Reference

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



Functions/Subroutines

- subroutine [fgsl_ieee_fprintf_float](#) (stream, x)
- subroutine [fgsl_ieee_fprintf_double](#) (stream, x)
- subroutine [fgsl_ieee_printf_float](#) (x)
- subroutine [fgsl_ieee_printf_double](#) (x)
- subroutine [fgsl_ieee_env_setup](#) ()

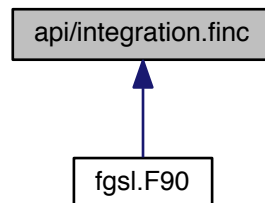
41.12.1 Function/Subroutine Documentation

- 41.12.1.1 subroutine [fgsl_ieee_env_setup](#) ()
- 41.12.1.2 subroutine [fgsl_ieee_fprintf_double](#) (type(fgsl_file), intent(in) *stream*, real(fgsl_double) *x*)
- 41.12.1.3 subroutine [fgsl_ieee_fprintf_float](#) (type(fgsl_file), intent(in) *stream*, real(fgsl_float) *x*)
- 41.12.1.4 subroutine [fgsl_ieee_printf_double](#) (real(fgsl_double) *x*)

41.12.1.5 subroutine `fgsl_ieee_printf_float` (`real(fgsl_float) x`)

41.13 api/integration.finc File Reference

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



Functions/Subroutines

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

- integer(fgsl_int) function [fgsl_integration_glfixed_point](#) (a, b, i, xi, wi, t)
- logical function [fgsl_integration_workspace_status](#) (integration_workspace)
- logical function [fgsl_integration_qaws_table_status](#) (integration_qaws_table)
- logical function [fgsl_integration_qawo_table_status](#) (integration_qawo_table)
- logical function [fgsl_integration_cquad_workspace_status](#) (integration_workspace)
- logical function [fgsl_integration_glfixed_table_status](#) (integration_glfixed_table)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_workspace](#) (w)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_qaws_table](#) (w)
- integer(fgsl_size_t) function [fgsl_sizeof_integration_qawo_table](#) (w)

41.13.1 Function/Subroutine Documentation

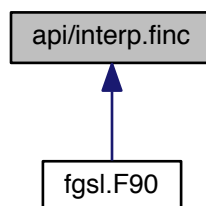
- 41.13.1.1 integer(fgsl_int) function [fgsl_integration_cquad](#) (type(fgsl_function), intent(in) *f*, real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *b*, real(fgsl_double), intent(in) *epsabs*, real(fgsl_double), intent(in) *epsrel*, type(fgsl_integration_cquad_workspace), intent(inout)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

- 41.13.1.13 `integer(fgsl_int) function fgsl_integration_qagiu (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*)

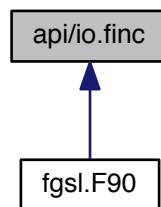
41.14.1.10 integer(fgsl_int) function [fgsl_interp_eval_deriv2_e](#) (type(fgsl_interp), intent(in) *interp*, real(fgsl_double), dimension(:), intent(in) *xa*, real(fgsl_double), dimension(:), intent(in) *ya*, real(fgsl_double), intent(in) *x*, type(fgsl_interp_accel), intent(inout) *acc*, real(fgsl_double), 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 ()`

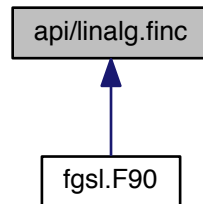
`fgsl_stdin` produces a `fgsl_file` object corresponding to C standard input

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_lsolve](#) (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_cholesky_decomp](#) (a)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_decomp](#) (a)
- integer(fgsl_int) function [fgsl_linalg_cholesky_solve](#) (chol, b, x)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_solve](#) (chol, b, x)
- integer(fgsl_int) function [fgsl_linalg_cholesky_svx](#) (chol, x)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_svx](#) (chol, x)
- integer(fgsl_int) function [fgsl_linalg_cholesky_invert](#) (chol)
- integer(fgsl_int) function [fgsl_linalg_complex_cholesky_invert](#) (chol)
- integer(fgsl_int) function [fgsl_linalg_symmtd_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_symmtd_unpack](#) (a, tau, q, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_symmtd_unpack_t](#) (a, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hermttd_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_hermttd_unpack](#) (a, tau, q, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hermttd_unpack_t](#) (a, diag, subdiag)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_decomp](#) (a, tau)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_unpack](#) (h, tau, u)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_unpack_accum](#) (h, tau, v)
- integer(fgsl_int) function [fgsl_linalg_hessenberg_set_zero](#) (h)
- integer(fgsl_int) function [fgsl_linalg_hesstri_decomp](#) (a, b, u, v, work)
- integer(fgsl_int) function [fgsl_linalg_bidiag_decomp](#) (a, tau_u, tau_v)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack](#) (a, tau_u, u, tau_v, v, diag, superdiag)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack2](#) (a, tau_u, tau_v, v)
- integer(fgsl_int) function [fgsl_linalg_bidiag_unpack_b](#) (a, diag, superdiag)
- real(fgsl_double) function [fgsl_linalg_householder_transform](#) (v)
- complex(fgsl_double_complex)
function [fgsl_linalg_complex_householder_transform](#) (v)
- integer(fgsl_int) function [fgsl_linalg_householder_hm](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_hm](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_householder_mh](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_mh](#) (tau, v, a)
- integer(fgsl_int) function [fgsl_linalg_householder_hv](#) (tau, v, w)
- integer(fgsl_int) function [fgsl_linalg_complex_householder_hv](#) (tau, v, w)
- integer(fgsl_int) function [fgsl_linalg_hh_solve](#) (a, b, x)
- integer(fgsl_int) function [fgsl_linalg_hh_svx](#) (a, x)
- integer(c_int) function [fgsl_linalg_solve_tridiag](#) (diag, e, f, b, x)
- integer(c_int) function [fgsl_linalg_solve_symm_tridiag](#) (diag, e, b, x)
- integer(c_int) function [fgsl_linalg_solve_cyc_tridiag](#) (diag, e, f, b, x)
- integer(c_int) function [fgsl_linalg_solve_symm_cyc_tridiag](#) (diag, e, b, x)
- integer(fgsl_int) function [fgsl_linalg_balance_matrix](#) (a, d)

41.16.1 Function/Subroutine Documentation

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

- 41.16.1.20 `integer(fgsl_int) function fgsl_linalg_complex_lu_invert (type(fgsl_matrix_complex), intent(in) lu, type(fgsl_permutation), intent(in) p, type(fgsl_matrix_complex), intent(inout) inverse)`
- 41.16.1.21 `real(fgsl_double) function fgsl_linalg_complex_lu_lndet (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_hermtdecomp (type(fgsl_matrix_complex), intent(inout) a, type(fgsl_vector_complex), intent(inout) tau)`
- 41.16.1.27 `integer(fgsl_int) function fgsl_linalg_hermtdecomp_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_hermtdecomp_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)`

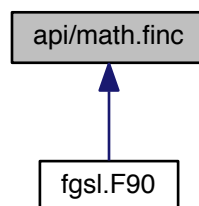
- 41.16.1.38 `integer(fgsl_int) function fgsl_linalg_householder_mh (real(fgsl_double), intent(in) tau, type(fgsl_vector), intent(in) v, type(fgsl_matrix), intent(inout) a)`
- 41.16.1.39 `real(fgsl_double) function fgsl_linalg_householder_transform (type(fgsl_vector), intent(inout) v)`
- 41.16.1.40 `integer(fgsl_int)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

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

- 41.16.1.76 `integer(fgsl_int) function fgsl_linalg_sv_decomp_mod (type(fgsl_matrix), intent(inout) a, type(fgsl_matrix), intent(inout) x, type(fgsl_matrix), intent(inout) v, type(fgsl_vector), intent(inout) s, type(fgsl_vector), intent(inout) work)`
- 41.16.1.77 `integer(fgsl_int) function fgsl_linalg_sv_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)`
- 41.16.1.78 `integer(fgsl_int) function fgsl_linalg_symmtd_decomp (type(fgsl_matrix), intent(inout) a, type(fgsl_vector), intent(inout) tau)`
- 41.16.1.79 `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)`
- 41.16.1.80 `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_exp1](#) (real(fgsl_double), intent(in) x)

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

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

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

Evaluate a function value for a FGSL function object.

Parameters

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

Returns

Function value

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

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

Parameters

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

Returns

Derivative value

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

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

Parameters

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

Returns

Function value

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

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

Parameters

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

41.17.1.11 `real(fgsl_double) function fgsl_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)`

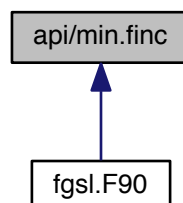
41.17.1.18 `integer(fgsl_int) function fgsl_isnan (real(fgsl_double), intent(in) x)`

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)

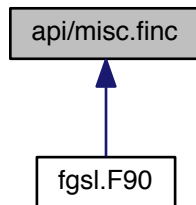
- real(fgsl_double) function [fgsl_min_fminimizer_x_upper](#) (s)
- real(fgsl_double) function [fgsl_min_fminimizer_f_minimum](#) (s)
- real(fgsl_double) function [fgsl_min_fminimizer_f_lower](#) (s)
- real(fgsl_double) function [fgsl_min_fminimizer_f_upper](#) (s)
- integer(fgsl_int) function [fgsl_min_test_interval](#) (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)

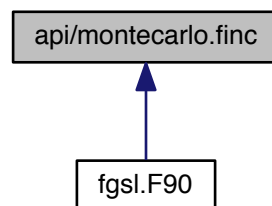
size of intrinsic long integer type

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.

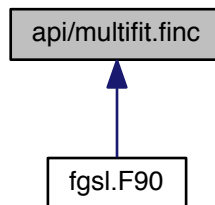
- 41.20.1.20 integer(fgsl_int) function fgsl_monte_vegas_init (type(fgsl_monte_vegas_state), intent(in) *s*)
- 41.20.1.21 integer(fgsl_int) function fgsl_monte_vegas_integrate (type(fgsl_monte_function), intent(in) *f*, real(fgsl_double), dimension(dim), intent(in) *xl*, real(fgsl_double), dimension(dim), 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_setparams (type(fgsl_monte_vegas_state), intent(inout) *s*, real(fgsl_double), intent(in) *result*, real(fgsl_double), intent(in) *sigma*, real(fgsl_double), intent(in) *chisq*, real(fgsl_double), intent(in) *alpha*, integer(fgsl_size_t), intent(in) *iterations*, integer(fgsl_int), intent(in) *stage*, integer(fgsl_int), intent(in) *mode*, integer(fgsl_int), intent(in) *verbose*, type(fgsl_file), intent(in) *ostream*)

Accessor routine for setting the parameters for the VEGAS algorithm.

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

41.21 api/multifit.finc File Reference

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



Functions/Subroutines

- type(fgsl_multifit_function)
function [fgsl_multifit_function_init](#) (func, ndim, p, params)
- type(fgsl_multifit_function_fdf)
function [fgsl_multifit_function_fdf_init](#) (func, dfunc, fdfunc, ndim, p, params)
- subroutine [fgsl_multifit_function_free](#) (fun)
- subroutine [fgsl_multifit_function_fdf_free](#) (fun)
- type(fgsl_multifit_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)

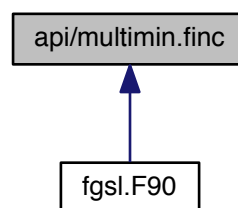
41.21.1 Function/Subroutine Documentation

- 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 `type(fgsl_vector) function fgsl_multifit_fdfsolver_dx (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.4 `type(fgsl_vector) function fgsl_multifit_fdfsolver_f (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.5 `subroutine fgsl_multifit_fdfsolver_free (type(fgsl_multifit_fdfsolver), intent(inout) s)`
- 41.21.1.6 `integer(fgsl_int) function fgsl_multifit_fdfsolver_iterate (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.7 `type(fgsl_matrix) function fgsl_multifit_fdfsolver_jac (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.8 `character(kind=fgsl_char,len=fgsl_strmax) function fgsl_multifit_fdfsolver_name (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.9 `type(fgsl_vector) function fgsl_multifit_fdfsolver_position (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.10 `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)`
- 41.21.1.11 `logical function fgsl_multifit_fdfsolver_status (type(fgsl_multifit_fdfsolver), intent(in) s)`
- 41.21.1.12 `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)`
- 41.21.1.13 `subroutine fgsl_multifit_fsolver_free (type(fgsl_multifit_fsolver), intent(inout) s)`
- 41.21.1.14 `integer(fgsl_int) function fgsl_multifit_fsolver_iterate (type(fgsl_multifit_fsolver), intent(in) s)`
- 41.21.1.15 `character(kind=fgsl_char,len=fgsl_strmax) function fgsl_multifit_fsolver_name (type(fgsl_multifit_fsolver), intent(in) s)`
- 41.21.1.16 `type(fgsl_vector) function fgsl_multifit_fsolver_position (type(fgsl_multifit_fsolver), intent(in) s)`
- 41.21.1.17 `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)`
- 41.21.1.18 `logical function fgsl_multifit_fsolver_status (type(fgsl_multifit_fsolver), intent(in) s)`
- 41.21.1.19 `subroutine fgsl_multifit_function_fdf_free (type(fgsl_multifit_function_fdf), intent(inout) fun)`
- 41.21.1.20 `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)`
- 41.21.1.21 `subroutine fgsl_multifit_function_free (type(fgsl_multifit_function), intent(inout) fun)`
- 41.21.1.22 `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)`

- 41.21.1.23 `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)`
- 41.21.1.24 `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)`
- 41.21.1.25 `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)

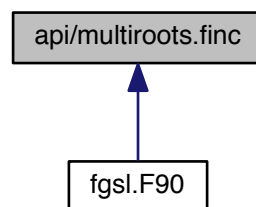
41.22.1 Function/Subroutine Documentation

- 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)

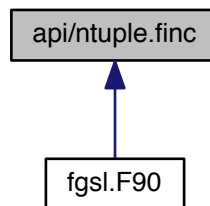
41.23.1 Function/Subroutine Documentation

- 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

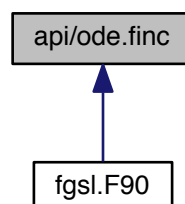
- `type(fgsl_ntuple)` function [fgsl_ntuple_create](#) (fname, data, size)
- `type(fgsl_ntuple)` function [fgsl_ntuple_open](#) (fname, data, size)
- `integer(fgsl_int)` function [fgsl_ntuple_write](#) (ntuple)
- `integer(fgsl_int)` function [fgsl_ntuple_bookdata](#) (ntuple)
- `integer(fgsl_int)` function [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)
- 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_set_hmax (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double) *hmax*)
- 41.25.1.22 integer(fgsl_int) function fgsl_odeiv2_driver_set_hmin (type(fgsl_odeiv2_driver), intent(inout) *d*, real(fgsl_double) *hmin*)
- 41.25.1.23 integer(fgsl_int) function fgsl_odeiv2_driver_set_nmax (type(fgsl_odeiv2_driver), intent(inout) *d*, integer(fgsl_long) *nmax*)
- 41.25.1.24 logical function fgsl_odeiv2_driver_status (type(fgsl_odeiv2_driver), intent(in) *s*)
- 41.25.1.25 type(fgsl_odeiv2_evolve) function fgsl_odeiv2_evolve_alloc (integer(fgsl_size_t), intent(in) *dim*)

- 41.25.1.26 `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)`
- 41.25.1.27 `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)`
- 41.25.1.28 `subroutine fgsl_odeiv2_evolve_free (type(fgsl_odeiv2_evolve), intent(inout) s)`
- 41.25.1.29 `integer(c_int) function fgsl_odeiv2_evolve_reset (type(fgsl_odeiv2_evolve), intent(inout) s)`
- 41.25.1.30 `integer(fgsl_int) function fgsl_odeiv2_evolve_set_driver (type(fgsl_odeiv2_evolve), intent(inout) c, type(fgsl_odeiv2_driver), intent(in) d)`
- 41.25.1.31 `logical function fgsl_odeiv2_evolve_status (type(fgsl_odeiv2_evolve), intent(in) s)`
- 41.25.1.32 `type(fgsl_odeiv2_step) function fgsl_odeiv2_step_alloc (type(fgsl_odeiv2_step_type), intent(in) t, integer(fgsl_size_t), intent(in) dim)`
- 41.25.1.33 `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)`
- 41.25.1.34 `subroutine fgsl_odeiv2_step_free (type(fgsl_odeiv2_step), intent(inout) s)`
- 41.25.1.35 `character(kind=fgsl_char, len=fgsl_strmax) function fgsl_odeiv2_step_name (type(fgsl_odeiv2_step), intent(in) s)`
- 41.25.1.36 `integer(fgsl_int) function fgsl_odeiv2_step_order (type(fgsl_odeiv2_step), intent(in) s)`
- 41.25.1.37 `integer(fgsl_int) function fgsl_odeiv2_step_reset (type(fgsl_odeiv2_step), intent(inout) s)`
- 41.25.1.38 `integer(c_int) function fgsl_odeiv2_step_set_driver (type(fgsl_odeiv2_step) s, type(fgsl_odeiv2_driver), intent(in) d)`
- 41.25.1.39 `logical function fgsl_odeiv2_step_status (type(fgsl_odeiv2_step), intent(in) s)`
- 41.25.1.40 `subroutine fgsl_odeiv2_system_free (type(fgsl_odeiv2_system), intent(inout) system)`
- 41.25.1.41 `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.

41.25.1.42 logical function `fgsl_odeiv2_system_status` (`type(fgsl_odeiv2_system)`, `intent(in) s`)

41.25.1.43 `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.

41.25.1.44 subroutine `fgsl_odeiv_control_free` (`type(fgsl_odeiv_control)`, `intent(inout) c`)

41.25.1.45 `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`)

41.25.1.46 `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`)

41.25.1.47 `character(kind=fgsl_char, len=fgsl_strmax)` function `fgsl_odeiv_control_name` (`type(fgsl_odeiv_control)`, `intent(in) c`)

41.25.1.48 `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`)

41.25.1.49 `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`)

41.25.1.50 logical function `fgsl_odeiv_control_status` (`type(fgsl_odeiv_control)`, `intent(in) s`)

41.25.1.51 `type(fgsl_odeiv_control)` function `fgsl_odeiv_control_y_new` (`real(fgsl_double)`, `intent(in) eps_abs`, `real(fgsl_double)`, `intent(in) eps_rel`)

41.25.1.52 `type(fgsl_odeiv_control)` function `fgsl_odeiv_control_yp_new` (`real(fgsl_double)`, `intent(in) eps_abs`, `real(fgsl_double)`, `intent(in) eps_rel`)

41.25.1.53 `type(fgsl_odeiv_evolve)` function `fgsl_odeiv_evolve_alloc` (`integer(fgsl_size_t)`, `intent(in) dim`)

41.25.1.54 `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`)

41.25.1.55 subroutine `fgsl_odeiv_evolve_free` (`type(fgsl_odeiv_evolve)`, `intent(inout) s`)

41.25.1.56 `integer(c_int)` function `fgsl_odeiv_evolve_reset` (`type(fgsl_odeiv_evolve)`, `intent(inout) s`)

41.25.1.57 logical function `fgsl_odeiv_evolve_status` (`type(fgsl_odeiv_evolve)`, `intent(in) s`)

41.25.1.58 `type(fgsl_odeiv_step)` function `fgsl_odeiv_step_alloc` (`type(fgsl_odeiv_step_type)`, `intent(in) t`, `integer(fgsl_size_t)`, `intent(in) dim`)

41.25.1.59 `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`)

41.25.1.60 subroutine `fgsl_odeiv_step_free` (`type(fgsl_odeiv_step)`, `intent(inout) s`)

41.25.1.61 `character(kind=fgsl_char, len=fgsl_strmax)` function `fgsl_odeiv_step_name` (`type(fgsl_odeiv_step)`, `intent(in) s`)

- 41.25.1.62 integer(fgsl_int) function fgsl_odeiv_step_order (type(fgsl_odeiv_step), intent(in) s)
- 41.25.1.63 integer(fgsl_int) function fgsl_odeiv_step_reset (type(fgsl_odeiv_step), intent(inout) s)
- 41.25.1.64 logical function fgsl_odeiv_step_status (type(fgsl_odeiv_step), intent(in) s)
- 41.25.1.65 subroutine fgsl_odeiv_system_free (type(fgsl_odeiv_system), intent(inout) system)
- 41.25.1.66 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

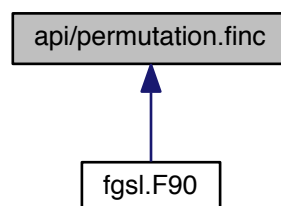
Returns

ODE system object.

- 41.25.1.67 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)`

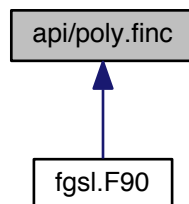
- 41.26.1.18 integer(fgsl_int) function fgsl_combination_valid (type(fgsl_combination), intent(in) *c*)
- 41.26.1.19 type(fgsl_multiset) function fgsl_multiset_alloc (integer(fgsl_size_t), intent(in) *n*, integer(fgsl_size_t), intent(in) *k*)
- 41.26.1.20 type(fgsl_multiset) function fgsl_multiset_calloc (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

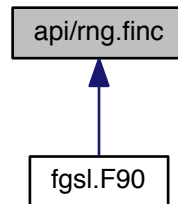
- real(fgsl_double) function [fgsl_poly_eval](#) (*c*, *len*, *x*)
- complex(fgsl_double_complex)
function [fgsl_poly_complex_eval](#) (*c*, *len*, *z*)
- complex(fgsl_double_complex)
function [fgsl_complex_poly_complex_eval](#) (*c*, *len*, *z*)
- integer(fgsl_int) function [fgsl_poly_eval_derivs](#) (*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_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_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)`
- 41.27.1.11 `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)`
- 41.27.1.12 `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)`
- 41.27.1.13 `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)`
- 41.27.1.14 `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)`
- 41.27.1.15 `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)`
- 41.28.1.20 `real(fgsl_double) function fgsl_cdf_exppow_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`

- 41.28.1.21 `real(fgsl_double) function fgsl_cdf_fdist_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.22 `real(fgsl_double) function fgsl_cdf_fdist_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.23 `real(fgsl_double) function fgsl_cdf_fdist_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.24 `real(fgsl_double) function fgsl_cdf_fdist_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) nu1, real(fgsl_double), intent(in) nu2)`
- 41.28.1.25 `real(fgsl_double) function fgsl_cdf_flat_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.26 `real(fgsl_double) function fgsl_cdf_flat_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.27 `real(fgsl_double) function fgsl_cdf_flat_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.28 `real(fgsl_double) function fgsl_cdf_flat_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.29 `real(fgsl_double) function fgsl_cdf_gamma_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.30 `real(fgsl_double) function fgsl_cdf_gamma_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.31 `real(fgsl_double) function fgsl_cdf_gamma_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.32 `real(fgsl_double) function fgsl_cdf_gamma_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.33 `real(fgsl_double) function fgsl_cdf_gaussian_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.34 `real(fgsl_double) function fgsl_cdf_gaussian_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) sigma)`
- 41.28.1.35 `real(fgsl_double) function fgsl_cdf_gaussian_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) sigma)`
- 41.28.1.36 `real(fgsl_double) function fgsl_cdf_gaussian_qinv (real(fgsl_double), intent(in) q, real(fgsl_double), intent(in) sigma)`
- 41.28.1.37 `real(fgsl_double) function fgsl_cdf_geometric_p (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.38 `real(fgsl_double) function fgsl_cdf_geometric_q (integer(fgsl_int), intent(in) k, real(fgsl_double), intent(in) p)`
- 41.28.1.39 `real(fgsl_double) function fgsl_cdf_gumbel1_p (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.40 `real(fgsl_double) function fgsl_cdf_gumbel1_pinv (real(fgsl_double), intent(in) p, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.28.1.41 `real(fgsl_double) function fgsl_cdf_gumbel1_q (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`

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

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

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

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

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

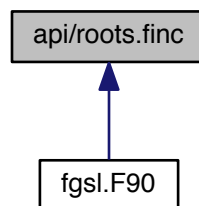
- 41.28.1.149 `real(fgsl_double) function fgsl_ran_levy (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) alpha)`
- 41.28.1.150 `real(fgsl_double) function fgsl_ran_levy_skew (type(fgsl_rng), intent(in) r, real(fgsl_double), intent(in) c, real(fgsl_double),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

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

- 41.28.1.194 integer(fgsl_int) function fgsl_rng_memcpy (type(fgsl_rng), intent(inout) *cpy*, type(fgsl_rng), intent(in) *src*)
- 41.28.1.195 integer(fgsl_long) function fgsl_rng_min (type(fgsl_rng), intent(in) *r*)
- 41.28.1.196 character(kind=fgsl_char, len=fgsl_strmax) function fgsl_rng_name (type(fgsl_rng), intent(in) *r*)
- 41.28.1.197 subroutine fgsl_rng_set (type(fgsl_rng), intent(inout) *r*, integer(fgsl_long), intent(in) *s*)
- 41.28.1.198 logical function fgsl_rng_status (type(fgsl_rng), intent(in) *rng*)
- 41.28.1.199 real(fgsl_double) function fgsl_rng_uniform (type(fgsl_rng), intent(in) *r*)
- 41.28.1.200 integer(fgsl_long) function fgsl_rng_uniform_int (type(fgsl_rng), intent(in) *r*, integer(fgsl_long), intent(in) *n*)
- 41.28.1.201 real(fgsl_double) function fgsl_rng_uniform_pos (type(fgsl_rng), intent(in) *r*)

41.29 api/roots.finc File Reference

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



Functions/Subroutines

- type(fgsl_root_fsolver) function [fgsl_root_fsolver_alloc](#) (t)
- type(fgsl_root_fdfsolver) function [fgsl_root_fdfsolver_alloc](#) (t)
- integer(fgsl_int) function [fgsl_root_fsolver_set](#) (s, f, x_lower, x_upper)
- integer(fgsl_int) function [fgsl_root_fdfsolver_set](#) (s, fdf, x)
- subroutine [fgsl_root_fsolver_free](#) (s)
- subroutine [fgsl_root_fdfsolver_free](#) (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_root_fsolver_name](#) (s)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_root_fdfsolver_name](#) (s)
- integer(fgsl_int) function [fgsl_root_fsolver_iterate](#) (s)
- integer(fgsl_int) function [fgsl_root_fdfsolver_iterate](#) (s)
- real(fgsl_double) function [fgsl_root_fsolver_root](#) (s)
- real(fgsl_double) function [fgsl_root_fdfsolver_root](#) (s)
- real(fgsl_double) function [fgsl_root_fsolver_x_lower](#) (s)
- real(fgsl_double) function [fgsl_root_fsolver_x_upper](#) (s)
- integer(fgsl_int) function [fgsl_root_test_interval](#) (x_lower, x_upper, epsabs, epsrel)
- integer(fgsl_int) function [fgsl_root_test_delta](#) (x1, x0, epsabs, epsrel)

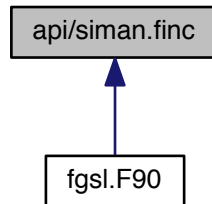
- integer(fgsl_int) function [fgsl_root_test_residual](#) (f, epsabs)
- logical function [fgsl_root_fsolver_status](#) (s)
- logical function [fgsl_root_fdfsolver_status](#) (s)

41.29.1 Function/Subroutine Documentation

- 41.29.1.1 type(fgsl_root_fdfsolver) function [fgsl_root_fdfsolver_alloc](#) (type(fgsl_root_fdfsolver_type), intent(in) t)
- 41.29.1.2 subroutine [fgsl_root_fdfsolver_free](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.3 integer(fgsl_int) function [fgsl_root_fdfsolver_iterate](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.4 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_root_fdfsolver_name](#) (type(fgsl_root_fdfsolver), intent(in) s)
- 41.29.1.5 real(fgsl_double) function [fgsl_root_fdfsolver_root](#) (type(fgsl_root_fdfsolver), intent(inout) s)
- 41.29.1.6 integer(fgsl_int) function [fgsl_root_fdfsolver_set](#) (type(fgsl_root_fdfsolver), intent(in) s, type(fgsl_function_fdf), intent(in) fdf, real(fgsl_double), intent(in) x)
- 41.29.1.7 logical function [fgsl_root_fdfsolver_status](#) (type(fgsl_root_fdfsolver), intent(in) s)
- 41.29.1.8 type(fgsl_root_fsolver) function [fgsl_root_fsolver_alloc](#) (type(fgsl_root_fsolver_type), intent(in) t)
- 41.29.1.9 subroutine [fgsl_root_fsolver_free](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.10 integer(fgsl_int) function [fgsl_root_fsolver_iterate](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.11 character(kind=fgsl_char,len=fgsl_strmax) function [fgsl_root_fsolver_name](#) (type(fgsl_root_fsolver), intent(in) s)
- 41.29.1.12 real(fgsl_double) function [fgsl_root_fsolver_root](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.13 integer(fgsl_int) function [fgsl_root_fsolver_set](#) (type(fgsl_root_fsolver), intent(in) s, type(fgsl_function), intent(in) f, real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper)
- 41.29.1.14 logical function [fgsl_root_fsolver_status](#) (type(fgsl_root_fsolver), intent(in) s)
- 41.29.1.15 real(fgsl_double) function [fgsl_root_fsolver_x_lower](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.16 real(fgsl_double) function [fgsl_root_fsolver_x_upper](#) (type(fgsl_root_fsolver), intent(inout) s)
- 41.29.1.17 integer(fgsl_int) function [fgsl_root_test_delta](#) (real(fgsl_double), intent(in) x1, real(fgsl_double), intent(in) x0, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)
- 41.29.1.18 integer(fgsl_int) function [fgsl_root_test_interval](#) (real(fgsl_double), intent(in) x_lower, real(fgsl_double), intent(in) x_upper, real(fgsl_double), intent(in) epsabs, real(fgsl_double), intent(in) epsrel)
- 41.29.1.19 integer(fgsl_int) function [fgsl_root_test_residual](#) (real(fgsl_double), intent(in) f, real(fgsl_double), intent(in) epsabs)

41.30 api/siman.finc File Reference

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



Functions/Subroutines

- subroutine [fgsl_siman_params_init](#) (params, n_tries, iters_fixed_t, step_size, k, t_initial, mu_t, t_min)
- subroutine [fgsl_siman_params_free](#) (params)
- subroutine [fgsl_siman_solve](#) (rng, x0_p, ef, take_step, distance, print_position, copy_func, copy_constructor, destructor, element_size, params)
- logical function [fgsl_siman_params_t_status](#) (siman_params_t)

41.30.1 Function/Subroutine Documentation

41.30.1.1 subroutine [fgsl_siman_params_free](#) (type(fgsl_siman_params_t), intent(inout) *params*)

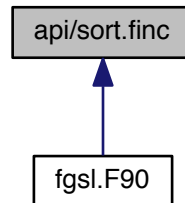
41.30.1.2 subroutine [fgsl_siman_params_init](#) (type(fgsl_siman_params_t), intent(inout) *params*, integer(fgsl_int) *n_tries*, integer(fgsl_int) *iters_fixed_t*, real(fgsl_double) *step_size*, real(fgsl_double) *k*, real(fgsl_double) *t_initial*, real(fgsl_double) *mu_t*, real(fgsl_double) *t_min*)

41.30.1.3 logical function [fgsl_siman_params_t_status](#) (type(fgsl_siman_params_t), intent(in) *siman_params_t*)

41.30.1.4 subroutine [fgsl_siman_solve](#) (type(fgsl_rng), intent(in) *rng*, type(c_ptr), intent(inout) *x0_p*, *ef*, *take_step*, *distance*, optional *print_position*, optional *copy_func*, optional *copy_constructor*, optional *destructor*, integer(fgsl_size_t), intent(in), optional *element_size*, type(fgsl_siman_params_t), intent(in) *params*)

41.31 `api/sort.finc` File Reference

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



Functions/Subroutines

- subroutine [fgsl_heapsort](#) (array, count, size, compare)
- integer(fgsl_int) function [fgsl_heapsort_index](#) (p, array, count, size, compare)
- subroutine [fgsl_sort_double](#) (data, stride, n)
- subroutine [fgsl_sort_double_index](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_smallest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_smallest_index](#) (p, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_largest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_double_largest_index](#) (p, k, src, stride, n)
- subroutine [fgsl_sort_long](#) (data, stride, n)
- subroutine [fgsl_sort_long_index](#) (p, data, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_smallest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_smallest_index](#) (p, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_largest](#) (dest, k, src, stride, n)
- integer(fgsl_int) function [fgsl_sort_long_largest_index](#) (p, k, src, stride, n)
- subroutine [fgsl_sort_vector](#) (v)
- subroutine [fgsl_sort_vector_index](#) (p, v)
- integer(fgsl_int) function [fgsl_sort_vector_smallest](#) (dest, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_largest](#) (dest, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_smallest_index](#) (p, k, v)
- integer(fgsl_int) function [fgsl_sort_vector_largest_index](#) (p, k, v)

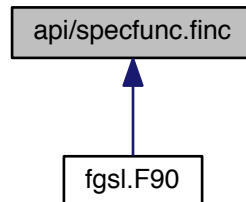
41.31.1 Function/Subroutine Documentation

- 41.31.1.1 subroutine `fgsl_heapsort` (`type(c_ptr)` *array*, `integer(fgsl_size_t)`, intent(in) *count*, `integer(fgsl_size_t)`, intent(in) *size*, `compare`)
- 41.31.1.2 `integer(fgsl_int)` function `fgsl_heapsort_index` (`integer(fgsl_size_t)`, `dimension(count)`, intent(out) *p*, `type(c_ptr)` *array*, `integer(fgsl_size_t)`, intent(in) *count*, `integer(fgsl_size_t)`, intent(in) *size*, `compare`)
- 41.31.1.3 subroutine `fgsl_sort_double` (`real(fgsl_double)`, `dimension(:)`, intent(inout) *data*, `integer(fgsl_size_t)`, intent(in) *stride*, `integer(fgsl_size_t)`, intent(in) *n*)

- 41.31.1.4 subroutine `fgsl_sort_double_index` (`integer(fgsl_size_t)`, `dimension(:)`, `intent(out) p`, `real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.5 `integer(fgsl_int)` function `fgsl_sort_double_largest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.6 `integer(fgsl_int)` function `fgsl_sort_double_largest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.7 `integer(fgsl_int)` function `fgsl_sort_double_smallest` (`real(fgsl_double)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.8 `integer(fgsl_int)` function `fgsl_sort_double_smallest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `real(fgsl_double)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.9 subroutine `fgsl_sort_long` (`integer(fgsl_long)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.10 subroutine `fgsl_sort_long_index` (`integer(fgsl_size_t)`, `dimension(:)`, `intent(out) p`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.11 `integer(fgsl_int)` function `fgsl_sort_long_largest` (`integer(fgsl_long)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.12 `integer(fgsl_int)` function `fgsl_sort_long_largest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.13 `integer(fgsl_int)` function `fgsl_sort_long_smallest` (`integer(fgsl_long)`, `dimension(k)`, `intent(out) dest`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.14 `integer(fgsl_int)` function `fgsl_sort_long_smallest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `integer(fgsl_long)`, `dimension(:)`, `intent(in) src`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.31.1.15 subroutine `fgsl_sort_vector` (`type(fgsl_vector)`, `intent(inout) v`)
- 41.31.1.16 subroutine `fgsl_sort_vector_index` (`type(fgsl_permutation)`, `intent(inout) p`, `type(fgsl_vector)`, `intent(in) v`)
- 41.31.1.17 `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`)
- 41.31.1.18 `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`)
- 41.31.1.19 `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`)
- 41.31.1.20 `integer(fgsl_int)` function `fgsl_sort_vector_smallest_index` (`integer(fgsl_size_t)`, `dimension(k)`, `intent(out) p`, `integer(fgsl_size_t)`, `intent(in) k`, `type(fgsl_vector)`, `intent(inout) v`)

41.32 api/specfunc.finc File Reference

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



Functions/Subroutines

- real(fgsl_double) function [fgsl_sf_airy_ai](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_deriv](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_deriv](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_deriv_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_ai_deriv_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_bi_deriv_scaled](#) (x, mode)
- integer(fgsl_int) function [fgsl_sf_airy_bi_deriv_scaled_e](#) (x, mode, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_ai](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_ai_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_bi](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_bi_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_ai_deriv](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_ai_deriv_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_airy_zero_bi_deriv](#) (s)
- integer(fgsl_int) function [fgsl_sf_airy_zero_bi_deriv_e](#) (s, result)
- real(fgsl_double) function [fgsl_sf_bessel_jc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_jc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jc1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_jc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jcn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_jcn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_jcn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_yc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_yc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_yc1](#) (x)

- integer(fgsl_int) function [fgsl_sf_bessel_yc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ycn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ycn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_ycn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_icn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ic1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ic1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_icn_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_icn_scaled_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kcn](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kc1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_kc1_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_kcn_scaled](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_scaled_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_kcn_scaled_array](#) (nmin, nmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_js2](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_js2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_jsl](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_array](#) (lmax, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_jsl_stepped_array](#) (lmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys0](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys0_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys1](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ys2](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_ys2_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_ysl](#) (n, x)
- integer(fgsl_int) function [fgsl_sf_bessel_ysl_e](#) (n, x, result)
- integer(fgsl_int) function [fgsl_sf_bessel_ysl_array](#) (lmax, x, result)
- real(fgsl_double) function [fgsl_sf_bessel_is0_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_is0_scaled_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_bessel_is1_scaled](#) (x)
- integer(fgsl_int) function [fgsl_sf_bessel_is1_scaled_e](#) (x, result)

- `real(fgsl_double)` function [fgsl_sf_bessel_is2_scaled](#) (x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_is2_scaled_e](#) (x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_isl_scaled](#) (n, x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_isl_scaled_e](#) (n, x, result)
- `integer(fgsl_int)` function [fgsl_sf_bessel_isl_scaled_array](#) (lmax, x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_ks0_scaled](#) (x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ks0_scaled_e](#) (x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_ks1_scaled](#) (x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ks1_scaled_e](#) (x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_ks2_scaled](#) (x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ks2_scaled_e](#) (x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_ksl_scaled](#) (n, x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ksl_scaled_e](#) (n, x, result)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ksl_scaled_array](#) (lmax, x, result)
- `real(fgsl_double)` function [fgsl_sf_bessel_jnu](#) (n, x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_jnu_e](#) (n, x, result)
- `integer(fgsl_int)` function [fgsl_sf_bessel_sequence_jnu_e](#) (nu, mode, size, v)
- `real(fgsl_double)` function [fgsl_sf_bessel_ynnu](#) (n, x)
- `integer(fgsl_int)` function [fgsl_sf_bessel_ynnu_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_lndoublefact](#) (n)
- integer(fgsl_int) function [fgsl_sf_lndoublefact_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_lnchoose](#) (n, m)
- integer(fgsl_int) function [fgsl_sf_lnchoose_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](#) (lambda, 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_e](#) (m, n, x, result)
- real(fgsl_double) function [fgsl_sf_hyperg_u](#) (a, b, x)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_e](#) (a, b, x, result)
- integer(fgsl_int) function [fgsl_sf_hyperg_u_e10_e](#) (a, b, x, result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1](#) (a, b, c, x)
- integer(fgsl_int) function [fgsl_sf_hyperg_2f1_e](#) (a, b, c, x, result)
- real(fgsl_double) function [fgsl_sf_hyperg_2f1_conj](#) (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, szzi)
- integer(fgsl_int) function [fgsl_sf_complex_cos_e](#) (zr, zi, czr, czi)
- integer(fgsl_int) function [fgsl_sf_complex_logsin_e](#) (zr, zi, lszi, lszi)
- real(fgsl_double) function [fgsl_sf_lnsinh](#) (x)
- integer(fgsl_int) function [fgsl_sf_lnsinh_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_lncosh](#) (x)
- integer(fgsl_int) function [fgsl_sf_lncosh_e](#) (x, result)
- integer(fgsl_int) function [fgsl_sf_polar_to_rect](#) (r, theta, x, y)
- integer(fgsl_int) function [fgsl_sf_rect_to_polar](#) (x, y, r, theta)
- real(fgsl_double) function [fgsl_sf_angle_restrict_symm](#) (theta)
- integer(fgsl_int) function [fgsl_sf_angle_restrict_symm_e](#) (theta)
- real(fgsl_double) function [fgsl_sf_angle_restrict_pos](#) (theta)
- integer(fgsl_int) function [fgsl_sf_angle_restrict_pos_e](#) (theta)
- integer(fgsl_int) function [fgsl_sf_sin_err_e](#) (x, dx, result)
- integer(fgsl_int) function [fgsl_sf_cos_err_e](#) (x, dx, result)
- real(fgsl_double) function [fgsl_sf_zeta_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_zeta_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_zeta](#) (x)
- integer(fgsl_int) function [fgsl_sf_zeta_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_zetam1_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_zetam1_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_zetam1](#) (x)
- integer(fgsl_int) function [fgsl_sf_zetam1_e](#) (x, result)
- real(fgsl_double) function [fgsl_sf_hzeta](#) (s, q)
- integer(fgsl_int) function [fgsl_sf_hzeta_e](#) (s, q, result)
- real(fgsl_double) function [fgsl_sf_eta_int](#) (n)
- integer(fgsl_int) function [fgsl_sf_eta_int_e](#) (n, result)
- real(fgsl_double) function [fgsl_sf_eta](#) (x)
- integer(fgsl_int) function [fgsl_sf_eta_e](#) (x, result)
- elemental subroutine [gsl_sf_to_fgsl_sf](#) (result, source)
- elemental subroutine [gsl_sfe10_to_fgsl_sfe10](#) (result, source)

41.32.1 Function/Subroutine Documentation

- 41.32.1.1 real(fgsl_double) function [fgsl_sf_airy_ai](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.2 real(fgsl_double) function [fgsl_sf_airy_ai_deriv](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.3 integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_e](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.4 real(fgsl_double) function [fgsl_sf_airy_ai_deriv_scaled](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.5 integer(fgsl_int) function [fgsl_sf_airy_ai_deriv_scaled_e](#) (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)

- 41.32.1.6 integer(fgsl_int) function fgsl_sf_airy_ai_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.7 real(fgsl_double) function fgsl_sf_airy_ai_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.8 integer(fgsl_int) function fgsl_sf_airy_ai_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.9 real(fgsl_double) function fgsl_sf_airy_bi (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.10 real(fgsl_double) function fgsl_sf_airy_bi_deriv (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.11 integer(fgsl_int) function fgsl_sf_airy_bi_deriv_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.12 real(fgsl_double) function fgsl_sf_airy_bi_deriv_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.13 integer(fgsl_int) function fgsl_sf_airy_bi_deriv_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.14 integer(fgsl_int) function fgsl_sf_airy_bi_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.15 real(fgsl_double) function fgsl_sf_airy_bi_scaled (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode)
- 41.32.1.16 integer(fgsl_int) function fgsl_sf_airy_bi_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)
- 41.32.1.17 real(fgsl_double) function fgsl_sf_airy_zero_ai (integer(fgsl_int), intent(in) s)
- 41.32.1.18 real(fgsl_double) function fgsl_sf_airy_zero_ai_deriv (integer(fgsl_int), intent(in) s)
- 41.32.1.19 integer(fgsl_int) function fgsl_sf_airy_zero_ai_deriv_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.20 integer(fgsl_int) function fgsl_sf_airy_zero_ai_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.21 real(fgsl_double) function fgsl_sf_airy_zero_bi (integer(fgsl_int), intent(in) s)
- 41.32.1.22 real(fgsl_double) function fgsl_sf_airy_zero_bi_deriv (integer(fgsl_int), intent(in) s)
- 41.32.1.23 integer(fgsl_int) function fgsl_sf_airy_zero_bi_deriv_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.24 integer(fgsl_int) function fgsl_sf_airy_zero_bi_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)
- 41.32.1.25 real(fgsl_double) function fgsl_sf_angle_restrict_pos (real(fgsl_double), intent(in) theta)
- 41.32.1.26 integer(fgsl_int) function fgsl_sf_angle_restrict_pos_e (real(fgsl_double), intent(inout) theta)
- 41.32.1.27 real(fgsl_double) function fgsl_sf_angle_restrict_symm (real(fgsl_double), intent(in) theta)
- 41.32.1.28 integer(fgsl_int) function fgsl_sf_angle_restrict_symm_e (real(fgsl_double), intent(inout) theta)
- 41.32.1.29 real(fgsl_double) function fgsl_sf_atanint (real(fgsl_double), intent(in) x)

- 41.32.1.30 integer(fgsl_int) function fgsl_sf_atanint_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.31 real(fgsl_double) function fgsl_sf_bessel_ic0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.32 integer(fgsl_int) function fgsl_sf_bessel_ic0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.33 real(fgsl_double) function fgsl_sf_bessel_ic0_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.34 integer(fgsl_int) function fgsl_sf_bessel_ic0_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.35 real(fgsl_double) function fgsl_sf_bessel_ic1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.36 integer(fgsl_int) function fgsl_sf_bessel_ic1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.37 real(fgsl_double) function fgsl_sf_bessel_ic1_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.38 integer(fgsl_int) function fgsl_sf_bessel_ic1_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.39 real(fgsl_double) function fgsl_sf_bessel_icn (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.40 integer(fgsl_int) function fgsl_sf_bessel_icn_array (integer(fgsl_int), intent(in) *nmin*, integer(fgsl_int), intent(in) *nmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.41 integer(fgsl_int) function fgsl_sf_bessel_icn_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.42 real(fgsl_double) function fgsl_sf_bessel_icn_scaled (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.43 integer(fgsl_int) function fgsl_sf_bessel_icn_scaled_array (integer(fgsl_int), intent(in) *nmin*, integer(fgsl_int), intent(in) *nmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.44 integer(fgsl_int) function fgsl_sf_bessel_icn_scaled_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.45 real(fgsl_double) function fgsl_sf_bessel_inu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.46 integer(fgsl_int) function fgsl_sf_bessel_inu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.47 real(fgsl_double) function fgsl_sf_bessel_inu_scaled (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.48 integer(fgsl_int) function fgsl_sf_bessel_inu_scaled_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.49 real(fgsl_double) function fgsl_sf_bessel_is0_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.50 integer(fgsl_int) function fgsl_sf_bessel_is0_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.51 real(fgsl_double) function fgsl_sf_bessel_is1_scaled (real(fgsl_double), intent(in) *x*)
- 41.32.1.52 integer(fgsl_int) function fgsl_sf_bessel_is1_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)

- 41.32.1.53 `real(fgsl_double) function fgsl_sf_bessel_is2_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.54 `integer(fgsl_int) function fgsl_sf_bessel_is2_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.55 `real(fgsl_double) function fgsl_sf_bessel_isl_scaled (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.56 `integer(fgsl_int) function fgsl_sf_bessel_isl_scaled_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.57 `integer(fgsl_int) function fgsl_sf_bessel_isl_scaled_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.58 `real(fgsl_double) function fgsl_sf_bessel_jc0 (real(fgsl_double), intent(in) x)`
- 41.32.1.59 `integer(fgsl_int) function fgsl_sf_bessel_jc0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.60 `real(fgsl_double) function fgsl_sf_bessel_jc1 (real(fgsl_double), intent(in) x)`
- 41.32.1.61 `integer(fgsl_int) function fgsl_sf_bessel_jc1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.62 `real(fgsl_double) function fgsl_sf_bessel_jcn (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.63 `integer(fgsl_int) function fgsl_sf_bessel_jcn_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.64 `integer(fgsl_int) function fgsl_sf_bessel_jcn_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.65 `real(fgsl_double) function fgsl_sf_bessel_jnu (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.66 `integer(fgsl_int) function fgsl_sf_bessel_jnu_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.67 `real(fgsl_double) function fgsl_sf_bessel_js0 (real(fgsl_double), intent(in) x)`
- 41.32.1.68 `integer(fgsl_int) function fgsl_sf_bessel_js0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.69 `real(fgsl_double) function fgsl_sf_bessel_js1 (real(fgsl_double), intent(in) x)`
- 41.32.1.70 `integer(fgsl_int) function fgsl_sf_bessel_js1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.71 `real(fgsl_double) function fgsl_sf_bessel_js2 (real(fgsl_double), intent(in) x)`
- 41.32.1.72 `integer(fgsl_int) function fgsl_sf_bessel_js2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.73 `real(fgsl_double) function fgsl_sf_bessel_jsl (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.74 `integer(fgsl_int) function fgsl_sf_bessel_jsl_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.75 `integer(fgsl_int) function fgsl_sf_bessel_jsl_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.76 `integer(fgsl_int) function fgsl_sf_bessel_jsl_stepped_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`

- 41.32.1.77 `real(fgsl_double) function fgsl_sf_bessel_kc0 (real(fgsl_double), intent(in) x)`
- 41.32.1.78 `integer(fgsl_int) function fgsl_sf_bessel_kc0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.79 `real(fgsl_double) function fgsl_sf_bessel_kc0_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.80 `integer(fgsl_int) function fgsl_sf_bessel_kc0_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.81 `real(fgsl_double) function fgsl_sf_bessel_kc1 (real(fgsl_double), intent(in) x)`
- 41.32.1.82 `integer(fgsl_int) function fgsl_sf_bessel_kc1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.83 `real(fgsl_double) function fgsl_sf_bessel_kc1_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.84 `integer(fgsl_int) function fgsl_sf_bessel_kc1_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.85 `real(fgsl_double) function fgsl_sf_bessel_kcn (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.86 `integer(fgsl_int) function fgsl_sf_bessel_kcn_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.87 `integer(fgsl_int) function fgsl_sf_bessel_kcn_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.88 `real(fgsl_double) function fgsl_sf_bessel_kcn_scaled (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.89 `integer(fgsl_int) function fgsl_sf_bessel_kcn_scaled_array (integer(fgsl_int), intent(in) nmin, integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.90 `integer(fgsl_int) function fgsl_sf_bessel_kcn_scaled_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.91 `real(fgsl_double) function fgsl_sf_bessel_knu (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.92 `integer(fgsl_int) function fgsl_sf_bessel_knu_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.93 `real(fgsl_double) function fgsl_sf_bessel_knu_scaled (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.94 `integer(fgsl_int) function fgsl_sf_bessel_knu_scaled_e (real(fgsl_double), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.95 `real(fgsl_double) function fgsl_sf_bessel_ks0_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.96 `integer(fgsl_int) function fgsl_sf_bessel_ks0_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.97 `real(fgsl_double) function fgsl_sf_bessel_ks1_scaled (real(fgsl_double), intent(in) x)`
- 41.32.1.98 `integer(fgsl_int) function fgsl_sf_bessel_ks1_scaled_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.99 `real(fgsl_double) function fgsl_sf_bessel_ks2_scaled (real(fgsl_double), intent(in) x)`

- 41.32.1.100 integer(fgsl_int) function fgsl_sf_bessel_ks2_scaled_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.101 real(fgsl_double) function fgsl_sf_bessel_ksl_scaled (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.102 integer(fgsl_int) function fgsl_sf_bessel_ksl_scaled_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.103 integer(fgsl_int) function fgsl_sf_bessel_ksl_scaled_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.104 real(fgsl_double) function fgsl_sf_bessel_lnknu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.105 integer(fgsl_int) function fgsl_sf_bessel_lnknu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.106 integer(fgsl_int) function fgsl_sf_bessel_sequence_jnu_e (real(fgsl_double), intent(in) *nu*, type(fgsl_mode_t), intent(in) *mode*, integer(fgsl_size_t), intent(in) *size*, real(fgsl_double), dimension(:), intent(inout) *v*)
- 41.32.1.107 real(fgsl_double) function fgsl_sf_bessel_yc0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.108 integer(fgsl_int) function fgsl_sf_bessel_yc0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.109 real(fgsl_double) function fgsl_sf_bessel_yc1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.110 integer(fgsl_int) function fgsl_sf_bessel_yc1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.111 real(fgsl_double) function fgsl_sf_bessel_ycn (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.112 integer(fgsl_int) function fgsl_sf_bessel_ycn_array (integer(fgsl_int), intent(in) *nmin*, integer(fgsl_int), intent(in) *nmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result*)
- 41.32.1.113 integer(fgsl_int) function fgsl_sf_bessel_ycn_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.114 real(fgsl_double) function fgsl_sf_bessel_ynu (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.115 integer(fgsl_int) function fgsl_sf_bessel_ynu_e (real(fgsl_double), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.116 real(fgsl_double) function fgsl_sf_bessel_ys0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.117 integer(fgsl_int) function fgsl_sf_bessel_ys0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.118 real(fgsl_double) function fgsl_sf_bessel_ys1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.119 integer(fgsl_int) function fgsl_sf_bessel_ys1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.120 real(fgsl_double) function fgsl_sf_bessel_ys2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.121 integer(fgsl_int) function fgsl_sf_bessel_ys2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)

- 41.32.1.122 `real(fgsl_double) function fgsl_sf_bessel_ysl (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.123 `integer(fgsl_int) function fgsl_sf_bessel_ysl_array (integer(fgsl_int), intent(in) lmax, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result)`
- 41.32.1.124 `integer(fgsl_int) function fgsl_sf_bessel_ysl_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.125 `real(fgsl_double) function fgsl_sf_bessel_zero_jc0 (integer(fgsl_int), intent(in) s)`
- 41.32.1.126 `integer(fgsl_int) function fgsl_sf_bessel_zero_jc0_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.127 `real(fgsl_double) function fgsl_sf_bessel_zero_jc1 (integer(fgsl_int), intent(in) s)`
- 41.32.1.128 `integer(fgsl_int) function fgsl_sf_bessel_zero_jc1_e (integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.129 `real(fgsl_double) function fgsl_sf_bessel_zero_jnu (real(fgsl_double), intent(in) nu, integer(fgsl_int), intent(in) s)`
- 41.32.1.130 `integer(fgsl_int) function fgsl_sf_bessel_zero_jnu_e (real(fgsl_double), intent(in) nu, integer(fgsl_int), intent(in) s, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.131 `real(fgsl_double) function fgsl_sf_beta (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b)`
- 41.32.1.132 `integer(fgsl_int) function fgsl_sf_beta_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.133 `real(fgsl_double) function fgsl_sf_beta_inc (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.134 `integer(fgsl_int) function fgsl_sf_beta_inc_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.135 `real(fgsl_double) function fgsl_sf_chi (real(fgsl_double), intent(in) x)`
- 41.32.1.136 `integer(fgsl_int) function fgsl_sf_chi_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.137 `real(fgsl_double) function fgsl_sf_choose (integer(c_int), intent(in) n, integer(c_int), intent(in) m)`
- 41.32.1.138 `integer(fgsl_int) function fgsl_sf_choose_e (integer(c_int), intent(in) n, integer(c_int), intent(in) m, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.139 `real(fgsl_double) function fgsl_sf_ci (real(fgsl_double), intent(in) x)`
- 41.32.1.140 `integer(fgsl_int) function fgsl_sf_ci_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.141 `real(fgsl_double) function fgsl_sf_clausen (real(fgsl_double), intent(in) x)`
- 41.32.1.142 `integer(fgsl_int) function fgsl_sf_clausen_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.143 `integer(fgsl_int) function fgsl_sf_complex_cos_e (real(fgsl_double), intent(in) zr, real(fgsl_double), intent(in) zi, type(fgsl_sf_result), intent(out) czi, 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) *lszr*, type(fgsl_sf_result), intent(out) *lszi*)
- 41.32.1.147 integer(fgsl_int) function fgsl_sf_complex_sin_e (real(fgsl_double), intent(in) *zr*, real(fgsl_double), intent(in) *zi*, type(fgsl_sf_result), intent(out) *szr*, type(fgsl_sf_result), intent(out) *szzi*)
- 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_ecom (real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode)`
- 41.32.1.197 `integer(fgsl_int) function fgsl_sf_ellint_ecom_e (real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.198 `real(fgsl_double) function fgsl_sf_ellint_f (real(fgsl_double), intent(in) phi, real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode)`
- 41.32.1.199 `integer(fgsl_int) function fgsl_sf_ellint_f_e (real(fgsl_double), intent(in) phi, real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.200 `real(fgsl_double) function fgsl_sf_ellint_kcomp (real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode)`
- 41.32.1.201 `integer(fgsl_int) function fgsl_sf_ellint_kcomp_e (real(fgsl_double), intent(in) k, type(fgsl_mode_t), intent(in) mode, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.202 `real(fgsl_double) function fgsl_sf_ellint_p (real(fgsl_double), intent(in) phi, real(fgsl_double), intent(in) k, real(fgsl_double), intent(in) n, type(fgsl_mode_t), intent(in) mode)`

- 41.32.1.203 integer(fgsl_int) function fgsl_sf_ellint_p_e (real(fgsl_double), intent(in) *phi*, real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.204 real(fgsl_double) function fgsl_sf_ellint_pcomp (real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.205 integer(fgsl_int) function fgsl_sf_ellint_pcomp_e (real(fgsl_double), intent(in) *k*, real(fgsl_double), intent(in) *n*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.206 real(fgsl_double) function fgsl_sf_ellint_rc (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.207 integer(fgsl_int) function fgsl_sf_ellint_rc_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.208 real(fgsl_double) function fgsl_sf_ellint_rd (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.209 integer(fgsl_int) function fgsl_sf_ellint_rd_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.210 real(fgsl_double) function fgsl_sf_ellint_rf (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.211 integer(fgsl_int) function fgsl_sf_ellint_rf_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.212 real(fgsl_double) function fgsl_sf_ellint_rj (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, real(fgsl_double), intent(in) *p*, type(fgsl_mode_t), intent(in) *mode*)
- 41.32.1.213 integer(fgsl_int) function fgsl_sf_ellint_rj_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *z*, real(fgsl_double), intent(in) *p*, type(fgsl_mode_t), intent(in) *mode*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.214 integer(fgsl_int) function fgsl_sf_elljac_e (real(fgsl_double), intent(in) *u*, real(fgsl_double), intent(in) *m*, real(fgsl_double), intent(out) *sn*, real(fgsl_double), intent(out) *cn*, real(fgsl_double), intent(out) *dn*)
- 41.32.1.215 real(fgsl_double) function fgsl_sf_erf (real(fgsl_double), intent(in) *x*)
- 41.32.1.216 integer(fgsl_int) function fgsl_sf_erf_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.217 real(fgsl_double) function fgsl_sf_erf_q (real(fgsl_double), intent(in) *x*)
- 41.32.1.218 integer(fgsl_int) function fgsl_sf_erf_q_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.219 real(fgsl_double) function fgsl_sf_erf_z (real(fgsl_double), intent(in) *x*)
- 41.32.1.220 integer(fgsl_int) function fgsl_sf_erf_z_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.221 real(fgsl_double) function fgsl_sf_erfc (real(fgsl_double), intent(in) *x*)
- 41.32.1.222 integer(fgsl_int) function fgsl_sf_erfc_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.223 real(fgsl_double) function fgsl_sf_eta (real(fgsl_double), intent(in) *x*)
- 41.32.1.224 integer(fgsl_int) function fgsl_sf_eta_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)

- 41.32.1.225 `real(fgsl_double) function fgsl_sf_eta_int (integer(c_int), intent(in) n)`
- 41.32.1.226 `integer(fgsl_int) function fgsl_sf_eta_int_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.227 `real(fgsl_double) function fgsl_sf_exp (real(fgsl_double), intent(in) x)`
- 41.32.1.228 `integer(fgsl_int) function fgsl_sf_exp_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.229 `integer(fgsl_int) function fgsl_sf_exp_e10_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.230 `integer(fgsl_int) function fgsl_sf_exp_err_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.231 `integer(fgsl_int) function fgsl_sf_exp_err_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.232 `real(fgsl_double) function fgsl_sf_exp_mult (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y)`
- 41.32.1.233 `integer(fgsl_int) function fgsl_sf_exp_mult_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.234 `integer(fgsl_int) function fgsl_sf_exp_mult_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.235 `integer(fgsl_int) function fgsl_sf_exp_mult_err_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) dy, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.236 `integer(fgsl_int) function fgsl_sf_exp_mult_err_e10_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) dx, real(fgsl_double), intent(in) y, real(fgsl_double), intent(in) dy, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.237 `real(fgsl_double) function fgsl_sf_expint_3 (real(fgsl_double), intent(in) x)`
- 41.32.1.238 `integer(fgsl_int) function fgsl_sf_expint_3_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.239 `real(fgsl_double) function fgsl_sf_expint_e1 (real(fgsl_double), intent(in) x)`
- 41.32.1.240 `integer(fgsl_int) function fgsl_sf_expint_e1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.241 `real(fgsl_double) function fgsl_sf_expint_e2 (real(fgsl_double), intent(in) x)`
- 41.32.1.242 `integer(fgsl_int) function fgsl_sf_expint_e2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.243 `real(fgsl_double) function fgsl_sf_expint_ei (real(fgsl_double), intent(in) x)`
- 41.32.1.244 `integer(fgsl_int) function fgsl_sf_expint_ei_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.245 `real(fgsl_double) function fgsl_sf_expint_en (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.246 `integer(fgsl_int) function fgsl_sf_expint_en_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.247 `real(fgsl_double) function fgsl_sf_expm1 (real(fgsl_double), intent(in) x)`
- 41.32.1.248 `integer(fgsl_int) function fgsl_sf_expm1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`

- 41.32.1.249 `real(fgsl_double) function fgsl_sf_exprel (real(fgsl_double), intent(in) x)`
- 41.32.1.250 `real(fgsl_double) function fgsl_sf_exprel_2 (real(fgsl_double), intent(in) x)`
- 41.32.1.251 `integer(fgsl_int) function fgsl_sf_exprel_2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.252 `integer(fgsl_int) function fgsl_sf_exprel_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.253 `real(fgsl_double) function fgsl_sf_exprel_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.254 `integer(fgsl_int) function fgsl_sf_exprel_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.255 `real(fgsl_double) function fgsl_sf_fact (integer(c_int), intent(in) n)`
- 41.32.1.256 `integer(fgsl_int) function fgsl_sf_fact_e (integer(c_int), intent(in) n, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.257 `real(fgsl_double) function fgsl_sf_fermi_dirac_0 (real(fgsl_double), intent(in) x)`
- 41.32.1.258 `integer(fgsl_int) function fgsl_sf_fermi_dirac_0_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.259 `real(fgsl_double) function fgsl_sf_fermi_dirac_1 (real(fgsl_double), intent(in) x)`
- 41.32.1.260 `integer(fgsl_int) function fgsl_sf_fermi_dirac_1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.261 `real(fgsl_double) function fgsl_sf_fermi_dirac_2 (real(fgsl_double), intent(in) x)`
- 41.32.1.262 `integer(fgsl_int) function fgsl_sf_fermi_dirac_2_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.263 `real(fgsl_double) function fgsl_sf_fermi_dirac_3half (real(fgsl_double), intent(in) x)`
- 41.32.1.264 `integer(fgsl_int) function fgsl_sf_fermi_dirac_3half_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.265 `real(fgsl_double) function fgsl_sf_fermi_dirac_half (real(fgsl_double), intent(in) x)`
- 41.32.1.266 `integer(fgsl_int) function fgsl_sf_fermi_dirac_half_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.267 `real(fgsl_double) function fgsl_sf_fermi_dirac_inc_0 (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) b)`
- 41.32.1.268 `integer(fgsl_int) function fgsl_sf_fermi_dirac_inc_0_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) b, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.269 `real(fgsl_double) function fgsl_sf_fermi_dirac_int (integer(fgsl_int), intent(in) i, real(fgsl_double), intent(in) x)`
- 41.32.1.270 `integer(fgsl_int) function fgsl_sf_fermi_dirac_int_e (integer(fgsl_int), intent(in) i, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.271 `real(fgsl_double) function fgsl_sf_fermi_dirac_m1 (real(fgsl_double), intent(in) x)`
- 41.32.1.272 `integer(fgsl_int) function fgsl_sf_fermi_dirac_m1_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`

- 41.32.1.273 `real(fgsl_double) function fgsl_sf_fermi_dirac_mhalf (real(fgsl_double), intent(in) x)`
- 41.32.1.274 `integer(fgsl_int) function fgsl_sf_fermi_dirac_mhalf_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.275 `real(fgsl_double) function fgsl_sf_gamma (real(fgsl_double), intent(in) x)`
- 41.32.1.276 `integer(fgsl_int) function fgsl_sf_gamma_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.277 `real(fgsl_double) function fgsl_sf_gamma_inc (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.278 `integer(fgsl_int) function fgsl_sf_gamma_inc_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.279 `real(fgsl_double) function fgsl_sf_gamma_inc_p (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.280 `integer(fgsl_int) function fgsl_sf_gamma_inc_p_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.281 `real(fgsl_double) function fgsl_sf_gamma_inc_q (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.282 `integer(fgsl_int) function fgsl_sf_gamma_inc_q_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.283 `real(fgsl_double) function fgsl_sf_gammainv (real(fgsl_double), intent(in) x)`
- 41.32.1.284 `integer(fgsl_int) function fgsl_sf_gammainv_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.285 `real(fgsl_double) function fgsl_sf_gammastar (real(fgsl_double), intent(in) x)`
- 41.32.1.286 `integer(fgsl_int) function fgsl_sf_gammastar_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.287 `real(fgsl_double) function fgsl_sf_gegenpoly_1 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.288 `integer(fgsl_int) function fgsl_sf_gegenpoly_1_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.289 `real(fgsl_double) function fgsl_sf_gegenpoly_2 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.290 `integer(fgsl_int) function fgsl_sf_gegenpoly_2_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.291 `real(fgsl_double) function fgsl_sf_gegenpoly_3 (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.292 `integer(fgsl_int) function fgsl_sf_gegenpoly_3_e (real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.293 `integer(fgsl_int) function fgsl_sf_gegenpoly_array (integer(fgsl_int), intent(in) nmax, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, real(fgsl_double), dimension(:), intent(out) result_array)`
- 41.32.1.294 `real(fgsl_double) function fgsl_sf_gegenpoly_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x)`
- 41.32.1.295 `integer(fgsl_int) function fgsl_sf_gegenpoly_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) lambda, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`

- 41.32.1.296 `real(fgsl_double) function fgsl_sf_hazard (real(fgsl_double), intent(in) x)`
- 41.32.1.297 `integer(fgsl_int) function fgsl_sf_hazard_e (real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.298 `real(fgsl_double) function fgsl_sf_hydrogenicr (integer(fgsl_int), intent(in) n, integer(fgsl_int), intent(in) l, real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r)`
- 41.32.1.299 `real(fgsl_double) function fgsl_sf_hydrogenicr_1 (real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r)`
- 41.32.1.300 `integer(fgsl_int) function fgsl_sf_hydrogenicr_1_e (real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.301 `integer(fgsl_int) function fgsl_sf_hydrogenicr_e (integer(fgsl_int), intent(in) n, integer(fgsl_int), intent(in) l, real(fgsl_double), intent(in) z, real(fgsl_double), intent(in) r, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.302 `real(fgsl_double) function fgsl_sf_hyperg_0f1 (real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.303 `integer(fgsl_int) function fgsl_sf_hyperg_0f1_e (real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.304 `real(fgsl_double) function fgsl_sf_hyperg_1f1 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.305 `integer(fgsl_int) function fgsl_sf_hyperg_1f1_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.306 `real(fgsl_double) function fgsl_sf_hyperg_1f1_int (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.307 `integer(fgsl_int) function fgsl_sf_hyperg_1f1_int_e (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.308 `real(fgsl_double) function fgsl_sf_hyperg_2f0 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.309 `integer(fgsl_int) function fgsl_sf_hyperg_2f0_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.310 `real(fgsl_double) function fgsl_sf_hyperg_2f1 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.311 `real(fgsl_double) function fgsl_sf_hyperg_2f1_conj (real(fgsl_double), intent(in) ar, real(fgsl_double), intent(in) ai, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.312 `integer(fgsl_int) function fgsl_sf_hyperg_2f1_conj_e (real(fgsl_double), intent(in) ar, real(fgsl_double), intent(in) ai, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.313 `real(fgsl_double) function fgsl_sf_hyperg_2f1_conj_renorm (real(fgsl_double), intent(in) ar, real(fgsl_double), intent(in) ai, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.314 `integer(fgsl_int) function fgsl_sf_hyperg_2f1_conj_renorm_e (real(fgsl_double), intent(in) ar, real(fgsl_double), intent(in) ai, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.315 `integer(fgsl_int) function fgsl_sf_hyperg_2f1_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`

- 41.32.1.316 `real(fgsl_double) function fgsl_sf_hyperg_2f1_renorm (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x)`
- 41.32.1.317 `integer(fgsl_int) function fgsl_sf_hyperg_2f1_renorm_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) c, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.318 `real(fgsl_double) function fgsl_sf_hyperg_u (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x)`
- 41.32.1.319 `integer(fgsl_int) function fgsl_sf_hyperg_u_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.320 `integer(fgsl_int) function fgsl_sf_hyperg_u_e10_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) b, real(fgsl_double), intent(in) x, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.321 `real(fgsl_double) function fgsl_sf_hyperg_u_int (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x)`
- 41.32.1.322 `integer(fgsl_int) function fgsl_sf_hyperg_u_int_e (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.323 `integer(fgsl_int) function fgsl_sf_hyperg_u_int_e10_e (integer(fgsl_int), intent(in) m, integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) x, type(fgsl_sf_result_e10), intent(out) result)`
- 41.32.1.324 `real(fgsl_double) function fgsl_sf_hypot (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y)`
- 41.32.1.325 `integer(fgsl_int) function fgsl_sf_hypot_e (real(fgsl_double), intent(in) x, real(fgsl_double), intent(in) y, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.326 `real(fgsl_double) function fgsl_sf_hzeta (real(fgsl_double), intent(in) s, real(fgsl_double), intent(in) q)`
- 41.32.1.327 `integer(fgsl_int) function fgsl_sf_hzeta_e (real(fgsl_double), intent(in) s, real(fgsl_double), intent(in) q, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.328 `real(fgsl_double) function fgsl_sf_laguerre_1 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.329 `integer(fgsl_int) function fgsl_sf_laguerre_1_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.330 `real(fgsl_double) function fgsl_sf_laguerre_2 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.331 `integer(fgsl_int) function fgsl_sf_laguerre_2_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.332 `real(fgsl_double) function fgsl_sf_laguerre_3 (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.333 `integer(fgsl_int) function fgsl_sf_laguerre_3_e (real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.334 `real(fgsl_double) function fgsl_sf_laguerre_n (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x)`
- 41.32.1.335 `integer(fgsl_int) function fgsl_sf_laguerre_n_e (integer(fgsl_int), intent(in) n, real(fgsl_double), intent(in) a, real(fgsl_double), intent(in) x, type(fgsl_sf_result), intent(out) result)`
- 41.32.1.336 `real(fgsl_double) function fgsl_sf_lambert_w0 (real(fgsl_double), intent(in) x)`

- 41.32.1.337 integer(fgsl_int) function fgsl_sf_lambert_w0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.338 real(fgsl_double) function fgsl_sf_lambert_wm1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.339 integer(fgsl_int) function fgsl_sf_lambert_wm1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.340 integer(c_int) function fgsl_sf_legendre_array_size (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*)
- 41.32.1.341 real(fgsl_double) function fgsl_sf_legendre_h3d (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*)
- 41.32.1.342 real(fgsl_double) function fgsl_sf_legendre_h3d_0 (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*)
- 41.32.1.343 integer(fgsl_int) function fgsl_sf_legendre_h3d_0_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.344 real(fgsl_double) function fgsl_sf_legendre_h3d_1 (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*)
- 41.32.1.345 integer(fgsl_int) function fgsl_sf_legendre_h3d_1_e (real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.346 integer(fgsl_int) function fgsl_sf_legendre_h3d_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.347 integer(fgsl_int) function fgsl_sf_legendre_h3d_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *lambda*, real(fgsl_double), intent(in) *eta*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.348 real(fgsl_double) function fgsl_sf_legendre_p1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.349 integer(fgsl_int) function fgsl_sf_legendre_p1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.350 real(fgsl_double) function fgsl_sf_legendre_p2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.351 integer(fgsl_int) function fgsl_sf_legendre_p2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.352 real(fgsl_double) function fgsl_sf_legendre_p3 (real(fgsl_double), intent(in) *x*)
- 41.32.1.353 integer(fgsl_int) function fgsl_sf_legendre_p3_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.354 real(fgsl_double) function fgsl_sf_legendre_pl (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*)
- 41.32.1.355 real(fgsl_double) function fgsl_sf_legendre_pl_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.356 real(fgsl_double) function fgsl_sf_legendre_pl_deriv_array (integer(fgsl_int), intent(in) *lmax*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*, real(fgsl_double), dimension(:), intent(out) *deriv_array*)

- 41.32.1.357 integer(fgsl_int) function fgsl_sf_legendre_pl_e (integer(fgsl_int), intent(in) *l*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.358 real(fgsl_double) function fgsl_sf_legendre_plm (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*)
- 41.32.1.359 real(fgsl_double) function fgsl_sf_legendre_plm_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*)
- 41.32.1.360 real(fgsl_double) function fgsl_sf_legendre_plm_deriv_array (integer(fgsl_int), intent(in) *lmax*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, real(fgsl_double), dimension(:), intent(out) *result_array*, real(fgsl_double), dimension(:), intent(out) *deriv_array*)
- 41.32.1.361 integer(fgsl_int) function fgsl_sf_legendre_plm_e (integer(fgsl_int), intent(in) *l*, integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.362 real(fgsl_double) function fgsl_sf_legendre_q0 (real(fgsl_double), intent(in) *x*)
- 41.32.1.363 integer(fgsl_int) function fgsl_sf_legendre_q0_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.364 real(fgsl_double) function fgsl_sf_legendre_q1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.365 integer(fgsl_int) function fgsl_sf_legendre_q1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.366 real(fgsl_double) function fgsl_sf_legendre_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_lncosh (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_Indoublefact (integer(c_int), intent(in) *n*)
- 41.32.1.379 integer(fgsl_int) function fgsl_sf_Indoublefact_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.380 real(fgsl_double) function fgsl_sf_Infact (integer(c_int), intent(in) *n*)
- 41.32.1.381 integer(fgsl_int) function fgsl_sf_Infact_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.382 real(fgsl_double) function fgsl_sf_Ingamma (real(fgsl_double), intent(in) *x*)
- 41.32.1.383 integer(fgsl_int) function fgsl_sf_Ingamma_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_Ingamma_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.385 integer(fgsl_int) function fgsl_sf_Ingamma_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_Inpoch (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.387 integer(fgsl_int) function fgsl_sf_Inpoch_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_Inpoch_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_Insinh (real(fgsl_double), intent(in) *x*)
- 41.32.1.390 integer(fgsl_int) function fgsl_sf_Insinh_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.391 real(fgsl_double) function fgsl_sf_log (real(fgsl_double), intent(in) *x*)
- 41.32.1.392 real(fgsl_double) function fgsl_sf_log_1plusx (real(fgsl_double), intent(in) *x*)
- 41.32.1.393 integer(fgsl_int) function fgsl_sf_log_1plusx_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.394 real(fgsl_double) function fgsl_sf_log_1plusx_mx (real(fgsl_double), intent(in) *x*)
- 41.32.1.395 integer(fgsl_int) function fgsl_sf_log_1plusx_mx_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.396 real(fgsl_double) function fgsl_sf_log_abs (real(fgsl_double), intent(in) *x*)
- 41.32.1.397 integer(fgsl_int) function fgsl_sf_log_abs_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.398 integer(fgsl_int) function fgsl_sf_log_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.399 real(fgsl_double) function fgsl_sf_log_erfc (real(fgsl_double), intent(in) *x*)
- 41.32.1.400 integer(fgsl_int) function fgsl_sf_log_erfc_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.401 integer(fgsl_int) function fgsl_sf_multiply_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_sf_result), intent(out) *result*)

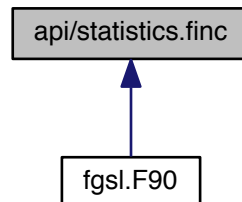
- 41.32.1.402 integer(fgsl_int) function fgsl_sf_multiply_err_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *dx*, real(fgsl_double), intent(in) *y*, real(fgsl_double), intent(in) *dy*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.403 real(fgsl_double) function fgsl_sf_poch (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.404 integer(fgsl_int) function fgsl_sf_poch_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.405 real(fgsl_double) function fgsl_sf_pochrel (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*)
- 41.32.1.406 integer(fgsl_int) function fgsl_sf_pochrel_e (real(fgsl_double), intent(in) *a*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.407 integer(fgsl_int) function fgsl_sf_polar_to_rect (real(fgsl_double), intent(in) *r*, real(fgsl_double), intent(in) *theta*, type(fgsl_sf_result), intent(out) *x*, type(fgsl_sf_result), intent(out) *y*)
- 41.32.1.408 real(fgsl_double) function fgsl_sf_psi (real(fgsl_double), intent(in) *x*)
- 41.32.1.409 real(fgsl_double) function fgsl_sf_psi_1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.410 integer(fgsl_int) function fgsl_sf_psi_1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.411 real(fgsl_double) function fgsl_sf_psi_1_int (integer(c_int), intent(in) *n*)
- 41.32.1.412 integer(fgsl_int) function fgsl_sf_psi_1_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.413 real(fgsl_double) function fgsl_sf_psi_1piy (real(fgsl_double), intent(in) *x*)
- 41.32.1.414 integer(fgsl_int) function fgsl_sf_psi_1piy_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.415 integer(fgsl_int) function fgsl_sf_psi_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.416 real(fgsl_double) function fgsl_sf_psi_int (integer(c_int), intent(in) *n*)
- 41.32.1.417 integer(fgsl_int) function fgsl_sf_psi_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.418 real(fgsl_double) function fgsl_sf_psi_n (integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*)
- 41.32.1.419 integer(fgsl_int) function fgsl_sf_psi_n_e (integer(fgsl_int), intent(in) *m*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.420 integer(fgsl_int) function fgsl_sf_rect_to_polar (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *y*, type(fgsl_sf_result), intent(out) *r*, type(fgsl_sf_result), intent(out) *theta*)
- 41.32.1.421 real(fgsl_double) function fgsl_sf_shi (real(fgsl_double), intent(in) *x*)
- 41.32.1.422 integer(fgsl_int) function fgsl_sf_shi_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.423 real(fgsl_double) function fgsl_sf_si (real(fgsl_double), intent(in) *x*)
- 41.32.1.424 integer(fgsl_int) function fgsl_sf_si_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.425 integer(fgsl_int) function fgsl_sf_sin_err_e (real(fgsl_double), intent(in) *x*, real(fgsl_double), intent(in) *dx*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.426 real(fgsl_double) function fgsl_sf_sinc (real(fgsl_double), intent(in) *x*)

- 41.32.1.427 integer(fgsl_int) function fgsl_sf_sinc_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.428 real(fgsl_double) function fgsl_sf_synchrotron_1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.429 integer(fgsl_int) function fgsl_sf_synchrotron_1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.430 real(fgsl_double) function fgsl_sf_synchrotron_2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.431 integer(fgsl_int) function fgsl_sf_synchrotron_2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.432 real(fgsl_double) function fgsl_sf_taylorcoeff (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*)
- 41.32.1.433 integer(fgsl_int) function fgsl_sf_taylorcoeff_e (integer(fgsl_int), intent(in) *n*, real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.434 real(fgsl_double) function fgsl_sf_transport_2 (real(fgsl_double), intent(in) *x*)
- 41.32.1.435 integer(fgsl_int) function fgsl_sf_transport_2_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.436 real(fgsl_double) function fgsl_sf_transport_3 (real(fgsl_double), intent(in) *x*)
- 41.32.1.437 integer(fgsl_int) function fgsl_sf_transport_3_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.438 real(fgsl_double) function fgsl_sf_transport_4 (real(fgsl_double), intent(in) *x*)
- 41.32.1.439 integer(fgsl_int) function fgsl_sf_transport_4_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.440 real(fgsl_double) function fgsl_sf_transport_5 (real(fgsl_double), intent(in) *x*)
- 41.32.1.441 integer(fgsl_int) function fgsl_sf_transport_5_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.442 real(fgsl_double) function fgsl_sf_zeta (real(fgsl_double), intent(in) *x*)
- 41.32.1.443 integer(fgsl_int) function fgsl_sf_zeta_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.444 real(fgsl_double) function fgsl_sf_zeta_int (integer(c_int), intent(in) *n*)
- 41.32.1.445 integer(fgsl_int) function fgsl_sf_zeta_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.446 real(fgsl_double) function fgsl_sf_zetam1 (real(fgsl_double), intent(in) *x*)
- 41.32.1.447 integer(fgsl_int) function fgsl_sf_zetam1_e (real(fgsl_double), intent(in) *x*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.448 real(fgsl_double) function fgsl_sf_zetam1_int (integer(c_int), intent(in) *n*)
- 41.32.1.449 integer(fgsl_int) function fgsl_sf_zetam1_int_e (integer(c_int), intent(in) *n*, type(fgsl_sf_result), intent(out) *result*)
- 41.32.1.450 elemental subroutine gsl_sf_to_fgsl_sf (type(fgsl_sf_result), intent(out) *result*, type(gsl_sf_result), intent(in) *source*)

41.32.1.451 elemental subroutine `gsl_sf10_to_fgsl_sf10` (`type(fgsl_sf_result_e10)`, `intent(out) result`, `type(gsl_sf_result_e10)`, `intent(in) source`)

41.33 api/statistics.finc File Reference

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



Functions/Subroutines

- `real(fgsl_double)` function [fgsl_stats_mean](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_variance](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_variance_m](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_sd](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_sd_m](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_variance_with_fixed_mean](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_sd_with_fixed_mean](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_absdev](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_absdev_m](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_skew](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_skew_m_sd](#) (`data`, `stride`, `n`, `mean`, `sd`)
- `real(fgsl_double)` function [fgsl_stats_kurtosis](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_kurtosis_m_sd](#) (`data`, `stride`, `n`, `mean`, `sd`)
- `real(fgsl_double)` function [fgsl_stats_lag1_autocorrelation](#) (`data`, `stride`, `n`)
- `real(fgsl_double)` function [fgsl_stats_lag1_autocorrelation_m](#) (`data`, `stride`, `n`, `mean`)
- `real(fgsl_double)` function [fgsl_stats_covariance](#) (`data1`, `stride1`, `data2`, `stride2`, `n`)
- `real(fgsl_double)` function [fgsl_stats_covariance_m](#) (`data1`, `stride1`, `data2`, `stride2`, `n`, `mean1`, `mean2`)
- `real(fgsl_double)` function [fgsl_stats_correlation](#) (`data1`, `stride1`, `data2`, `stride2`, `n`)
- `real(fgsl_double)` function [fgsl_stats_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

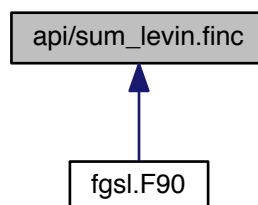
- 41.33.1.1 `real(fgsl_double)` function [fgsl_stats_absdev](#) (`real(fgsl_double)`, `dimension(:)`, `intent(in) data`, `integer(fgsl_size_t)`, `intent(in) stride`, `integer(fgsl_size_t)`, `intent(in) n`)
- 41.33.1.2 `real(fgsl_double)` function [fgsl_stats_absdev_m](#) (`real(fgsl_double)`, `dimension(:)`, `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_variance (real(fgsl_double), dimension(:), intent(in) data, integer(fgsl_size_t), intent(in) stride, integer(fgsl_size_t), intent(in) n)`
- 41.33.1.25 `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)`
- 41.33.1.26 `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)`
- 41.33.1.27 `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)`
- 41.33.1.28 `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)`
- 41.33.1.29 `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)`
- 41.33.1.30 `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)`

- 41.33.1.31 `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)`
- 41.33.1.32 `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)`
- 41.33.1.33 `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)`
- 41.33.1.34 `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)`
- 41.33.1.35 `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)`
- 41.33.1.36 `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)`
- 41.33.1.37 `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)`
- 41.33.1.38 `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)`
- 41.33.1.39 `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_ustrunc_workspace)
function [fgsl_sum_levin_ustrunc_alloc](#) (n)
- integer(fgsl_int) function [fgsl_sum_levin_ustrunc_free](#) (w)
- integer(fgsl_int) function [fgsl_sum_levin_ustrunc_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*)

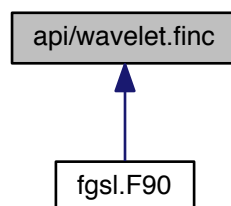
41.34.1.4 integer(fgsl_int) function [fgsl_sum_levin_ustrunc_accel](#) (real(fgsl_double), dimension(array_size), intent(in) *array*, integer(fgsl_size_t), intent(in) *array_size*, type(fgsl_sum_levin_ustrunc_workspace), intent(in) *w*, real(fgsl_double), intent(out) *sum_accel*, real(fgsl_double), intent(out) *abserr*)

41.34.1.5 type(fgsl_sum_levin_ustrunc_workspace) function [fgsl_sum_levin_ustrunc_alloc](#) (integer(fgsl_size_t), intent(in) *n*)

41.34.1.6 integer(fgsl_int) function [fgsl_sum_levin_ustrunc_free](#) (type(fgsl_sum_levin_ustrunc_workspace), intent(inout) *w*)

41.35 api/wavelet.finc File Reference

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



Functions/Subroutines

- type(fgsl_wavelet) function [fgsl_wavelet_alloc](#) (t, k)
- character(kind=fgsl_char, len=fgsl_strmax)
function [fgsl_wavelet_name](#) (wavelet)
- subroutine [fgsl_wavelet_free](#) (w)

- `type(fgsl_wavelet_workspace)`
function `fgsl_wavelet_workspace_alloc` (n)
- subroutine `fgsl_wavelet_workspace_free` (w)
- `integer(fgsl_int)` function `fgsl_wavelet_transform` (w, data, stride, n, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet_transform_forward` (w, data, stride, n, work)
- `integer(fgsl_int)` function `fgsl_wavelet_transform_inverse` (w, data, stride, n, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform` (w, data, tda, size1, size2, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_forward` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_inverse` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix` (w, m, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix_forward` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_transform_matrix_inverse` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform` (w, data, tda, size1, size2, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_forward` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_inverse` (w, data, tda, size1, size2, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix` (w, m, dir, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_forward` (w, m, work)
- `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_inverse` (w, m, work)
- logical function `fgsl_wavelet_status` (wavelet)
- logical function `fgsl_wavelet_workspace_status` (wavelet_workspace)
- `integer(fgsl_size_t)` function `fgsl_sizeof_wavelet` (w)
- `integer(fgsl_size_t)` function `fgsl_sizeof_wavelet_workspace` (w)

41.35.1 Function/Subroutine Documentation

- 41.35.1.1 `integer(fgsl_size_t)` function `fgsl_sizeof_wavelet` (`type(fgsl_wavelet)`, `intent(in) w`)
- 41.35.1.2 `integer(fgsl_size_t)` function `fgsl_sizeof_wavelet_workspace` (`type(fgsl_wavelet_workspace)`, `intent(in) w`)
- 41.35.1.3 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) tda`, `integer(fgsl_size_t)`, `intent(in) size1`, `integer(fgsl_size_t)`, `intent(in) size2`, `integer(fgsl_int)`, `intent(in) dir`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.4 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_forward` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) tda`, `integer(fgsl_size_t)`, `intent(in) size1`, `integer(fgsl_size_t)`, `intent(in) size2`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.5 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_inverse` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) tda`, `integer(fgsl_size_t)`, `intent(in) size1`, `integer(fgsl_size_t)`, `intent(in) size2`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)
- 41.35.1.6 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix` (`type(fgsl_wavelet)`, `intent(in) w`, `type(fgsl_matrix)`, `intent(inout) m`, `integer(fgsl_int)`, `intent(in) dir`, `type(fgsl_wavelet_workspace)`, `work`)
- 41.35.1.7 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_forward` (`type(fgsl_wavelet)`, `intent(in) w`, `type(fgsl_matrix)`, `intent(inout) m`, `type(fgsl_wavelet_workspace)`, `work`)
- 41.35.1.8 `integer(fgsl_int)` function `fgsl_wavelet2d_nstransform_matrix_inverse` (`type(fgsl_wavelet)`, `intent(in) w`, `type(fgsl_matrix)`, `intent(inout) m`, `type(fgsl_wavelet_workspace)`, `work`)
- 41.35.1.9 `integer(fgsl_int)` function `fgsl_wavelet2d_transform` (`type(fgsl_wavelet)`, `intent(in) w`, `real(fgsl_double)`, `dimension(:)`, `intent(inout) data`, `integer(fgsl_size_t)`, `intent(in) tda`, `integer(fgsl_size_t)`, `intent(in) size1`, `integer(fgsl_size_t)`, `intent(in) size2`, `integer(fgsl_int)`, `intent(in) dir`, `type(fgsl_wavelet_workspace)`, `intent(inout) work`)

- 41.35.1.10 integer(fgsl_int) function fgsl_wavelet2d_transform_forward (type(fgsl_wavelet), intent(in) *w*, real(fgsl_double), dimension(:), intent(inout) *data*, integer(fgsl_size_t), intent(in) *tda*, integer(fgsl_size_t), intent(in) *size1*, integer(fgsl_size_t), intent(in) *size2*, type(fgsl_wavelet_workspace), intent(inout) *work*)
- 41.35.1.11 integer(fgsl_int) function fgsl_wavelet2d_transform_inverse (type(fgsl_wavelet), intent(in) *w*, real(fgsl_double), dimension(:), intent(inout) *data*, integer(fgsl_size_t), intent(in) *tda*, integer(fgsl_size_t), intent(in) *size1*, integer(fgsl_size_t), intent(in) *size2*, type(fgsl_wavelet_workspace), intent(inout) *work*)
- 41.35.1.12 integer(fgsl_int) function fgsl_wavelet2d_transform_matrix (type(fgsl_wavelet), intent(in) *w*, type(fgsl_matrix), intent(inout) *m*, integer(fgsl_int), intent(in) *dir*, type(fgsl_wavelet_workspace) *work*)
- 41.35.1.13 integer(fgsl_int) function fgsl_wavelet2d_transform_matrix_forward (type(fgsl_wavelet), intent(in) *w*, type(fgsl_matrix), intent(inout) *m*, type(fgsl_wavelet_workspace) *work*)
- 41.35.1.14 integer(fgsl_int) function fgsl_wavelet2d_transform_matrix_inverse (type(fgsl_wavelet), intent(in) *w*, type(fgsl_matrix), intent(inout) *m*, type(fgsl_wavelet_workspace) *work*)
- 41.35.1.15 type(fgsl_wavelet) function fgsl_wavelet_alloc (type(fgsl_wavelet_type), intent(in) *t*, integer(fgsl_size_t), intent(in) *k*)
- 41.35.1.16 subroutine fgsl_wavelet_free (type(fgsl_wavelet), intent(inout) *w*)
- 41.35.1.17 character(kind=fgsl_char,len=fgsl_strmax) function fgsl_wavelet_name (type(fgsl_wavelet), intent(in) *wavelet*)
- 41.35.1.18 logical function fgsl_wavelet_status (type(fgsl_wavelet), intent(in) *wavelet*)
- 41.35.1.19 integer(fgsl_int) function fgsl_wavelet_transform (type(fgsl_wavelet), intent(in) *w*, real(fgsl_double), dimension(:), intent(inout) *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, integer(fgsl_int), intent(in) *dir*, type(fgsl_wavelet_workspace), intent(inout) *work*)
- 41.35.1.20 integer(fgsl_int) function fgsl_wavelet_transform_forward (type(fgsl_wavelet), intent(in) *w*, real(fgsl_double), dimension(:), intent(inout) *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_wavelet_workspace), intent(inout) *work*)
- 41.35.1.21 integer(fgsl_int) function fgsl_wavelet_transform_inverse (type(fgsl_wavelet), intent(in) *w*, real(fgsl_double), dimension(:), intent(inout) *data*, integer(fgsl_size_t), intent(in) *stride*, integer(fgsl_size_t), intent(in) *n*, type(fgsl_wavelet_workspace), intent(inout) *work*)
- 41.35.1.22 type(fgsl_wavelet_workspace) function fgsl_wavelet_workspace_alloc (integer(fgsl_size_t), intent(in) *n*)
- 41.35.1.23 subroutine fgsl_wavelet_workspace_free (type(fgsl_wavelet_workspace), intent(inout) *w*)
- 41.35.1.24 logical function fgsl_wavelet_workspace_status (type(fgsl_wavelet_workspace), intent(in) *wavelet_workspace*)

41.36 fgsl.F90 File Reference

```
#include "config.h"
#include "interface/error.finc"
#include "interface/misc.finc"
#include "interface/io.finc"
#include "interface/math.finc"
#include "interface/complex.finc"
#include "interface/poly.finc"
#include "interface/specfunc.finc"
#include "interface/array.finc"
#include "interface/interp.finc"
#include "interface/permutation.finc"
#include "interface/sort.finc"
#include "interface/linalg.finc"
#include "interface/eigen.finc"
#include "interface/fft.finc"
#include "interface/integration.finc"
#include "interface/rng.finc"
#include "interface/statistics.finc"
#include "interface/histogram.finc"
#include "interface/ntuple.finc"
#include "interface/montecarlo.finc"
#include "interface/siman.finc"
#include "interface/ode.finc"
#include "interface/deriv.finc"
#include "interface/chebyshev.finc"
#include "interface/sum_levin.finc"
#include "interface/wavelet.finc"
#include "interface/dht.finc"
#include "interface/roots.finc"
#include "interface/min.finc"
#include "interface/multiroots.finc"
#include "interface/multimin.finc"
#include "interface/fit.finc"
#include "interface/multifit.finc"
#include "interface/bspline.finc"
#include "interface/ieee.finc"
#include "interface/generics.finc"
#include "api/error.finc"
#include "api/misc.finc"
#include "api/io.finc"
#include "api/math.finc"
#include "api/complex.finc"
#include "api/poly.finc"
#include "api/specfunc.finc"
#include "api/array.finc"
#include "api/interp.finc"
#include "api/permutation.finc"
#include "api/sort.finc"
#include "api/linalg.finc"
#include "api/eigen.finc"
#include "api/fft.finc"
#include "api/integration.finc"
#include "api/rng.finc"
#include "api/statistics.finc"
#include "api/histogram.finc"
#include "api/ntuple.finc"
#include "api/montecarlo.finc"
#include "api/siman.finc"
#include "api/ode.finc"
#include "api/deriv.finc"
#include "api/chebyshev.finc"
#include "api/sum_levin.finc"
```

Include dependency graph for fgsl.F90:



Data Types

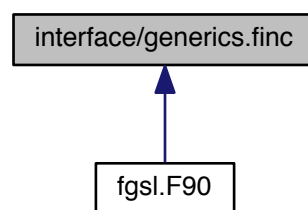
- module `fgsl`
- type `fgsl::fgsl_error_handler_t`
- type `fgsl::fgsl_file`
- type `fgsl::fgsl_function`
- type `fgsl::fgsl_function_fdf`
- type `fgsl::gsl_complex`
- type `fgsl::fgsl_poly_complex_workspace`
- type `fgsl::fgsl_sf_result`
- type `fgsl::gsl_sf_result`
- type `fgsl::fgsl_sf_result_e10`
- type `fgsl::gsl_sf_result_e10`
- type `fgsl::fgsl_mode_t`
- type `fgsl::fgsl_vector`
- type `fgsl::fgsl_matrix`
- type `fgsl::fgsl_vector_complex`
- type `fgsl::fgsl_matrix_complex`
- type `fgsl::fgsl_interp_type`
- type `fgsl::fgsl_interp`
- type `fgsl::fgsl_interp_accel`
- type `fgsl::fgsl_spline`
- type `fgsl::fgsl_permutation`
- type `fgsl::fgsl_combination`
- type `fgsl::fgsl_multiset`
- type `fgsl::fgsl_eigen_symm_workspace`
- type `fgsl::fgsl_eigen_symmv_workspace`
- type `fgsl::fgsl_eigen_herm_workspace`
- type `fgsl::fgsl_eigen_hermv_workspace`
- type `fgsl::fgsl_eigen_nonsymm_workspace`
- type `fgsl::fgsl_eigen_nonsymmv_workspace`
- type `fgsl::fgsl_eigen_gensymm_workspace`
- type `fgsl::fgsl_eigen_gensymmv_workspace`
- type `fgsl::fgsl_eigen_genherm_workspace`
- type `fgsl::fgsl_eigen_genhermv_workspace`
- type `fgsl::fgsl_eigen_gen_workspace`
- type `fgsl::fgsl_eigen_genv_workspace`
- type `fgsl::fgsl_fft_complex_wavetable`
- type `fgsl::fgsl_fft_real_wavetable`
- type `fgsl::fgsl_fft_halfcomplex_wavetable`
- type `fgsl::fgsl_fft_complex_workspace`
- type `fgsl::fgsl_fft_real_workspace`
- type `fgsl::fgsl_integration_workspace`
- type `fgsl::fgsl_integration_qaws_table`
- type `fgsl::fgsl_integration_qawo_table`
- type `fgsl::fgsl_integration_cquad_workspace`
- type `fgsl::fgsl_integration_glfixed_table`
- type `fgsl::fgsl_rng`
- type `fgsl::fgsl_rng_type`
- type `fgsl::fgsl_qrng`

- type [fgsl::fgsl_qrng_type](#)
- type [fgsl::fgsl_ran_discrete_t](#)
- type [fgsl::fgsl_histogram](#)
- type [fgsl::fgsl_histogram_pdf](#)
- type [fgsl::fgsl_histogram2d](#)
- type [fgsl::fgsl_histogram2d_pdf](#)
- type [fgsl::fgsl_ntuple](#)
- type [fgsl::fgsl_ntuple_select_fn](#)
- type [fgsl::fgsl_ntuple_value_fn](#)
- type [fgsl::fgsl_monte_function](#)
- type [fgsl::fgsl_monte_plain_state](#)
- type [fgsl::fgsl_monte_miser_state](#)
- type [fgsl::fgsl_monte_vegas_state](#)
- type [fgsl::fgsl_siman_params_t](#)
- type [fgsl::fgsl_odeiv2_system](#)
- type [fgsl::fgsl_odeiv2_step_type](#)
- type [fgsl::fgsl_odeiv2_step](#)
- type [fgsl::fgsl_odeiv2_driver](#)
- type [fgsl::fgsl_odeiv2_control_type](#)
- type [fgsl::fgsl_odeiv2_control](#)
- type [fgsl::fgsl_odeiv2_evolve](#)
- type [fgsl::fgsl_odeiv_system](#)
- type [fgsl::fgsl_odeiv_step_type](#)
- type [fgsl::fgsl_odeiv_step](#)
- type [fgsl::fgsl_odeiv_control](#)
- type [fgsl::fgsl_odeiv_control_type](#)
- type [fgsl::fgsl_odeiv_evolve](#)
- type [fgsl::fgsl_cheb_series](#)
- type [fgsl::fgsl_sum_levin_u_workspace](#)
- type [fgsl::fgsl_sum_levin_ustrunc_workspace](#)
- type [fgsl::fgsl_wavelet](#)
- type [fgsl::fgsl_wavelet_type](#)
- type [fgsl::fgsl_wavelet_workspace](#)
- type [fgsl::fgsl_dht](#)
- type [fgsl::fgsl_root_fsolver_type](#)
- type [fgsl::fgsl_root_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_fdsolver](#)
- type [fgsl::fgsl_multifit_fdsolver_type](#)
- type [fgsl::fgsl_bspline_workspace](#)
- type [fgsl::fgsl_bspline_deriv_workspace](#)

41.37 interface/generics.finc File Reference

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



Data Types

- 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](#)

Index

- api/array.finc, 161
- api/bspline.finc, 168
- api/chebyshev.finc, 169
- api/complex.finc, 171
- api/deriv.finc, 173
- api/dht.finc, 174
- api/eigen.finc, 175
- api/error.finc, 179
- api/fft.finc, 180
- api/fit.finc, 182
- api/histogram.finc, 184
- api/ieee.finc, 190
- api/integration.finc, 191
- api/interp.finc, 194
- api/io.finc, 197
- api/linalg.finc, 199
- api/math.finc, 205
- api/min.finc, 208
- api/misc.finc, 210
- api/montecarlo.finc, 211
- api/multifit.finc, 214
- api/multimin.finc, 216
- api/multiroots.finc, 218
- api/ntuple.finc, 220
- api/ode.finc, 221
- api/permutation.finc, 227
- api/poly.finc, 232
- api/rng.finc, 234
- api/roots.finc, 247
- api/siman.finc, 249
- api/sort.finc, 250
- api/specfunc.finc, 252
- api/statistics.finc, 281
- api/sum_levin.finc, 284
- api/wavelet.finc, 285
- array.finc
 - fgsl_matrix_align, 163
 - fgsl_matrix_c_ptr, 163
 - fgsl_matrix_complex_align, 163
 - fgsl_matrix_complex_c_ptr, 163
 - fgsl_matrix_complex_free, 163
 - fgsl_matrix_complex_init, 164
 - fgsl_matrix_complex_pointer_align, 164
 - fgsl_matrix_complex_status, 164
 - fgsl_matrix_complex_to_array, 164
 - fgsl_matrix_free, 164
 - fgsl_matrix_init, 164
 - fgsl_matrix_pointer_align, 165
 - fgsl_matrix_status, 165
 - fgsl_matrix_to_array, 165
 - fgsl_sizeof_matrix, 165
 - fgsl_sizeof_matrix_complex, 165
 - fgsl_sizeof_vector, 165
 - fgsl_sizeof_vector_complex, 165
 - fgsl_vector_align, 165
 - fgsl_vector_c_ptr, 166
 - fgsl_vector_complex_align, 166
 - fgsl_vector_complex_c_ptr, 166
 - fgsl_vector_complex_free, 166
 - fgsl_vector_complex_init, 166
 - fgsl_vector_complex_pointer_align, 167
 - fgsl_vector_complex_status, 167
 - fgsl_vector_complex_to_array, 167
 - fgsl_vector_free, 167
 - fgsl_vector_init, 167
 - fgsl_vector_pointer_align, 167
 - fgsl_vector_status, 168
 - fgsl_vector_to_array, 168
- assignment(=), 83
 - complex_to_fgsl_complex, 83
 - fgsl_complex_to_complex, 83
 - fgsl_matrix_complex_to_array, 83
 - fgsl_matrix_to_array, 83
 - fgsl_vector_complex_to_array, 83
 - fgsl_vector_to_array, 83
 - gsl_sf_to_fgsl_sf, 83
 - gsl_sfe10_to_fgsl_sfe10, 83
- bind
 - fgsl, 101
- bspline.finc
 - fgsl_bspline_alloc, 169
 - fgsl_bspline_deriv_alloc, 169
 - fgsl_bspline_deriv_eval, 169
 - fgsl_bspline_deriv_eval_nonzero, 169
 - fgsl_bspline_deriv_free, 169
 - fgsl_bspline_eval, 169
 - fgsl_bspline_eval_nonzero, 169
 - fgsl_bspline_free, 169
 - fgsl_bspline_greville_abscissa, 169
 - fgsl_bspline_knots, 169
 - fgsl_bspline_knots_uniform, 169
 - fgsl_bspline_ncoeffs, 169
- chebyshev.finc
 - fgsl_cheb_alloc, 170
 - fgsl_cheb_calc_deriv, 170
 - fgsl_cheb_calc_integ, 170
 - fgsl_cheb_coeffs, 170

- fgsl_cheb_eval, 170
- fgsl_cheb_eval_err, 170
- fgsl_cheb_eval_n, 170
- fgsl_cheb_eval_n_err, 170
- fgsl_cheb_free, 170
- fgsl_cheb_init, 170
- fgsl_cheb_order, 170
- fgsl_cheb_series_status, 170
- fgsl_cheb_size, 170
- complex.finc
 - complex_to_fgsl_complex, 172
 - fgsl_complex_arccos, 172
 - fgsl_complex_arccos_real, 172
 - fgsl_complex_arccosh, 172
 - fgsl_complex_arccosh_real, 172
 - fgsl_complex_arccot, 172
 - fgsl_complex_arccoth, 172
 - fgsl_complex_arccsc, 172
 - fgsl_complex_arccsc_real, 172
 - fgsl_complex_arccsch, 172
 - fgsl_complex_arcsec, 172
 - fgsl_complex_arcsec_real, 172
 - fgsl_complex_arcsech, 172
 - fgsl_complex_arcsin, 172
 - fgsl_complex_arcsin_real, 172
 - fgsl_complex_arcsinh, 172
 - fgsl_complex_arctan, 172
 - fgsl_complex_arctanh, 172
 - fgsl_complex_arctanh_real, 172
 - fgsl_complex_arg, 172
 - fgsl_complex_log10, 172
 - fgsl_complex_log_b, 172
 - fgsl_complex_logabs, 173
 - fgsl_complex_to_complex, 173
- complex_to_fgsl_complex
 - assignment(=), 83
 - complex.finc, 172
- dat
 - fgsl::gsl_complex, 159
- deriv.finc
 - fgsl_deriv_backward, 173
 - fgsl_deriv_central, 173
 - fgsl_deriv_forward, 173
- dht.finc
 - fgsl_dht_alloc, 174
 - fgsl_dht_apply, 174
 - fgsl_dht_free, 174
 - fgsl_dht_init, 174
 - fgsl_dht_k_sample, 174
 - fgsl_dht_new, 174
 - fgsl_dht_status, 174
 - fgsl_dht_x_sample, 174
- e10
 - fgsl::fgsl_sf_result_e10, 148
 - fgsl::gsl_sf_result_e10, 160
- eigen.finc
 - fgsl_eigen_gen, 176
 - fgsl_eigen_gen_alloc, 176
 - fgsl_eigen_gen_free, 176
 - fgsl_eigen_gen_params, 176
 - fgsl_eigen_gen_qz, 176
 - fgsl_eigen_genherm, 176
 - fgsl_eigen_genherm_alloc, 176
 - fgsl_eigen_genherm_free, 176
 - fgsl_eigen_genhermv, 176
 - fgsl_eigen_genhermv_alloc, 176
 - fgsl_eigen_genhermv_free, 177
 - fgsl_eigen_genhermv_sort, 177
 - fgsl_eigen_gensymm, 177
 - fgsl_eigen_gensymm_alloc, 177
 - fgsl_eigen_gensymm_free, 177
 - fgsl_eigen_gensymmv, 177
 - fgsl_eigen_gensymmv_alloc, 177
 - fgsl_eigen_gensymmv_free, 177
 - fgsl_eigen_gensymmv_sort, 177
 - fgsl_eigen_genv, 177
 - fgsl_eigen_genv_alloc, 177
 - fgsl_eigen_genv_free, 177
 - fgsl_eigen_genv_qz, 177
 - fgsl_eigen_genv_sort, 177
 - fgsl_eigen_herm, 177
 - fgsl_eigen_herm_alloc, 177
 - fgsl_eigen_herm_free, 177
 - fgsl_eigen_hermv, 177
 - fgsl_eigen_hermv_alloc, 177
 - fgsl_eigen_hermv_free, 177
 - fgsl_eigen_hermv_sort, 177
 - fgsl_eigen_nonsymm, 177
 - fgsl_eigen_nonsymm_alloc, 178
 - fgsl_eigen_nonsymm_free, 178
 - fgsl_eigen_nonsymm_params, 178
 - fgsl_eigen_nonsymm_z, 178
 - fgsl_eigen_nonsymmv, 178
 - fgsl_eigen_nonsymmv_alloc, 178
 - fgsl_eigen_nonsymmv_free, 178
 - fgsl_eigen_nonsymmv_params, 178
 - fgsl_eigen_nonsymmv_sort, 178
 - fgsl_eigen_nonsymmv_z, 178
 - fgsl_eigen_symm, 178
 - fgsl_eigen_symm_alloc, 178
 - fgsl_eigen_symm_free, 178
 - fgsl_eigen_symmv, 178
 - fgsl_eigen_symmv_alloc, 178
 - fgsl_eigen_symmv_free, 178
 - fgsl_eigen_symmv_sort, 178
- err
 - fgsl::fgsl_sf_result, 147
 - fgsl::fgsl_sf_result_e10, 148
 - fgsl::gsl_sf_result, 159
 - fgsl::gsl_sf_result_e10, 160
- error.finc
 - fgsl_error, 179
 - fgsl_error_handler_init, 179
 - fgsl_error_handler_status, 179
 - fgsl_set_error_handler, 179

- fgsl_set_error_handler_off, 179
- fgsl_strerror, 179
- fft.finc
 - fgsl_fft_complex_backward, 181
 - fgsl_fft_complex_forward, 181
 - fgsl_fft_complex_inverse, 181
 - fgsl_fft_complex_radix2_backward, 181
 - fgsl_fft_complex_radix2_dif_backward, 181
 - fgsl_fft_complex_radix2_dif_forward, 181
 - fgsl_fft_complex_radix2_dif_inverse, 181
 - fgsl_fft_complex_radix2_dif_transform, 181
 - fgsl_fft_complex_radix2_forward, 181
 - fgsl_fft_complex_radix2_inverse, 181
 - fgsl_fft_complex_radix2_transform, 181
 - fgsl_fft_complex_transform, 181
 - fgsl_fft_complex_wavetable_alloc, 181
 - fgsl_fft_complex_wavetable_free, 181
 - fgsl_fft_complex_workspace_alloc, 181
 - fgsl_fft_complex_workspace_free, 181
 - fgsl_fft_halfcomplex_radix2_backward, 181
 - fgsl_fft_halfcomplex_radix2_inverse, 181
 - fgsl_fft_halfcomplex_transform, 182
 - fgsl_fft_halfcomplex_unpack, 182
 - fgsl_fft_halfcomplex_wavetable_alloc, 182
 - fgsl_fft_halfcomplex_wavetable_free, 182
 - fgsl_fft_real_radix2_transform, 182
 - fgsl_fft_real_transform, 182
 - fgsl_fft_real_unpack, 182
 - fgsl_fft_real_wavetable_alloc, 182
 - fgsl_fft_real_wavetable_free, 182
 - fgsl_fft_real_workspace_alloc, 182
 - fgsl_fft_real_workspace_free, 182
- fgsl, 84
 - bind, 101
 - fgsl_char, 101
 - fgsl_const_cgsm_acre, 101
 - fgsl_const_cgsm_angstrom, 101
 - fgsl_const_cgsm_astronomical_unit, 101
 - fgsl_const_cgsm_bar, 101
 - fgsl_const_cgsm_barn, 101
 - fgsl_const_cgsm_bohr_magneton, 101
 - fgsl_const_cgsm_bohr_radius, 101
 - fgsl_const_cgsm_boltzmann, 101
 - fgsl_const_cgsm_btu, 101
 - fgsl_const_cgsm_calorie, 101
 - fgsl_const_cgsm_canadian_gallon, 101
 - fgsl_const_cgsm_carat, 101
 - fgsl_const_cgsm_cup, 101
 - fgsl_const_cgsm_curie, 101
 - fgsl_const_cgsm_day, 101
 - fgsl_const_cgsm_dyne, 101
 - fgsl_const_cgsm_electron_charge, 101
 - fgsl_const_cgsm_electron_magnetic_moment, 101
 - fgsl_const_cgsm_electron_volt, 101
 - fgsl_const_cgsm_erg, 101
 - fgsl_const_cgsm_faraday, 101
 - fgsl_const_cgsm_fathom, 101
 - fgsl_const_cgsm_fluid_ounce, 101
 - fgsl_const_cgsm_foot, 101
 - fgsl_const_cgsm_footcandle, 101
 - fgsl_const_cgsm_footlambert, 101
 - fgsl_const_cgsm_gauss, 102
 - fgsl_const_cgsm_gram_force, 102
 - fgsl_const_cgsm_grav_accel, 102
 - fgsl_const_cgsm_gravitational_constant, 102
 - fgsl_const_cgsm_hectare, 102
 - fgsl_const_cgsm_horsepower, 102
 - fgsl_const_cgsm_hour, 102
 - fgsl_const_cgsm_inch, 102
 - fgsl_const_cgsm_inch_of_mercury, 102
 - fgsl_const_cgsm_inch_of_water, 102
 - fgsl_const_cgsm_joule, 102
 - fgsl_const_cgsm_kilometers_per_hour, 102
 - fgsl_const_cgsm_kilopound_force, 102
 - fgsl_const_cgsm_knot, 102
 - fgsl_const_cgsm_lambert, 102
 - fgsl_const_cgsm_light_year, 102
 - fgsl_const_cgsm_liter, 102
 - fgsl_const_cgsm_lumen, 102
 - fgsl_const_cgsm_lux, 102
 - fgsl_const_cgsm_mass_electron, 102
 - fgsl_const_cgsm_mass_muon, 102
 - fgsl_const_cgsm_mass_neutron, 102
 - fgsl_const_cgsm_mass_proton, 102
 - fgsl_const_cgsm_meter_of_mercury, 102
 - fgsl_const_cgsm_metric_ton, 102
 - fgsl_const_cgsm_micron, 102
 - fgsl_const_cgsm_mil, 102
 - fgsl_const_cgsm_mile, 102
 - fgsl_const_cgsm_miles_per_hour, 103
 - fgsl_const_cgsm_minute, 103
 - fgsl_const_cgsm_molar_gas, 103
 - fgsl_const_cgsm_nautical_mile, 103
 - fgsl_const_cgsm_newton, 103
 - fgsl_const_cgsm_nuclear_magneton, 103
 - fgsl_const_cgsm_ounce_mass, 103
 - fgsl_const_cgsm_parsec, 103
 - fgsl_const_cgsm_phot, 103
 - fgsl_const_cgsm_pint, 103
 - fgsl_const_cgsm_plancks_constant_h, 103
 - fgsl_const_cgsm_plancks_constant_hbar, 103
 - fgsl_const_cgsm_point, 103
 - fgsl_const_cgsm_poise, 103
 - fgsl_const_cgsm_pound_force, 103
 - fgsl_const_cgsm_pound_mass, 103
 - fgsl_const_cgsm_poundal, 103
 - fgsl_const_cgsm_proton_magnetic_moment, 103
 - fgsl_const_cgsm_psi, 103
 - fgsl_const_cgsm_quart, 103
 - fgsl_const_cgsm_rad, 103
 - fgsl_const_cgsm_roentgen, 103
 - fgsl_const_cgsm_rydberg, 103
 - fgsl_const_cgsm_solar_mass, 103
 - fgsl_const_cgsm_speed_of_light, 103
 - fgsl_const_cgsm_standard_gas_volume, 103
 - fgsl_const_cgsm_std_atmosphere, 103

- fgsl_const_cgsm_stefan_boltzmann_constant, 103
fgsl_const_cgsm_stilb, 104
fgsl_const_cgsm_stokes, 104
fgsl_const_cgsm_tablespoon, 104
fgsl_const_cgsm_tespoon, 104
fgsl_const_cgsm_texpoint, 104
fgsl_const_cgsm_therm, 104
fgsl_const_cgsm_thomson_cross_section, 104
fgsl_const_cgsm_ton, 104
fgsl_const_cgsm_torr, 104
fgsl_const_cgsm_troy_ounce, 104
fgsl_const_cgsm_uk_gallon, 104
fgsl_const_cgsm_uk_ton, 104
fgsl_const_cgsm_unified_atomic_mass, 104
fgsl_const_cgsm_us_gallon, 104
fgsl_const_cgsm_week, 104
fgsl_const_cgsm_yard, 104
fgsl_const_mksa_acre, 104
fgsl_const_mksa_angstrom, 104
fgsl_const_mksa_astronomical_unit, 104
fgsl_const_mksa_bar, 104
fgsl_const_mksa_barn, 104
fgsl_const_mksa_bohr_magneton, 104
fgsl_const_mksa_bohr_radius, 104
fgsl_const_mksa_boltzmann, 104
fgsl_const_mksa_btu, 104
fgsl_const_mksa_calorie, 104
fgsl_const_mksa_canadian_gallon, 104
fgsl_const_mksa_carat, 104
fgsl_const_mksa_cup, 105
fgsl_const_mksa_curie, 105
fgsl_const_mksa_day, 105
fgsl_const_mksa_debye, 105
fgsl_const_mksa_dyne, 105
fgsl_const_mksa_electron_charge, 105
fgsl_const_mksa_electron_magnetic_moment, 105
fgsl_const_mksa_electron_volt, 105
fgsl_const_mksa_erg, 105
fgsl_const_mksa_faraday, 105
fgsl_const_mksa_fathom, 105
fgsl_const_mksa_fluid_ounce, 105
fgsl_const_mksa_foot, 105
fgsl_const_mksa_footcandle, 105
fgsl_const_mksa_footlambert, 105
fgsl_const_mksa_gauss, 105
fgsl_const_mksa_gram_force, 105
fgsl_const_mksa_grav_accel, 105
fgsl_const_mksa_gravitational_constant, 105
fgsl_const_mksa_hectare, 105
fgsl_const_mksa_horsepower, 105
fgsl_const_mksa_hour, 105
fgsl_const_mksa_inch, 105
fgsl_const_mksa_inch_of_mercury, 105
fgsl_const_mksa_inch_of_water, 105
fgsl_const_mksa_joule, 105
fgsl_const_mksa_kilometers_per_hour, 105
fgsl_const_mksa_kilopound_force, 105
fgsl_const_mksa_knot, 106
fgsl_const_mksa_lambert, 106
fgsl_const_mksa_light_year, 106
fgsl_const_mksa_liter, 106
fgsl_const_mksa_lumen, 106
fgsl_const_mksa_lux, 106
fgsl_const_mksa_mass_electron, 106
fgsl_const_mksa_mass_muon, 106
fgsl_const_mksa_mass_neutron, 106
fgsl_const_mksa_mass_proton, 106
fgsl_const_mksa_meter_of_mercury, 106
fgsl_const_mksa_metric_ton, 106
fgsl_const_mksa_micron, 106
fgsl_const_mksa_mil, 106
fgsl_const_mksa_mile, 106
fgsl_const_mksa_miles_per_hour, 106
fgsl_const_mksa_minute, 106
fgsl_const_mksa_molar_gas, 106
fgsl_const_mksa_nautical_mile, 106
fgsl_const_mksa_newton, 106
fgsl_const_mksa_nuclear_magneton, 106
fgsl_const_mksa_ounce_mass, 106
fgsl_const_mksa_parsec, 106
fgsl_const_mksa_phot, 106
fgsl_const_mksa_pint, 106
fgsl_const_mksa_plancks_constant_h, 106
fgsl_const_mksa_plancks_constant_hbar, 106
fgsl_const_mksa_point, 106
fgsl_const_mksa_poise, 107
fgsl_const_mksa_pound_force, 107
fgsl_const_mksa_pound_mass, 107
fgsl_const_mksa_poundal, 107
fgsl_const_mksa_proton_magnetic_moment, 107
fgsl_const_mksa_psi, 107
fgsl_const_mksa_quart, 107
fgsl_const_mksa_rad, 107
fgsl_const_mksa_roentgen, 107
fgsl_const_mksa_rydberg, 107
fgsl_const_mksa_solar_mass, 107
fgsl_const_mksa_speed_of_light, 107
fgsl_const_mksa_standard_gas_volume, 107
fgsl_const_mksa_std_atmosphere, 107
fgsl_const_mksa_stefan_boltzmann_constant, 107
fgsl_const_mksa_stilb, 107
fgsl_const_mksa_stokes, 107
fgsl_const_mksa_tablespoon, 107
fgsl_const_mksa_tespoon, 107
fgsl_const_mksa_texpoint, 107
fgsl_const_mksa_therm, 107
fgsl_const_mksa_thomson_cross_section, 107
fgsl_const_mksa_ton, 107
fgsl_const_mksa_torr, 107
fgsl_const_mksa_troy_ounce, 107
fgsl_const_mksa_uk_gallon, 107
fgsl_const_mksa_uk_ton, 107
fgsl_const_mksa_unified_atomic_mass, 108
fgsl_const_mksa_us_gallon, 108
fgsl_const_mksa_vacuum_permeability, 108
fgsl_const_mksa_vacuum_permittivity, 108

- fgsl_const_mkxa_week, 108
- fgsl_const_mkxa_yard, 108
- fgsl_const_num_atto, 108
- fgsl_const_num_avogadro, 108
- fgsl_const_num_exa, 108
- fgsl_const_num_femto, 108
- fgsl_const_num_fine_structure, 108
- fgsl_const_num_giga, 108
- fgsl_const_num_kilo, 108
- fgsl_const_num_mega, 108
- fgsl_const_num_micro, 108
- fgsl_const_num_milli, 108
- fgsl_const_num_nano, 108
- fgsl_const_num_peta, 108
- fgsl_const_num_pico, 108
- fgsl_const_num_tera, 108
- fgsl_const_num_yocto, 108
- fgsl_const_num_yotta, 108
- fgsl_const_num_zepto, 108
- fgsl_const_num_zetta, 108
- fgsl_continue, 108
- fgsl_double, 108
- fgsl_double_complex, 108
- fgsl_ebadfunc, 108
- fgsl_ebadlen, 109
- fgsl_ebadtol, 109
- fgsl_ecache, 109
- fgsl_ediverge, 109
- fgsl_edom, 109
- fgsl_efactor, 109
- fgsl_efault, 109
- fgsl_eigen_sort_abs_asc, 109
- fgsl_eigen_sort_abs_desc, 109
- fgsl_eigen_sort_val_asc, 109
- fgsl_eigen_sort_val_desc, 109
- fgsl_einval, 109
- fgsl_eloss, 109
- fgsl_emaxiter, 109
- fgsl_enomem, 109
- fgsl_enoprog, 109
- fgsl_enoprogj, 109
- fgsl_enotsqr, 109
- fgsl_eof, 109
- fgsl_eovrflw, 109
- fgsl_erange, 109
- fgsl_eround, 109
- fgsl_erunaway, 109
- fgsl_esanity, 109
- fgsl_esing, 109
- fgsl_etable, 109
- fgsl_etol, 109
- fgsl_etolf, 109
- fgsl_etolg, 110
- fgsl_etolx, 110
- fgsl_eundrflw, 110
- fgsl_eunimpl, 110
- fgsl_eunsup, 110
- fgsl_extended, 110
- fgsl_ezerodiv, 110
- fgsl_failure, 110
- fgsl_float, 110
- fgsl_gslbase, 110
- fgsl_int, 110
- fgsl_integ_cosine, 110
- fgsl_integ_gauss15, 110
- fgsl_integ_gauss21, 110
- fgsl_integ_gauss31, 110
- fgsl_integ_gauss41, 110
- fgsl_integ_gauss51, 110
- fgsl_integ_gauss61, 110
- fgsl_integ_sine, 110
- fgsl_interp_akima, 110
- fgsl_interp_akima_periodic, 110
- fgsl_interp_cspline, 110
- fgsl_interp_cspline_periodic, 110
- fgsl_interp_linear, 110
- fgsl_interp_polynomial, 110
- fgsl_long, 110
- fgsl_min_fminimizer_brent, 110
- fgsl_min_fminimizer_goldensection, 110
- fgsl_min_fminimizer_quad_golden, 111
- fgsl_multifit_fdfsolver_lmder, 111
- fgsl_multifit_fdfsolver_lmsder, 111
- fgsl_multimin_fdfminimizer_conjugate_fr, 111
- fgsl_multimin_fdfminimizer_conjugate_pr, 111
- fgsl_multimin_fdfminimizer_steepest_descent, 111
- fgsl_multimin_fdfminimizer_vector_bfgs, 111
- fgsl_multimin_fdfminimizer_vector_bfgs2, 111
- fgsl_multimin_fminimizer_nmsimplex, 111
- fgsl_multimin_fminimizer_nmsimplex2, 111
- fgsl_multimin_fminimizer_nmsimplex2rand, 111
- fgsl_multiroot_fdfsolver_gnewton, 111
- fgsl_multiroot_fdfsolver_hybridj, 111
- fgsl_multiroot_fdfsolver_hybridsj, 111
- fgsl_multiroot_fdfsolver_newton, 111
- fgsl_multiroot_fsolver_broyden, 111
- fgsl_multiroot_fsolver_dnewton, 111
- fgsl_multiroot_fsolver_hybrid, 111
- fgsl_multiroot_fsolver_hybrids, 111
- fgsl_odeiv2_step_bsimp, 112
- fgsl_odeiv2_step_msadams, 112
- fgsl_odeiv2_step_msbdf, 112
- fgsl_odeiv2_step_rk1imp, 112
- fgsl_odeiv2_step_rk2, 112
- fgsl_odeiv2_step_rk2imp, 112
- fgsl_odeiv2_step_rk4, 112
- fgsl_odeiv2_step_rk4imp, 112
- fgsl_odeiv2_step_rk8pd, 112
- fgsl_odeiv2_step_rkck, 112
- fgsl_odeiv2_step_rkf45, 112
- fgsl_odeiv_hadj_dec, 112
- fgsl_odeiv_hadj_inc, 112
- fgsl_odeiv_hadj_nil, 112
- fgsl_odeiv_step_bsimp, 112
- fgsl_odeiv_step_gear1, 112
- fgsl_odeiv_step_gear2, 112

fgsl_odeiv_step_rk2, 112
fgsl_odeiv_step_rk2imp, 112
fgsl_odeiv_step_rk2simp, 112
fgsl_odeiv_step_rk4, 112
fgsl_odeiv_step_rk4imp, 112
fgsl_odeiv_step_rk8pd, 112
fgsl_odeiv_step_rkck, 112
fgsl_odeiv_step_rkf45, 112
fgsl_pathmax, 112
fgsl_prec_approx, 112
fgsl_prec_double, 113
fgsl_prec_single, 113
fgsl_qrng_haltan, 113
fgsl_qrng_niederreiter_2, 113
fgsl_qrng_reversehaltan, 113
fgsl_qrng_sobol, 113
fgsl_rng_borosh13, 113
fgsl_rng_cmrq, 113
fgsl_rng_coveyou, 113
fgsl_rng_default, 113
fgsl_rng_default_seed, 113
fgsl_rng_fishman18, 113
fgsl_rng_fishman20, 113
fgsl_rng_fishman2x, 113
fgsl_rng_gfsr4, 113
fgsl_rng_knuthran, 113
fgsl_rng_knuthran2, 113
fgsl_rng_knuthran2002, 113
fgsl_rng_lecuyer21, 113
fgsl_rng_minstd, 113
fgsl_rng_mrg, 113
fgsl_rng_mt19937, 113
fgsl_rng_mt19937_1998, 113
fgsl_rng_mt19937_1999, 113
fgsl_rng_r250, 113
fgsl_rng_ran0, 113
fgsl_rng_ran1, 113
fgsl_rng_ran2, 113
fgsl_rng_ran3, 114
fgsl_rng_rand, 114
fgsl_rng_rand48, 114
fgsl_rng_random128_bsd, 114
fgsl_rng_random128_glibc2, 114
fgsl_rng_random128_libc5, 114
fgsl_rng_random256_bsd, 114
fgsl_rng_random256_glibc2, 114
fgsl_rng_random256_libc5, 114
fgsl_rng_random32_bsd, 114
fgsl_rng_random32_glibc2, 114
fgsl_rng_random32_libc5, 114
fgsl_rng_random64_bsd, 114
fgsl_rng_random64_glibc2, 114
fgsl_rng_random64_libc5, 114
fgsl_rng_random8_bsd, 114
fgsl_rng_random8_glibc2, 114
fgsl_rng_random8_libc5, 114
fgsl_rng_random_bsd, 114
fgsl_rng_random_glibc2, 114
fgsl_rng_random_libc5, 114
fgsl_rng_randu, 114
fgsl_rng_ranf, 114
fgsl_rng_ranlux, 114
fgsl_rng_ranlux389, 114
fgsl_rng_ranlxd1, 114
fgsl_rng_ranlxd2, 114
fgsl_rng_ranlxs0, 114
fgsl_rng_ranlxs1, 115
fgsl_rng_ranlxs2, 115
fgsl_rng_ranmar, 115
fgsl_rng_slatec, 115
fgsl_rng_taus, 115
fgsl_rng_taus113, 115
fgsl_rng_taus2, 115
fgsl_rng_transputer, 115
fgsl_rng_tt800, 115
fgsl_rng_uni, 115
fgsl_rng_uni32, 115
fgsl_rng_vax, 115
fgsl_rng_waterman14, 115
fgsl_rng_zuf, 115
fgsl_root_fdfsolver_newton, 115
fgsl_root_fdfsolver_secant, 115
fgsl_root_fdfsolver_steffenson, 115
fgsl_root_fsolver_bisection, 115
fgsl_root_fsolver_brent, 115
fgsl_root_fsolver_falsepos, 115
fgsl_size_t, 115
fgsl_strmax, 115
fgsl_success, 115
fgsl_vegas_mode_importance, 115
fgsl_vegas_mode_importance_only, 115
fgsl_vegas_mode_stratified, 115
fgsl_version, 115
fgsl_wavelet_bspline, 116
fgsl_wavelet_bspline_centered, 116
fgsl_wavelet_daubechies, 116
fgsl_wavelet_daubechies_centered, 116
fgsl_wavelet_haar, 116
fgsl_wavelet_haar_centered, 116
m_1_pi, 116
m_2_pi, 116
m_2_sqrtpi, 116
m_e, 116
m_euler, 116
m_ln10, 116
m_ln2, 116
m_lnp_i, 116
m_log10e, 116
m_log2e, 116
m_pi, 116
m_pi_2, 116
m_pi_4, 116
m_sqrt1_2, 116
m_sqrt2, 116
m_sqrt3, 116
m_sqrtpi, 116

- fgsl.F90, 288
- fgsl::fgsl_bspline_deriv_workspace, 116
 - gsl_bspline_deriv_workspace, 117
- fgsl::fgsl_bspline_workspace, 117
 - gsl_bspline_workspace, 117
- fgsl::fgsl_cheb_series, 117
 - gsl_cheb_series, 117
- fgsl::fgsl_combination, 117
 - gsl_combination, 118
- fgsl::fgsl_dht, 118
 - gsl_dht, 118
- fgsl::fgsl_eigen_gen_workspace, 118
 - gsl_eigen_gen_workspace, 118
- fgsl::fgsl_eigen_genherm_workspace, 118
 - gsl_eigen_genherm_workspace, 118
- fgsl::fgsl_eigen_genhermv_workspace, 119
 - gsl_eigen_genhermv_workspace, 119
- fgsl::fgsl_eigen_gensymm_workspace, 119
 - gsl_eigen_gensymm_workspace, 119
- fgsl::fgsl_eigen_gensymmv_workspace, 119
 - gsl_eigen_gensymmv_workspace, 119
- fgsl::fgsl_eigen_genv_workspace, 119
 - gsl_eigen_genv_workspace, 120
- fgsl::fgsl_eigen_herm_workspace, 120
 - gsl_eigen_herm_workspace, 120
- fgsl::fgsl_eigen_hermv_workspace, 120
 - gsl_eigen_hermv_workspace, 120
- fgsl::fgsl_eigen_nonsymm_workspace, 120
 - gsl_eigen_nonsymm_workspace, 120
- fgsl::fgsl_eigen_nonsymmv_workspace, 121
 - gsl_eigen_nonsymmv_workspace, 121
- fgsl::fgsl_eigen_symm_workspace, 121
 - gsl_eigen_symm_workspace, 121
- fgsl::fgsl_eigen_symmv_workspace, 121
 - gsl_eigen_symmv_workspace, 121
- fgsl::fgsl_error_handler_t, 121
 - gsl_error_handler_t, 122
- fgsl::fgsl_fft_complex_wavetable, 122
 - gsl_fft_complex_wavetable, 122
- fgsl::fgsl_fft_complex_workspace, 122
 - gsl_fft_complex_workspace, 122
- fgsl::fgsl_fft_halfcomplex_wavetable, 122
 - gsl_fft_halfcomplex_wavetable, 122
- fgsl::fgsl_fft_real_wavetable, 123
 - gsl_fft_real_wavetable, 123
- fgsl::fgsl_fft_real_workspace, 123
 - gsl_fft_real_workspace, 123
- fgsl::fgsl_file, 123
 - gsl_file, 123
- fgsl::fgsl_function, 123
 - gsl_function, 124
- fgsl::fgsl_function_fdf, 124
 - gsl_function_fdf, 124
- fgsl::fgsl_histogram, 124
 - gsl_histogram, 124
- fgsl::fgsl_histogram2d, 124
 - gsl_histogram2d, 124
- fgsl::fgsl_histogram2d_pdf, 125
 - gsl_histogram2d_pdf, 125
- fgsl::fgsl_histogram_pdf, 125
 - gsl_histogram_pdf, 125
- fgsl::fgsl_integration_cquad_workspace, 126
 - gsl_integration_cquad_workspace, 126
- fgsl::fgsl_integration_glfixed_table, 126
 - gsl_integration_glfixed_table, 126
- fgsl::fgsl_integration_qawo_table, 126
 - gsl_integration_qawo_table, 127
- fgsl::fgsl_integration_qaws_table, 127
 - gsl_integration_qaws_table, 127
- fgsl::fgsl_integration_workspace, 127
 - gsl_integration_workspace, 127
- fgsl::fgsl_interp, 127
 - gsl_interp, 127
- fgsl::fgsl_interp_accel, 128
 - gsl_interp_accel, 128
- fgsl::fgsl_interp_type, 128
 - which, 128
- fgsl::fgsl_matrix, 128
 - gsl_matrix, 128
- fgsl::fgsl_matrix_complex, 129
 - gsl_matrix_complex, 129
- fgsl::fgsl_min_fminimizer, 130
 - gsl_min_fminimizer, 130
- fgsl::fgsl_min_fminimizer_type, 130
 - which, 130
- fgsl::fgsl_mode_t, 131
 - gsl_mode, 131
- fgsl::fgsl_monte_function, 131
 - gsl_monte_function, 131
- fgsl::fgsl_monte_miser_state, 131
 - gsl_monte_miser_state, 131
- fgsl::fgsl_monte_plain_state, 131
 - gsl_monte_plain_state, 132
- fgsl::fgsl_monte_vegas_state, 132
 - gsl_monte_vegas_state, 132
- fgsl::fgsl_multifit_fdfsolver, 132
 - gsl_multifit_fdfsolver, 132
- fgsl::fgsl_multifit_fdfsolver_type, 132
 - which, 132
- fgsl::fgsl_multifit_fsolver, 133
 - gsl_multifit_fsolver, 133
- fgsl::fgsl_multifit_fsolver_type, 133
 - which, 133
- fgsl::fgsl_multifit_function, 133
 - gsl_multifit_function, 133
- fgsl::fgsl_multifit_function_fdf, 133
 - gsl_multifit_function_fdf, 134
- fgsl::fgsl_multifit_linear_workspace, 134
 - gsl_multifit_linear_workspace, 134
- fgsl::fgsl_multimin_fdfminimizer, 134
 - gsl_multimin_fdfminimizer, 134
- fgsl::fgsl_multimin_fdfminimizer_type, 134
 - which, 134
- fgsl::fgsl_multimin_fminimizer, 135
 - gsl_multimin_fminimizer, 135
- fgsl::fgsl_multimin_fminimizer_type, 135

- which, 135
- fgsl::fgsl_multimin_function, 135
 - gsl_multimin_function, 135
- fgsl::fgsl_multimin_function_fdf, 135
 - gsl_multimin_function_fdf, 136
- fgsl::fgsl_multiroot_fdfsolver, 136
 - gsl_multiroot_fdfsolver, 136
- fgsl::fgsl_multiroot_fdfsolver_type, 136
 - which, 136
- fgsl::fgsl_multiroot_fsolver, 136
 - gsl_multiroot_fsolver, 136
- fgsl::fgsl_multiroot_fsolver_type, 137
 - which, 137
- fgsl::fgsl_multiroot_function, 137
 - gsl_multiroot_function, 137
- fgsl::fgsl_multiroot_function_fdf, 137
 - gsl_multiroot_function_fdf, 137
- fgsl::fgsl_multiset, 137
 - gsl_multiset, 138
- fgsl::fgsl_ntuple, 138
 - gsl_ntuple, 138
- fgsl::fgsl_ntuple_select_fn, 138
 - gsl_ntuple_select_fn, 138
- fgsl::fgsl_ntuple_value_fn, 138
 - gsl_ntuple_value_fn, 138
- fgsl::fgsl_odeiv2_control, 139
 - gsl_odeiv2_control, 139
- fgsl::fgsl_odeiv2_control_type, 139
 - gsl_odeiv2_control_type, 139
- fgsl::fgsl_odeiv2_driver, 140
 - gsl_odeiv2_driver, 140
- fgsl::fgsl_odeiv2_evolve, 140
 - gsl_odeiv2_evolve, 140
- fgsl::fgsl_odeiv2_step, 140
 - gsl_odeiv2_step, 140
- fgsl::fgsl_odeiv2_step_type, 140
 - which, 141
- fgsl::fgsl_odeiv2_system, 141
 - gsl_odeiv2_system, 141
- fgsl::fgsl_odeiv_control, 141
 - gsl_odeiv_control, 141
- fgsl::fgsl_odeiv_control_type, 141
 - gsl_odeiv_control_type, 141
- fgsl::fgsl_odeiv_evolve, 142
 - gsl_odeiv_evolve, 142
- fgsl::fgsl_odeiv_step, 142
 - gsl_odeiv_step, 142
- fgsl::fgsl_odeiv_step_type, 142
 - which, 142
- fgsl::fgsl_odeiv_system, 142
 - gsl_odeiv_system, 143
- fgsl::fgsl_permutation, 143
 - gsl_permutation, 143
- fgsl::fgsl_poly_complex_workspace, 144
 - gsl_poly_complex_workspace, 144
- fgsl::fgsl_qrng, 144
 - gsl_qrng, 144
- fgsl::fgsl_qrng_type, 144
 - type, 145
- fgsl::fgsl_ran_discrete_t, 145
 - gsl_ran_discrete_t, 145
- fgsl::fgsl_rng, 145
 - gsl_rng, 146
- fgsl::fgsl_rng_type, 146
 - gsl_rng_type, 146
 - type, 146
- fgsl::fgsl_root_fdfsolver, 146
 - gsl_root_fdfsolver, 146
- fgsl::fgsl_root_fdfsolver_type, 146
 - which, 146
- fgsl::fgsl_root_fsolver, 147
 - gsl_root_fsolver, 147
- fgsl::fgsl_root_fsolver_type, 147
 - which, 147
- fgsl::fgsl_sf_result, 147
 - err, 147
 - val, 147
- fgsl::fgsl_sf_result_e10, 148
 - e10, 148
 - err, 148
 - val, 148
- fgsl::fgsl_siman_params_t, 148
 - gsl_siman_params_t, 148
- fgsl::fgsl_spline, 152
 - gsl_spline, 152
- fgsl::fgsl_sum_levin_u_workspace, 152
 - gsl_sum_levin_u_workspace, 153
- fgsl::fgsl_sum_levin_ustrunc_workspace, 153
 - gsl_sum_levin_ustrunc_workspace, 153
- fgsl::fgsl_vector, 153
 - gsl_vector, 153
- fgsl::fgsl_vector_complex, 154
 - gsl_vector_complex, 154
- fgsl::fgsl_wavelet, 155
 - gsl_wavelet, 155
- fgsl::fgsl_wavelet_type, 155
 - which, 155
- fgsl::fgsl_wavelet_workspace, 156
 - gsl_wavelet_workspace, 156
- fgsl::gsl_complex, 159
 - dat, 159
- fgsl::gsl_sf_result, 159
 - err, 159
 - val, 159
- fgsl::gsl_sf_result_e10, 160
 - e10, 160
 - err, 160
 - val, 160
- fgsl_acosh
 - math.finc, 206
- fgsl_asinh
 - math.finc, 206
- fgsl_atanh
 - math.finc, 206
- fgsl_bspline_alloc
 - bspline.finc, 169

fgsl_bspline_deriv_alloc
 bspline.finc, 169
 fgsl_bspline_deriv_eval
 bspline.finc, 169
 fgsl_bspline_deriv_eval_nonzero
 bspline.finc, 169
 fgsl_bspline_deriv_free
 bspline.finc, 169
 fgsl_bspline_eval
 bspline.finc, 169
 fgsl_bspline_eval_nonzero
 bspline.finc, 169
 fgsl_bspline_free
 bspline.finc, 169
 fgsl_bspline_greville_abscissa
 bspline.finc, 169
 fgsl_bspline_knots
 bspline.finc, 169
 fgsl_bspline_knots_uniform
 bspline.finc, 169
 fgsl_bspline_ncoeffs
 bspline.finc, 169
 fgsl_cdf_beta_p
 rng.finc, 238
 fgsl_cdf_beta_pinv
 rng.finc, 238
 fgsl_cdf_beta_q
 rng.finc, 238
 fgsl_cdf_beta_qinv
 rng.finc, 238
 fgsl_cdf_binomial_p
 rng.finc, 238
 fgsl_cdf_binomial_q
 rng.finc, 238
 fgsl_cdf_cauchy_p
 rng.finc, 238
 fgsl_cdf_cauchy_pinv
 rng.finc, 238
 fgsl_cdf_cauchy_q
 rng.finc, 238
 fgsl_cdf_cauchy_qinv
 rng.finc, 238
 fgsl_cdf_chisq_p
 rng.finc, 238
 fgsl_cdf_chisq_pinv
 rng.finc, 238
 fgsl_cdf_chisq_q
 rng.finc, 238
 fgsl_cdf_chisq_qinv
 rng.finc, 238
 fgsl_cdf_exponential_p
 rng.finc, 238
 fgsl_cdf_exponential_pinv
 rng.finc, 238
 fgsl_cdf_exponential_q
 rng.finc, 238
 fgsl_cdf_exponential_qinv
 rng.finc, 238
 fgsl_cdf_exppow_p
 rng.finc, 238
 fgsl_cdf_exppow_q
 rng.finc, 238
 fgsl_cdf_fdist_p
 rng.finc, 238
 fgsl_cdf_fdist_pinv
 rng.finc, 239
 fgsl_cdf_fdist_q
 rng.finc, 239
 fgsl_cdf_fdist_qinv
 rng.finc, 239
 fgsl_cdf_flat_p
 rng.finc, 239
 fgsl_cdf_flat_pinv
 rng.finc, 239
 fgsl_cdf_flat_q
 rng.finc, 239
 fgsl_cdf_flat_qinv
 rng.finc, 239
 fgsl_cdf_gamma_p
 rng.finc, 239
 fgsl_cdf_gamma_pinv
 rng.finc, 239
 fgsl_cdf_gamma_q
 rng.finc, 239
 fgsl_cdf_gamma_qinv
 rng.finc, 239
 fgsl_cdf_gaussian_p
 rng.finc, 239
 fgsl_cdf_gaussian_pinv
 rng.finc, 239
 fgsl_cdf_gaussian_q
 rng.finc, 239
 fgsl_cdf_gaussian_qinv
 rng.finc, 239
 fgsl_cdf_geometric_p
 rng.finc, 239
 fgsl_cdf_geometric_q
 rng.finc, 239
 fgsl_cdf_gumbel1_p
 rng.finc, 239
 fgsl_cdf_gumbel1_pinv
 rng.finc, 239
 fgsl_cdf_gumbel1_q
 rng.finc, 239
 fgsl_cdf_gumbel1_qinv
 rng.finc, 239
 fgsl_cdf_gumbel2_p
 rng.finc, 240
 fgsl_cdf_gumbel2_pinv
 rng.finc, 240
 fgsl_cdf_gumbel2_q
 rng.finc, 240
 fgsl_cdf_gumbel2_qinv
 rng.finc, 240
 fgsl_cdf_hypergeometric_p
 rng.finc, 240

fgsl_cdf_hypergeometric_q
rng.finc, [240](#)

fgsl_cdf_laplace_p
rng.finc, [240](#)

fgsl_cdf_laplace_pinv
rng.finc, [240](#)

fgsl_cdf_laplace_q
rng.finc, [240](#)

fgsl_cdf_laplace_qinv
rng.finc, [240](#)

fgsl_cdf_logistic_p
rng.finc, [240](#)

fgsl_cdf_logistic_pinv
rng.finc, [240](#)

fgsl_cdf_logistic_q
rng.finc, [240](#)

fgsl_cdf_logistic_qinv
rng.finc, [240](#)

fgsl_cdf_lognormal_p
rng.finc, [240](#)

fgsl_cdf_lognormal_pinv
rng.finc, [240](#)

fgsl_cdf_lognormal_q
rng.finc, [240](#)

fgsl_cdf_lognormal_qinv
rng.finc, [240](#)

fgsl_cdf_negative_binomial_p
rng.finc, [240](#)

fgsl_cdf_negative_binomial_q
rng.finc, [240](#)

fgsl_cdf_pareto_p
rng.finc, [240](#)

fgsl_cdf_pareto_pinv
rng.finc, [241](#)

fgsl_cdf_pareto_q
rng.finc, [241](#)

fgsl_cdf_pareto_qinv
rng.finc, [241](#)

fgsl_cdf_pascal_p
rng.finc, [241](#)

fgsl_cdf_pascal_q
rng.finc, [241](#)

fgsl_cdf_poisson_p
rng.finc, [241](#)

fgsl_cdf_poisson_q
rng.finc, [241](#)

fgsl_cdf_rayleigh_p
rng.finc, [241](#)

fgsl_cdf_rayleigh_pinv
rng.finc, [241](#)

fgsl_cdf_rayleigh_q
rng.finc, [241](#)

fgsl_cdf_rayleigh_qinv
rng.finc, [241](#)

fgsl_cdf_tdist_p
rng.finc, [241](#)

fgsl_cdf_tdist_pinv
rng.finc, [241](#)

fgsl_cdf_tdist_q
rng.finc, [241](#)

fgsl_cdf_tdist_qinv
rng.finc, [241](#)

fgsl_cdf_ugaussian_p
rng.finc, [241](#)

fgsl_cdf_ugaussian_pinv
rng.finc, [241](#)

fgsl_cdf_ugaussian_q
rng.finc, [241](#)

fgsl_cdf_ugaussian_qinv
rng.finc, [241](#)

fgsl_cdf_weibull_p
rng.finc, [241](#)

fgsl_cdf_weibull_pinv
rng.finc, [241](#)

fgsl_cdf_weibull_q
rng.finc, [241](#)

fgsl_cdf_weibull_qinv
rng.finc, [241](#)

fgsl_char
fgsl, [101](#)

fgsl_cheb_alloc
chebyshev.finc, [170](#)

fgsl_cheb_calc_deriv
chebyshev.finc, [170](#)

fgsl_cheb_calc_integ
chebyshev.finc, [170](#)

fgsl_cheb_coeffs
chebyshev.finc, [170](#)

fgsl_cheb_eval
chebyshev.finc, [170](#)

fgsl_cheb_eval_err
chebyshev.finc, [170](#)

fgsl_cheb_eval_n
chebyshev.finc, [170](#)

fgsl_cheb_eval_n_err
chebyshev.finc, [170](#)

fgsl_cheb_free
chebyshev.finc, [170](#)

fgsl_cheb_init
chebyshev.finc, [170](#)

fgsl_cheb_order
chebyshev.finc, [170](#)

fgsl_cheb_series_status
chebyshev.finc, [170](#)
fgsl_well_defined, [157](#)

fgsl_cheb_size
chebyshev.finc, [170](#)

fgsl_close
io.finc, [197](#)

fgsl_combination_alloc
permutation.finc, [229](#)

fgsl_combination_calloc
permutation.finc, [229](#)

fgsl_combination_data
permutation.finc, [229](#)

fgsl_combination_fprintf

- permutation.finc, [229](#)
- fgsl_combination_fread
 - permutation.finc, [229](#)
- fgsl_combination_free
 - permutation.finc, [229](#)
- fgsl_combination_fscanf
 - permutation.finc, [229](#)
- fgsl_combination_fwrite
 - permutation.finc, [229](#)
- fgsl_combination_get
 - permutation.finc, [229](#)
- fgsl_combination_init_first
 - permutation.finc, [229](#)
- fgsl_combination_init_last
 - permutation.finc, [229](#)
- fgsl_combination_k
 - permutation.finc, [229](#)
- fgsl_combination_memcpy
 - permutation.finc, [229](#)
- fgsl_combination_n
 - permutation.finc, [229](#)
- fgsl_combination_next
 - permutation.finc, [229](#)
- fgsl_combination_prev
 - permutation.finc, [229](#)
- fgsl_combination_status
 - fgsl_well_defined, [157](#)
 - permutation.finc, [229](#)
- fgsl_combination_valid
 - permutation.finc, [229](#)
- fgsl_complex_arccos
 - complex.finc, [172](#)
- fgsl_complex_arccos_real
 - complex.finc, [172](#)
- fgsl_complex_arccosh
 - complex.finc, [172](#)
- fgsl_complex_arccosh_real
 - complex.finc, [172](#)
- fgsl_complex_arccot
 - complex.finc, [172](#)
- fgsl_complex_arccoth
 - complex.finc, [172](#)
- fgsl_complex_arccsc
 - complex.finc, [172](#)
- fgsl_complex_arccsc_real
 - complex.finc, [172](#)
- fgsl_complex_arccsch
 - complex.finc, [172](#)
- fgsl_complex_arcsec
 - complex.finc, [172](#)
- fgsl_complex_arcsec_real
 - complex.finc, [172](#)
- fgsl_complex_arcsech
 - complex.finc, [172](#)
- fgsl_complex_arcsin
 - complex.finc, [172](#)
- fgsl_complex_arcsin_real
 - complex.finc, [172](#)
- fgsl_complex_arcsinh
 - complex.finc, [172](#)
- fgsl_complex_arctan
 - complex.finc, [172](#)
- fgsl_complex_arctanh
 - complex.finc, [172](#)
- fgsl_complex_arctanh_real
 - complex.finc, [172](#)
- fgsl_complex_arg
 - complex.finc, [172](#)
- fgsl_complex_log10
 - complex.finc, [172](#)
- fgsl_complex_log_b
 - complex.finc, [172](#)
- fgsl_complex_logabs
 - complex.finc, [173](#)
- fgsl_complex_poly_complex_eval
 - poly.finc, [232](#)
- fgsl_complex_to_complex
 - assignment(=), [83](#)
 - complex.finc, [173](#)
- fgsl_const_cgsm_acre
 - fgsl, [101](#)
- fgsl_const_cgsm_angstrom
 - fgsl, [101](#)
- fgsl_const_cgsm_astronomical_unit
 - fgsl, [101](#)
- fgsl_const_cgsm_bar
 - fgsl, [101](#)
- fgsl_const_cgsm_barn
 - fgsl, [101](#)
- fgsl_const_cgsm_bohr_magneton
 - fgsl, [101](#)
- fgsl_const_cgsm_bohr_radius
 - fgsl, [101](#)
- fgsl_const_cgsm_boltzmann
 - fgsl, [101](#)
- fgsl_const_cgsm_btu
 - fgsl, [101](#)
- fgsl_const_cgsm_calorie
 - fgsl, [101](#)
- fgsl_const_cgsm_canadian_gallon
 - fgsl, [101](#)
- fgsl_const_cgsm_carat
 - fgsl, [101](#)
- fgsl_const_cgsm_cup
 - fgsl, [101](#)
- fgsl_const_cgsm_curie
 - fgsl, [101](#)
- fgsl_const_cgsm_day
 - fgsl, [101](#)
- fgsl_const_cgsm_dyne
 - fgsl, [101](#)
- fgsl_const_cgsm_electron_charge
 - fgsl, [101](#)
- fgsl_const_cgsm_electron_magnetic_moment
 - fgsl, [101](#)
- fgsl_const_cgsm_electron_volt

- fgsl, [101](#)
- fgsl_const_cgsm_erg
 - fgsl, [101](#)
- fgsl_const_cgsm_faraday
 - fgsl, [101](#)
- fgsl_const_cgsm_fathom
 - fgsl, [101](#)
- fgsl_const_cgsm_fluid_ounce
 - fgsl, [101](#)
- fgsl_const_cgsm_foot
 - fgsl, [101](#)
- fgsl_const_cgsm_footcandle
 - fgsl, [101](#)
- fgsl_const_cgsm_footlambert
 - fgsl, [101](#)
- fgsl_const_cgsm_gauss
 - fgsl, [102](#)
- fgsl_const_cgsm_gram_force
 - fgsl, [102](#)
- fgsl_const_cgsm_grav_accel
 - fgsl, [102](#)
- fgsl_const_cgsm_gravitational_constant
 - fgsl, [102](#)
- fgsl_const_cgsm_hectare
 - fgsl, [102](#)
- fgsl_const_cgsm_horsepower
 - fgsl, [102](#)
- fgsl_const_cgsm_hour
 - fgsl, [102](#)
- fgsl_const_cgsm_inch
 - fgsl, [102](#)
- fgsl_const_cgsm_inch_of_mercury
 - fgsl, [102](#)
- fgsl_const_cgsm_inch_of_water
 - fgsl, [102](#)
- fgsl_const_cgsm_joule
 - fgsl, [102](#)
- fgsl_const_cgsm_kilometers_per_hour
 - fgsl, [102](#)
- fgsl_const_cgsm_kilopound_force
 - fgsl, [102](#)
- fgsl_const_cgsm_knot
 - fgsl, [102](#)
- fgsl_const_cgsm_lambert
 - fgsl, [102](#)
- fgsl_const_cgsm_light_year
 - fgsl, [102](#)
- fgsl_const_cgsm_liter
 - fgsl, [102](#)
- fgsl_const_cgsm_lumen
 - fgsl, [102](#)
- fgsl_const_cgsm_lux
 - fgsl, [102](#)
- fgsl_const_cgsm_mass_electron
 - fgsl, [102](#)
- fgsl_const_cgsm_mass_muon
 - fgsl, [102](#)
- fgsl_const_cgsm_mass_neutron
 - fgsl, [102](#)
- fgsl, [102](#)
- fgsl_const_cgsm_mass_proton
 - fgsl, [102](#)
- fgsl_const_cgsm_meter_of_mercury
 - fgsl, [102](#)
- fgsl_const_cgsm_metric_ton
 - fgsl, [102](#)
- fgsl_const_cgsm_micron
 - fgsl, [102](#)
- fgsl_const_cgsm_mil
 - fgsl, [102](#)
- fgsl_const_cgsm_mile
 - fgsl, [102](#)
- fgsl_const_cgsm_miles_per_hour
 - fgsl, [103](#)
- fgsl_const_cgsm_minute
 - fgsl, [103](#)
- fgsl_const_cgsm_molar_gas
 - fgsl, [103](#)
- fgsl_const_cgsm_nautical_mile
 - fgsl, [103](#)
- fgsl_const_cgsm_newton
 - fgsl, [103](#)
- fgsl_const_cgsm_nuclear_magneton
 - fgsl, [103](#)
- fgsl_const_cgsm_ounce_mass
 - fgsl, [103](#)
- fgsl_const_cgsm_parsec
 - fgsl, [103](#)
- fgsl_const_cgsm_phot
 - fgsl, [103](#)
- fgsl_const_cgsm_pint
 - fgsl, [103](#)
- fgsl_const_cgsm_plancks_constant_h
 - fgsl, [103](#)
- fgsl_const_cgsm_plancks_constant_hbar
 - fgsl, [103](#)
- fgsl_const_cgsm_point
 - fgsl, [103](#)
- fgsl_const_cgsm_poise
 - fgsl, [103](#)
- fgsl_const_cgsm_pound_force
 - fgsl, [103](#)
- fgsl_const_cgsm_pound_mass
 - fgsl, [103](#)
- fgsl_const_cgsm_poundal
 - fgsl, [103](#)
- fgsl_const_cgsm_proton_magnetic_moment
 - fgsl, [103](#)
- fgsl_const_cgsm_psi
 - fgsl, [103](#)
- fgsl_const_cgsm_quart
 - fgsl, [103](#)
- fgsl_const_cgsm_rad
 - fgsl, [103](#)
- fgsl_const_cgsm_roentgen
 - fgsl, [103](#)
- fgsl_const_cgsm_rydberg

- fgsl, [103](#)
- fgsl_const_cgsm_solar_mass
 - fgsl, [103](#)
- fgsl_const_cgsm_speed_of_light
 - fgsl, [103](#)
- fgsl_const_cgsm_standard_gas_volume
 - fgsl, [103](#)
- fgsl_const_cgsm_std_atmosphere
 - fgsl, [103](#)
- fgsl_const_cgsm_stefan_boltzmann_constant
 - fgsl, [103](#)
- fgsl_const_cgsm_stilb
 - fgsl, [104](#)
- fgsl_const_cgsm_stokes
 - fgsl, [104](#)
- fgsl_const_cgsm_tablespoon
 - fgsl, [104](#)
- fgsl_const_cgsm_tespoon
 - fgsl, [104](#)
- fgsl_const_cgsm_texpoint
 - fgsl, [104](#)
- fgsl_const_cgsm_therm
 - fgsl, [104](#)
- fgsl_const_cgsm_thomson_cross_section
 - fgsl, [104](#)
- fgsl_const_cgsm_ton
 - fgsl, [104](#)
- fgsl_const_cgsm_torr
 - fgsl, [104](#)
- fgsl_const_cgsm_troy_ounce
 - fgsl, [104](#)
- fgsl_const_cgsm_uk_gallon
 - fgsl, [104](#)
- fgsl_const_cgsm_uk_ton
 - fgsl, [104](#)
- fgsl_const_cgsm_unified_atomic_mass
 - fgsl, [104](#)
- fgsl_const_cgsm_us_gallon
 - fgsl, [104](#)
- fgsl_const_cgsm_week
 - fgsl, [104](#)
- fgsl_const_cgsm_yard
 - fgsl, [104](#)
- fgsl_const_mkasa_acre
 - fgsl, [104](#)
- fgsl_const_mkasa_angstrom
 - fgsl, [104](#)
- fgsl_const_mkasa_astronomical_unit
 - fgsl, [104](#)
- fgsl_const_mkasa_bar
 - fgsl, [104](#)
- fgsl_const_mkasa_barn
 - fgsl, [104](#)
- fgsl_const_mkasa_bohr_magneton
 - fgsl, [104](#)
- fgsl_const_mkasa_bohr_radius
 - fgsl, [104](#)
- fgsl_const_mkasa_boltzmann
 - fgsl, [104](#)
- fgsl, [104](#)
- fgsl_const_mkasa_btu
 - fgsl, [104](#)
- fgsl_const_mkasa_calorie
 - fgsl, [104](#)
- fgsl_const_mkasa_canadian_gallon
 - fgsl, [104](#)
- fgsl_const_mkasa_carat
 - fgsl, [104](#)
- fgsl_const_mkasa_cup
 - fgsl, [105](#)
- fgsl_const_mkasa_curie
 - fgsl, [105](#)
- fgsl_const_mkasa_day
 - fgsl, [105](#)
- fgsl_const_mkasa_debye
 - fgsl, [105](#)
- fgsl_const_mkasa_dyne
 - fgsl, [105](#)
- fgsl_const_mkasa_electron_charge
 - fgsl, [105](#)
- fgsl_const_mkasa_electron_magnetic_moment
 - fgsl, [105](#)
- fgsl_const_mkasa_electron_volt
 - fgsl, [105](#)
- fgsl_const_mkasa_erg
 - fgsl, [105](#)
- fgsl_const_mkasa_faraday
 - fgsl, [105](#)
- fgsl_const_mkasa_fathom
 - fgsl, [105](#)
- fgsl_const_mkasa_fluid_ounce
 - fgsl, [105](#)
- fgsl_const_mkasa_foot
 - fgsl, [105](#)
- fgsl_const_mkasa_footcandle
 - fgsl, [105](#)
- fgsl_const_mkasa_footlambert
 - fgsl, [105](#)
- fgsl_const_mkasa_gauss
 - fgsl, [105](#)
- fgsl_const_mkasa_gram_force
 - fgsl, [105](#)
- fgsl_const_mkasa_grav_accel
 - fgsl, [105](#)
- fgsl_const_mkasa_gravitational_constant
 - fgsl, [105](#)
- fgsl_const_mkasa_hectare
 - fgsl, [105](#)
- fgsl_const_mkasa_horsepower
 - fgsl, [105](#)
- fgsl_const_mkasa_hour
 - fgsl, [105](#)
- fgsl_const_mkasa_inch
 - fgsl, [105](#)
- fgsl_const_mkasa_inch_of_mercury
 - fgsl, [105](#)
- fgsl_const_mkasa_inch_of_water

fgsl, [105](#)
fgsl_const_mkسا_joule
fgsl, [105](#)
fgsl_const_mkسا_kilometers_per_hour
fgsl, [105](#)
fgsl_const_mkسا_kilopound_force
fgsl, [105](#)
fgsl_const_mkسا_knot
fgsl, [106](#)
fgsl_const_mkسا_lambert
fgsl, [106](#)
fgsl_const_mkسا_light_year
fgsl, [106](#)
fgsl_const_mkسا_liter
fgsl, [106](#)
fgsl_const_mkسا_lumen
fgsl, [106](#)
fgsl_const_mkسا_lux
fgsl, [106](#)
fgsl_const_mkسا_mass_electron
fgsl, [106](#)
fgsl_const_mkسا_mass_muon
fgsl, [106](#)
fgsl_const_mkسا_mass_neutron
fgsl, [106](#)
fgsl_const_mkسا_mass_proton
fgsl, [106](#)
fgsl_const_mkسا_meter_of_mercury
fgsl, [106](#)
fgsl_const_mkسا_metric_ton
fgsl, [106](#)
fgsl_const_mkسا_micron
fgsl, [106](#)
fgsl_const_mkسا_mil
fgsl, [106](#)
fgsl_const_mkسا_mile
fgsl, [106](#)
fgsl_const_mkسا_miles_per_hour
fgsl, [106](#)
fgsl_const_mkسا_minute
fgsl, [106](#)
fgsl_const_mkسا_molar_gas
fgsl, [106](#)
fgsl_const_mkسا_nautical_mile
fgsl, [106](#)
fgsl_const_mkسا_newton
fgsl, [106](#)
fgsl_const_mkسا_nuclear_magneton
fgsl, [106](#)
fgsl_const_mkسا_ounce_mass
fgsl, [106](#)
fgsl_const_mkسا_parsec
fgsl, [106](#)
fgsl_const_mkسا_phot
fgsl, [106](#)
fgsl_const_mkسا_pint
fgsl, [106](#)
fgsl_const_mkسا_plancks_constant_h
fgsl, [106](#)
fgsl_const_mkسا_plancks_constant_hbar
fgsl, [106](#)
fgsl_const_mkسا_point
fgsl, [106](#)
fgsl_const_mkسا_poise
fgsl, [107](#)
fgsl_const_mkسا_pound_force
fgsl, [107](#)
fgsl_const_mkسا_pound_mass
fgsl, [107](#)
fgsl_const_mkسا_poundal
fgsl, [107](#)
fgsl_const_mkسا_proton_magnetic_moment
fgsl, [107](#)
fgsl_const_mkسا_psi
fgsl, [107](#)
fgsl_const_mkسا_quart
fgsl, [107](#)
fgsl_const_mkسا_rad
fgsl, [107](#)
fgsl_const_mkسا_roentgen
fgsl, [107](#)
fgsl_const_mkسا_rydberg
fgsl, [107](#)
fgsl_const_mkسا_solar_mass
fgsl, [107](#)
fgsl_const_mkسا_speed_of_light
fgsl, [107](#)
fgsl_const_mkسا_standard_gas_volume
fgsl, [107](#)
fgsl_const_mkسا_std_atmosphere
fgsl, [107](#)
fgsl_const_mkسا_stefan_boltzmann_constant
fgsl, [107](#)
fgsl_const_mkساstilb
fgsl, [107](#)
fgsl_const_mkسا_stokes
fgsl, [107](#)
fgsl_const_mkسا_tablespoon
fgsl, [107](#)
fgsl_const_mkسا_tespoon
fgsl, [107](#)
fgsl_const_mkسا_texpoint
fgsl, [107](#)
fgsl_const_mkسا_therm
fgsl, [107](#)
fgsl_const_mkسا_thomson_cross_section
fgsl, [107](#)
fgsl_const_mkسا_ton
fgsl, [107](#)
fgsl_const_mkسا_torr
fgsl, [107](#)
fgsl_const_mkسا_troy_ounce
fgsl, [107](#)
fgsl_const_mkسا_uk_gallon
fgsl, [107](#)
fgsl_const_mkسا_uk_ton

fgsl, [107](#)
 fgsl_const_mkasa_unified_atomic_mass
 fgsl, [108](#)
 fgsl_const_mkasa_us_gallon
 fgsl, [108](#)
 fgsl_const_mkasa_vacuum_permeability
 fgsl, [108](#)
 fgsl_const_mkasa_vacuum_permittivity
 fgsl, [108](#)
 fgsl_const_mkasa_week
 fgsl, [108](#)
 fgsl_const_mkasa_yard
 fgsl, [108](#)
 fgsl_const_num_atto
 fgsl, [108](#)
 fgsl_const_num_avogadro
 fgsl, [108](#)
 fgsl_const_num_exa
 fgsl, [108](#)
 fgsl_const_num_femto
 fgsl, [108](#)
 fgsl_const_num_fine_structure
 fgsl, [108](#)
 fgsl_const_num_giga
 fgsl, [108](#)
 fgsl_const_num_kilo
 fgsl, [108](#)
 fgsl_const_num_mega
 fgsl, [108](#)
 fgsl_const_num_micro
 fgsl, [108](#)
 fgsl_const_num_milli
 fgsl, [108](#)
 fgsl_const_num_nano
 fgsl, [108](#)
 fgsl_const_num_peta
 fgsl, [108](#)
 fgsl_const_num_pico
 fgsl, [108](#)
 fgsl_const_num_tera
 fgsl, [108](#)
 fgsl_const_num_yocto
 fgsl, [108](#)
 fgsl_const_num_yotta
 fgsl, [108](#)
 fgsl_const_num_zepto
 fgsl, [108](#)
 fgsl_const_num_zetta
 fgsl, [108](#)
 fgsl_continue
 fgsl, [108](#)
 fgsl_deriv_backward
 deriv.finc, [173](#)
 fgsl_deriv_central
 deriv.finc, [173](#)
 fgsl_deriv_forward
 deriv.finc, [173](#)
 fgsl_dht_alloc
 dht.finc, [174](#)
 fgsl_dht_apply
 dht.finc, [174](#)
 fgsl_dht_free
 dht.finc, [174](#)
 fgsl_dht_init
 dht.finc, [174](#)
 fgsl_dht_k_sample
 dht.finc, [174](#)
 fgsl_dht_new
 dht.finc, [174](#)
 fgsl_dht_status
 dht.finc, [174](#)
 fgsl_well_defined, [157](#)
 fgsl_dht_x_sample
 dht.finc, [174](#)
 fgsl_double
 fgsl, [108](#)
 fgsl_double_complex
 fgsl, [108](#)
 fgsl_ebadfunc
 fgsl, [108](#)
 fgsl_ebadlen
 fgsl, [109](#)
 fgsl_ebadtol
 fgsl, [109](#)
 fgsl_ecache
 fgsl, [109](#)
 fgsl_ediverge
 fgsl, [109](#)
 fgsl_edom
 fgsl, [109](#)
 fgsl_efactor
 fgsl, [109](#)
 fgsl_efault
 fgsl, [109](#)
 fgsl_eigen_gen
 eigen.finc, [176](#)
 fgsl_eigen_gen_alloc
 eigen.finc, [176](#)
 fgsl_eigen_gen_free
 eigen.finc, [176](#)
 fgsl_eigen_gen_params
 eigen.finc, [176](#)
 fgsl_eigen_gen_qz
 eigen.finc, [176](#)
 fgsl_eigen_genherm
 eigen.finc, [176](#)
 fgsl_eigen_genherm_alloc
 eigen.finc, [176](#)
 fgsl_eigen_genherm_free
 eigen.finc, [176](#)
 fgsl_eigen_genhermv
 eigen.finc, [176](#)
 fgsl_eigen_genhermv_alloc
 eigen.finc, [176](#)
 fgsl_eigen_genhermv_free
 eigen.finc, [177](#)

fgsl_eigen_genhermv_sort
 eigen.finc, [177](#)

fgsl_eigen_gensymm
 eigen.finc, [177](#)

fgsl_eigen_gensymm_alloc
 eigen.finc, [177](#)

fgsl_eigen_gensymm_free
 eigen.finc, [177](#)

fgsl_eigen_gensymmv
 eigen.finc, [177](#)

fgsl_eigen_gensymmv_alloc
 eigen.finc, [177](#)

fgsl_eigen_gensymmv_free
 eigen.finc, [177](#)

fgsl_eigen_gensymmv_sort
 eigen.finc, [177](#)

fgsl_eigen_genv
 eigen.finc, [177](#)

fgsl_eigen_genv_alloc
 eigen.finc, [177](#)

fgsl_eigen_genv_free
 eigen.finc, [177](#)

fgsl_eigen_genv_qz
 eigen.finc, [177](#)

fgsl_eigen_genv_sort
 eigen.finc, [177](#)

fgsl_eigen_herm
 eigen.finc, [177](#)

fgsl_eigen_herm_alloc
 eigen.finc, [177](#)

fgsl_eigen_herm_free
 eigen.finc, [177](#)

fgsl_eigen_hermv
 eigen.finc, [177](#)

fgsl_eigen_hermv_alloc
 eigen.finc, [177](#)

fgsl_eigen_hermv_free
 eigen.finc, [177](#)

fgsl_eigen_hermv_sort
 eigen.finc, [177](#)

fgsl_eigen_nonsymm
 eigen.finc, [177](#)

fgsl_eigen_nonsymm_alloc
 eigen.finc, [178](#)

fgsl_eigen_nonsymm_free
 eigen.finc, [178](#)

fgsl_eigen_nonsymm_params
 eigen.finc, [178](#)

fgsl_eigen_nonsymm_z
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv_alloc
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv_free
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv_params
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv_sort
 eigen.finc, [178](#)

fgsl_eigen_nonsymmv_z
 eigen.finc, [178](#)

fgsl_eigen_sort_abs_asc
 fgsl, [109](#)

fgsl_eigen_sort_abs_desc
 fgsl, [109](#)

fgsl_eigen_sort_val_asc
 fgsl, [109](#)

fgsl_eigen_sort_val_desc
 fgsl, [109](#)

fgsl_eigen_symm
 eigen.finc, [178](#)

fgsl_eigen_symm_alloc
 eigen.finc, [178](#)

fgsl_eigen_symm_free
 eigen.finc, [178](#)

fgsl_eigen_symmv
 eigen.finc, [178](#)

fgsl_eigen_symmv_alloc
 eigen.finc, [178](#)

fgsl_eigen_symmv_free
 eigen.finc, [178](#)

fgsl_eigen_symmv_sort
 eigen.finc, [178](#)

fgsl_einval
 fgsl, [109](#)

fgsl_eloss
 fgsl, [109](#)

fgsl_emaxiter
 fgsl, [109](#)

fgsl_enomem
 fgsl, [109](#)

fgsl_enoprog
 fgsl, [109](#)

fgsl_enoproj
 fgsl, [109](#)

fgsl_enotsqr
 fgsl, [109](#)

fgsl_eof
 fgsl, [109](#)

fgsl_eovrflw
 fgsl, [109](#)

fgsl_erange
 fgsl, [109](#)

fgsl_eround
 fgsl, [109](#)

fgsl_error
 error.finc, [179](#)

fgsl_error_handler_init
 error.finc, [179](#)

fgsl_error_handler_status
 error.finc, [179](#)

 fgsl_well_defined, [157](#)

fgsl_erunaway
 fgsl, [109](#)

fgsl_esanity

- fgsl, 109
- fgsl_esing
 - fgsl, 109
- fgsl_etable
 - fgsl, 109
- fgsl_etol
 - fgsl, 109
- fgsl_etolf
 - fgsl, 109
- fgsl_etolg
 - fgsl, 110
- fgsl_etolx
 - fgsl, 110
- fgsl_eundrflw
 - fgsl, 110
- fgsl_eunimpl
 - fgsl, 110
- fgsl_eunsup
 - fgsl, 110
- fgsl_expm1
 - math.finc, 206
- fgsl_extended
 - fgsl, 110
- fgsl_ezerodiv
 - fgsl, 110
- fgsl_failure
 - fgsl, 110
- fgsl_fcmp
 - math.finc, 206
- fgsl_fft_complex_backward
 - fft.finc, 181
- fgsl_fft_complex_forward
 - fft.finc, 181
- fgsl_fft_complex_inverse
 - fft.finc, 181
- fgsl_fft_complex_radix2_backward
 - fft.finc, 181
- fgsl_fft_complex_radix2_dif_backward
 - fft.finc, 181
- fgsl_fft_complex_radix2_dif_forward
 - fft.finc, 181
- fgsl_fft_complex_radix2_dif_inverse
 - fft.finc, 181
- fgsl_fft_complex_radix2_dif_transform
 - fft.finc, 181
- fgsl_fft_complex_radix2_forward
 - fft.finc, 181
- fgsl_fft_complex_radix2_inverse
 - fft.finc, 181
- fgsl_fft_complex_radix2_transform
 - fft.finc, 181
- fgsl_fft_complex_transform
 - fft.finc, 181
- fgsl_fft_complex_wavetable_alloc
 - fft.finc, 181
- fgsl_fft_complex_wavetable_free
 - fft.finc, 181
- fgsl_fft_complex_workspace_alloc
 - fft.finc, 181
- fft.finc, 181
- fgsl_fft_complex_workspace_free
 - fft.finc, 181
- fgsl_fft_halfcomplex_radix2_backward
 - fft.finc, 181
- fgsl_fft_halfcomplex_radix2_inverse
 - fft.finc, 181
- fgsl_fft_halfcomplex_transform
 - fft.finc, 182
- fgsl_fft_halfcomplex_unpack
 - fft.finc, 182
- fgsl_fft_halfcomplex_wavetable_alloc
 - fft.finc, 182
- fgsl_fft_halfcomplex_wavetable_free
 - fft.finc, 182
- fgsl_fft_real_radix2_transform
 - fft.finc, 182
- fgsl_fft_real_transform
 - fft.finc, 182
- fgsl_fft_real_unpack
 - fft.finc, 182
- fgsl_fft_real_wavetable_alloc
 - fft.finc, 182
- fgsl_fft_real_wavetable_free
 - fft.finc, 182
- fgsl_fft_real_workspace_alloc
 - fft.finc, 182
- fgsl_fft_real_workspace_free
 - fft.finc, 182
- fgsl_file_status
 - fgsl_well_defined, 157
 - io.finc, 198
- fgsl_finite
 - math.finc, 206
- fgsl_fit_linear
 - fit.finc, 183
- fgsl_fit_linear_est
 - fit.finc, 183
- fgsl_fit_mul
 - fit.finc, 183
- fgsl_fit_mul_est
 - fit.finc, 183
- fgsl_fit_wlinear
 - fit.finc, 183
- fgsl_fit_wmul
 - fit.finc, 183
- fgsl_float
 - fgsl, 110
- fgsl_flush
 - io.finc, 198
- fgsl_fn_eval
 - math.finc, 206
- fgsl_fn_fdf_eval_df
 - math.finc, 206
- fgsl_fn_fdf_eval_f
 - math.finc, 206
- fgsl_fn_fdf_eval_f_df
 - math.finc, 207

fgsl_frexp
 math.finc, 207

fgsl_function_fdf_free
 math.finc, 207

fgsl_function_fdf_init
 math.finc, 207

fgsl_function_free
 math.finc, 207

fgsl_function_init
 math.finc, 207

fgsl_gslbase
 fgsl, 110

fgsl_heapsort
 sort.finc, 250

fgsl_heapsort_index
 sort.finc, 250

fgsl_histogram2d_accumulate
 histogram.finc, 186

fgsl_histogram2d_add
 histogram.finc, 186

fgsl_histogram2d_alloc
 histogram.finc, 186

fgsl_histogram2d_clone
 histogram.finc, 186

fgsl_histogram2d_cov
 histogram.finc, 186

fgsl_histogram2d_div
 histogram.finc, 186

fgsl_histogram2d_equal_bins_p
 histogram.finc, 186

fgsl_histogram2d_find
 histogram.finc, 186

fgsl_histogram2d_fprintf
 histogram.finc, 186

fgsl_histogram2d_fread
 histogram.finc, 186

fgsl_histogram2d_free
 histogram.finc, 187

fgsl_histogram2d_fscanf
 histogram.finc, 187

fgsl_histogram2d_fwrite
 histogram.finc, 187

fgsl_histogram2d_get
 histogram.finc, 187

fgsl_histogram2d_get_xrange
 histogram.finc, 187

fgsl_histogram2d_get_yrange
 histogram.finc, 187

fgsl_histogram2d_increment
 histogram.finc, 187

fgsl_histogram2d_max_bin
 histogram.finc, 187

fgsl_histogram2d_max_val
 histogram.finc, 187

fgsl_histogram2d_memcpy
 histogram.finc, 187

fgsl_histogram2d_min_bin
 histogram.finc, 187

fgsl_histogram2d_min_val
 histogram.finc, 187

fgsl_histogram2d_mul
 histogram.finc, 187

fgsl_histogram2d_nx
 histogram.finc, 187

fgsl_histogram2d_ny
 histogram.finc, 187

fgsl_histogram2d_pdf_alloc
 histogram.finc, 187

fgsl_histogram2d_pdf_free
 histogram.finc, 187

fgsl_histogram2d_pdf_init
 histogram.finc, 187

fgsl_histogram2d_pdf_sample
 histogram.finc, 187

fgsl_histogram2d_reset
 histogram.finc, 187

fgsl_histogram2d_scale
 histogram.finc, 187

fgsl_histogram2d_set_ranges
 histogram.finc, 188

fgsl_histogram2d_set_ranges_uniform
 histogram.finc, 188

fgsl_histogram2d_shift
 histogram.finc, 188

fgsl_histogram2d_sub
 histogram.finc, 188

fgsl_histogram2d_sum
 histogram.finc, 188

fgsl_histogram2d_xmax
 histogram.finc, 188

fgsl_histogram2d_xmean
 histogram.finc, 188

fgsl_histogram2d_xmin
 histogram.finc, 188

fgsl_histogram2d_xsigma
 histogram.finc, 188

fgsl_histogram2d_ymax
 histogram.finc, 188

fgsl_histogram2d_ymean
 histogram.finc, 188

fgsl_histogram2d_ymin
 histogram.finc, 188

fgsl_histogram2d_ysigma
 histogram.finc, 188

fgsl_histogram_accumulate
 histogram.finc, 188

fgsl_histogram_add
 histogram.finc, 188

fgsl_histogram_alloc
 histogram.finc, 188

fgsl_histogram_bins
 histogram.finc, 188

fgsl_histogram_clone
 histogram.finc, 188

fgsl_histogram_div
 histogram.finc, 188

- fgsl_histogram_equal_bins_p
 - histogram.finc, 188
- fgsl_histogram_find
 - histogram.finc, 188
- fgsl_histogram_fprintf
 - histogram.finc, 188
- fgsl_histogram_fread
 - histogram.finc, 189
- fgsl_histogram_free
 - histogram.finc, 189
- fgsl_histogram_fscanf
 - histogram.finc, 189
- fgsl_histogram_fwrite
 - histogram.finc, 189
- fgsl_histogram_get
 - histogram.finc, 189
- fgsl_histogram_get_range
 - histogram.finc, 189
- fgsl_histogram_increment
 - histogram.finc, 189
- fgsl_histogram_max
 - histogram.finc, 189
- fgsl_histogram_max_bin
 - histogram.finc, 189
- fgsl_histogram_max_val
 - histogram.finc, 189
- fgsl_histogram_mean
 - histogram.finc, 189
- fgsl_histogram_memcpy
 - histogram.finc, 189
- fgsl_histogram_min
 - histogram.finc, 189
- fgsl_histogram_min_bin
 - histogram.finc, 189
- fgsl_histogram_min_val
 - histogram.finc, 189
- fgsl_histogram_mul
 - histogram.finc, 189
- fgsl_histogram_pdf_alloc
 - histogram.finc, 189
- fgsl_histogram_pdf_free
 - histogram.finc, 189
- fgsl_histogram_pdf_init
 - histogram.finc, 189
- fgsl_histogram_pdf_sample
 - histogram.finc, 189
- fgsl_histogram_reset
 - histogram.finc, 189
- fgsl_histogram_scale
 - histogram.finc, 189
- fgsl_histogram_set_ranges
 - histogram.finc, 189
- fgsl_histogram_set_ranges_uniform
 - histogram.finc, 190
- fgsl_histogram_shift
 - histogram.finc, 190
- fgsl_histogram_sigma
 - histogram.finc, 190
- fgsl_histogram_status
 - fgsl_well_defined, 157
 - histogram.finc, 190
- fgsl_histogram_sub
 - histogram.finc, 190
- fgsl_histogram_sum
 - histogram.finc, 190
- fgsl_hypot
 - math.finc, 208
- fgsl_ieee_env_setup
 - ieee.finc, 190
- fgsl_ieee_fprintf, 125
 - fgsl_ieee_fprintf_double, 125
 - fgsl_ieee_fprintf_float, 125
- fgsl_ieee_fprintf_double
 - fgsl_ieee_fprintf, 125
 - ieee.finc, 190
- fgsl_ieee_fprintf_float
 - fgsl_ieee_fprintf, 125
 - ieee.finc, 190
- fgsl_ieee_printf, 125
 - fgsl_ieee_printf_double, 126
 - fgsl_ieee_printf_float, 126
- fgsl_ieee_printf_double
 - fgsl_ieee_printf, 126
 - ieee.finc, 190
- fgsl_ieee_printf_float
 - fgsl_ieee_printf, 126
 - ieee.finc, 190
- fgsl_int
 - fgsl, 110
- fgsl_integ_cosine
 - fgsl, 110
- fgsl_integ_gauss15
 - fgsl, 110
- fgsl_integ_gauss21
 - fgsl, 110
- fgsl_integ_gauss31
 - fgsl, 110
- fgsl_integ_gauss41
 - fgsl, 110
- fgsl_integ_gauss51
 - fgsl, 110
- fgsl_integ_gauss61
 - fgsl, 110
- fgsl_integ_sine
 - fgsl, 110
- fgsl_integration_cquad
 - integration.finc, 192
- fgsl_integration_cquad_workspace_alloc
 - integration.finc, 192
- fgsl_integration_cquad_workspace_free
 - integration.finc, 192
- fgsl_integration_cquad_workspace_status
 - fgsl_well_defined, 157
 - integration.finc, 192
- fgsl_integration_glfixed
 - integration.finc, 192

- fgsl_integration_glfixed_point
 - integration.finc, [192](#)
- fgsl_integration_glfixed_table_alloc
 - integration.finc, [192](#)
- fgsl_integration_glfixed_table_free
 - integration.finc, [192](#)
- fgsl_integration_glfixed_table_status
 - fgsl_well_defined, [157](#)
 - integration.finc, [192](#)
- fgsl_integration_qag
 - integration.finc, [192](#)
- fgsl_integration_qagi
 - integration.finc, [192](#)
- fgsl_integration_qagil
 - integration.finc, [192](#)
- fgsl_integration_qagiu
 - integration.finc, [192](#)
- fgsl_integration_qagp
 - integration.finc, [193](#)
- fgsl_integration_qags
 - integration.finc, [193](#)
- fgsl_integration_qawc
 - integration.finc, [193](#)
- fgsl_integration_qawf
 - integration.finc, [193](#)
- fgsl_integration_qawo
 - integration.finc, [193](#)
- fgsl_integration_qawo_table_alloc
 - integration.finc, [193](#)
- fgsl_integration_qawo_table_free
 - integration.finc, [193](#)
- fgsl_integration_qawo_table_set
 - integration.finc, [193](#)
- fgsl_integration_qawo_table_set_length
 - integration.finc, [193](#)
- fgsl_integration_qawo_table_status
 - fgsl_well_defined, [157](#)
 - integration.finc, [193](#)
- fgsl_integration_qaws
 - integration.finc, [193](#)
- fgsl_integration_qaws_table_alloc
 - integration.finc, [193](#)
- fgsl_integration_qaws_table_free
 - integration.finc, [193](#)
- fgsl_integration_qaws_table_set
 - integration.finc, [193](#)
- fgsl_integration_qaws_table_status
 - fgsl_well_defined, [157](#)
 - integration.finc, [193](#)
- fgsl_integration_qng
 - integration.finc, [194](#)
- fgsl_integration_workspace_alloc
 - integration.finc, [194](#)
- fgsl_integration_workspace_free
 - integration.finc, [194](#)
- fgsl_integration_workspace_status
 - fgsl_well_defined, [157](#)
 - integration.finc, [194](#)
- fgsl_interp_accel_alloc
 - interp.finc, [195](#)
- fgsl_interp_accel_find
 - interp.finc, [195](#)
- fgsl_interp_accel_free
 - interp.finc, [195](#)
- fgsl_interp_accel_status
 - fgsl_well_defined, [157](#)
 - interp.finc, [195](#)
- fgsl_interp_akima
 - fgsl, [110](#)
- fgsl_interp_akima_periodic
 - fgsl, [110](#)
- fgsl_interp_alloc
 - interp.finc, [195](#)
- fgsl_interp_bsearch
 - interp.finc, [195](#)
- fgsl_interp_cspline
 - fgsl, [110](#)
- fgsl_interp_cspline_periodic
 - fgsl, [110](#)
- fgsl_interp_eval
 - interp.finc, [195](#)
- fgsl_interp_eval_deriv
 - interp.finc, [195](#)
- fgsl_interp_eval_deriv2
 - interp.finc, [195](#)
- fgsl_interp_eval_deriv2_e
 - interp.finc, [195](#)
- fgsl_interp_eval_deriv_e
 - interp.finc, [195](#)
- fgsl_interp_eval_e
 - interp.finc, [196](#)
- fgsl_interp_eval_integ
 - interp.finc, [196](#)
- fgsl_interp_eval_integ_e
 - interp.finc, [196](#)
- fgsl_interp_free
 - interp.finc, [196](#)
- fgsl_interp_init
 - interp.finc, [196](#)
- fgsl_interp_linear
 - fgsl, [110](#)
- fgsl_interp_min_size
 - interp.finc, [196](#)
- fgsl_interp_name
 - interp.finc, [196](#)
- fgsl_interp_polynomial
 - fgsl, [110](#)
- fgsl_interp_status
 - fgsl_well_defined, [157](#)
 - interp.finc, [196](#)
- fgsl_interp_type_min_size
 - interp.finc, [196](#)
- fgsl_isinf
 - math.finc, [208](#)
- fgsl_isnan
 - math.finc, [208](#)

- fgsl_ldexp
 - math.finc, [208](#)
- fgsl_linalg_balance_matrix
 - linalg.finc, [201](#)
- fgsl_linalg_bidiag_decomp
 - linalg.finc, [201](#)
- fgsl_linalg_bidiag_unpack
 - linalg.finc, [201](#)
- fgsl_linalg_bidiag_unpack2
 - linalg.finc, [201](#)
- fgsl_linalg_bidiag_unpack_b
 - linalg.finc, [201](#)
- fgsl_linalg_cholesky_decomp
 - linalg.finc, [201](#)
- fgsl_linalg_cholesky_invert
 - linalg.finc, [201](#)
- fgsl_linalg_cholesky_solve
 - linalg.finc, [201](#)
- fgsl_linalg_cholesky_svx
 - linalg.finc, [201](#)
- fgsl_linalg_complex_cholesky_decomp
 - linalg.finc, [201](#)
- fgsl_linalg_complex_cholesky_invert
 - linalg.finc, [201](#)
- fgsl_linalg_complex_cholesky_solve
 - linalg.finc, [201](#)
- fgsl_linalg_complex_cholesky_svx
 - linalg.finc, [201](#)
- fgsl_linalg_complex_householder_hm
 - linalg.finc, [201](#)
- fgsl_linalg_complex_householder_hv
 - linalg.finc, [201](#)
- fgsl_linalg_complex_householder_mh
 - linalg.finc, [201](#)
- fgsl_linalg_complex_householder_transform
 - linalg.finc, [201](#)
- fgsl_linalg_complex_lu_decomp
 - linalg.finc, [201](#)
- fgsl_linalg_complex_lu_det
 - linalg.finc, [201](#)
- fgsl_linalg_complex_lu_invert
 - linalg.finc, [201](#)
- fgsl_linalg_complex_lu_lndet
 - linalg.finc, [202](#)
- fgsl_linalg_complex_lu_refine
 - linalg.finc, [202](#)
- fgsl_linalg_complex_lu_sgndet
 - linalg.finc, [202](#)
- fgsl_linalg_complex_lu_solve
 - linalg.finc, [202](#)
- fgsl_linalg_complex_lu_svx
 - linalg.finc, [202](#)
- fgsl_linalg_hermtdecomp
 - linalg.finc, [202](#)
- fgsl_linalg_hermtdecomp_unpack
 - linalg.finc, [202](#)
- fgsl_linalg_hermtdecomp_unpack_t
 - linalg.finc, [202](#)
- fgsl_linalg_hessenberg_decomp
 - linalg.finc, [202](#)
- fgsl_linalg_hessenberg_set_zero
 - linalg.finc, [202](#)
- fgsl_linalg_hessenberg_unpack
 - linalg.finc, [202](#)
- fgsl_linalg_hessenberg_unpack_accum
 - linalg.finc, [202](#)
- fgsl_linalg_hesstri_decomp
 - linalg.finc, [202](#)
- fgsl_linalg_hh_solve
 - linalg.finc, [202](#)
- fgsl_linalg_hh_svx
 - linalg.finc, [202](#)
- fgsl_linalg_householder_hm
 - linalg.finc, [202](#)
- fgsl_linalg_householder_hv
 - linalg.finc, [202](#)
- fgsl_linalg_householder_mh
 - linalg.finc, [202](#)
- fgsl_linalg_householder_transform
 - linalg.finc, [203](#)
- fgsl_linalg_lu_decomp
 - linalg.finc, [203](#)
- fgsl_linalg_lu_det
 - linalg.finc, [203](#)
- fgsl_linalg_lu_invert
 - linalg.finc, [203](#)
- fgsl_linalg_lu_lndet
 - linalg.finc, [203](#)
- fgsl_linalg_lu_refine
 - linalg.finc, [203](#)
- fgsl_linalg_lu_sgndet
 - linalg.finc, [203](#)
- fgsl_linalg_lu_solve
 - linalg.finc, [203](#)
- fgsl_linalg_lu_svx
 - linalg.finc, [203](#)
- fgsl_linalg_qr_decomp
 - linalg.finc, [203](#)
- fgsl_linalg_qr_issolve
 - linalg.finc, [203](#)
- fgsl_linalg_qr_qrsolve
 - linalg.finc, [203](#)
- fgsl_linalg_qr_qtmat
 - linalg.finc, [203](#)
- fgsl_linalg_qr_qtvec
 - linalg.finc, [203](#)
- fgsl_linalg_qr_qvec
 - linalg.finc, [203](#)
- fgsl_linalg_qr_rsolve
 - linalg.finc, [203](#)
- fgsl_linalg_qr_rsvx
 - linalg.finc, [203](#)
- fgsl_linalg_qr_solve
 - linalg.finc, [203](#)
- fgsl_linalg_qr_svx
 - linalg.finc, [203](#)

fgsl_linalg_qr_unpack
 linalg.finc, 203
 fgsl_linalg_qr_update
 linalg.finc, 204
 fgsl_linalg_qrpt_decomp
 linalg.finc, 204
 fgsl_linalg_qrpt_decomp2
 linalg.finc, 204
 fgsl_linalg_qrpt_qrsolve
 linalg.finc, 204
 fgsl_linalg_qrpt_ksolve
 linalg.finc, 204
 fgsl_linalg_qrpt_rsvx
 linalg.finc, 204
 fgsl_linalg_qrpt_solve
 linalg.finc, 204
 fgsl_linalg_qrpt_svx
 linalg.finc, 204
 fgsl_linalg_qrpt_update
 linalg.finc, 204
 fgsl_linalg_r_solve
 linalg.finc, 204
 fgsl_linalg_r_svx
 linalg.finc, 204
 fgsl_linalg_solve_cyc_tridiag
 linalg.finc, 204
 fgsl_linalg_solve_symm_cyc_tridiag
 linalg.finc, 204
 fgsl_linalg_solve_symm_tridiag
 linalg.finc, 204
 fgsl_linalg_solve_tridiag
 linalg.finc, 204
 fgsl_linalg_sv_decomp
 linalg.finc, 204
 fgsl_linalg_sv_decomp_jacobi
 linalg.finc, 204
 fgsl_linalg_sv_decomp_mod
 linalg.finc, 204
 fgsl_linalg_sv_solve
 linalg.finc, 205
 fgsl_linalg_symmtd_decomp
 linalg.finc, 205
 fgsl_linalg_symmtd_unpack
 linalg.finc, 205
 fgsl_linalg_symmtd_unpack_t
 linalg.finc, 205
 fgsl_log1p
 math.finc, 208
 fgsl_long
 fgsl, 110
 fgsl_matrix_align, 128
 array.finc, 163
 fgsl_matrix_align, 129
 fgsl_matrix_complex_align, 129
 fgsl_matrix_complex_pointer_align, 129
 fgsl_matrix_pointer_align, 129
 fgsl_matrix_c_ptr
 array.finc, 163
 fgsl_obj_c_ptr, 139
 fgsl_matrix_complex_align
 array.finc, 163
 fgsl_matrix_align, 129
 fgsl_matrix_complex_c_ptr
 array.finc, 163
 fgsl_matrix_complex_free
 array.finc, 163
 fgsl_matrix_free, 129
 fgsl_matrix_complex_init
 array.finc, 164
 fgsl_matrix_init, 130
 fgsl_matrix_complex_pointer_align
 array.finc, 164
 fgsl_matrix_align, 129
 fgsl_matrix_complex_status
 array.finc, 164
 fgsl_well_defined, 157
 fgsl_matrix_complex_to_array
 array.finc, 164
 assignment(=), 83
 fgsl_matrix_free, 129
 array.finc, 164
 fgsl_matrix_complex_free, 129
 fgsl_matrix_free, 129
 fgsl_matrix_free, 129
 fgsl_matrix_init, 130
 array.finc, 164
 fgsl_matrix_complex_init, 130
 fgsl_matrix_init, 130
 fgsl_matrix_init, 130
 fgsl_matrix_pointer_align
 array.finc, 165
 fgsl_matrix_align, 129
 fgsl_matrix_status
 array.finc, 165
 fgsl_well_defined, 157
 fgsl_matrix_to_array
 array.finc, 165
 assignment(=), 83
 fgsl_min_fminimizer_alloc
 min.finc, 209
 fgsl_min_fminimizer_brent
 fgsl, 110
 fgsl_min_fminimizer_f_lower
 min.finc, 209
 fgsl_min_fminimizer_f_minimum
 min.finc, 209
 fgsl_min_fminimizer_f_upper
 min.finc, 209
 fgsl_min_fminimizer_free
 min.finc, 209
 fgsl_min_fminimizer_goldensection
 fgsl, 110
 fgsl_min_fminimizer_iterate
 min.finc, 209
 fgsl_min_fminimizer_name

- min.finc, 209
- fgsl_min_fminimizer_quad_golden
 - fgsl, 111
- fgsl_min_fminimizer_set
 - min.finc, 209
- fgsl_min_fminimizer_set_with_values
 - min.finc, 209
- fgsl_min_fminimizer_status
 - fgsl_well_defined, 157
 - min.finc, 209
- fgsl_min_fminimizer_x_lower
 - min.finc, 209
- fgsl_min_fminimizer_x_minimum
 - min.finc, 209
- fgsl_min_fminimizer_x_upper
 - min.finc, 209
- fgsl_min_test_interval
 - min.finc, 209
- fgsl_monte_function_free
 - montecarlo.finc, 212
- fgsl_monte_function_init
 - montecarlo.finc, 212
- fgsl_monte_function_status
 - fgsl_well_defined, 157
 - montecarlo.finc, 212
- fgsl_monte_miser_alloc
 - montecarlo.finc, 212
- fgsl_monte_miser_free
 - montecarlo.finc, 212
- fgsl_monte_miser_getparams
 - montecarlo.finc, 212
- fgsl_monte_miser_init
 - montecarlo.finc, 212
- fgsl_monte_miser_integrate
 - montecarlo.finc, 212
- fgsl_monte_miser_setparams
 - montecarlo.finc, 212
- fgsl_monte_miser_status
 - fgsl_well_defined, 157
 - montecarlo.finc, 212
- fgsl_monte_plain_alloc
 - montecarlo.finc, 213
- fgsl_monte_plain_free
 - montecarlo.finc, 213
- fgsl_monte_plain_init
 - montecarlo.finc, 213
- fgsl_monte_plain_integrate
 - montecarlo.finc, 213
- fgsl_monte_plain_status
 - fgsl_well_defined, 158
 - montecarlo.finc, 213
- fgsl_monte_vegas_alloc
 - montecarlo.finc, 213
- fgsl_monte_vegas_chisq
 - montecarlo.finc, 213
- fgsl_monte_vegas_free
 - montecarlo.finc, 213
- fgsl_monte_vegas_getparams
 - montecarlo.finc, 213
- fgsl_monte_vegas_init
 - montecarlo.finc, 213
- fgsl_monte_vegas_integrate
 - montecarlo.finc, 213
- fgsl_monte_vegas_runval
 - montecarlo.finc, 213
- fgsl_monte_vegas_setparams
 - montecarlo.finc, 213
- fgsl_monte_vegas_status
 - fgsl_well_defined, 158
 - montecarlo.finc, 213
- fgsl_multifit_covar
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_alloc
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_dx
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_f
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_free
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_iterate
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_jac
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_lmdr
 - fgsl, 111
- fgsl_multifit_fdfsolver_lmsdr
 - fgsl, 111
- fgsl_multifit_fdfsolver_name
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_position
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_set
 - multifit.finc, 215
- fgsl_multifit_fdfsolver_status
 - fgsl_well_defined, 158
 - multifit.finc, 215
- fgsl_multifit_fsolver_alloc
 - multifit.finc, 215
- fgsl_multifit_fsolver_free
 - multifit.finc, 215
- fgsl_multifit_fsolver_iterate
 - multifit.finc, 215
- fgsl_multifit_fsolver_name
 - multifit.finc, 215
- fgsl_multifit_fsolver_position
 - multifit.finc, 215
- fgsl_multifit_fsolver_set
 - multifit.finc, 215
- fgsl_multifit_fsolver_status
 - fgsl_well_defined, 158
 - multifit.finc, 215
- fgsl_multifit_function_fdf_free
 - multifit.finc, 215
- fgsl_multifit_function_fdf_init
 - multifit.finc, 215

- fgsl_multifit_function_free
 - multifit.finc, [215](#)
- fgsl_multifit_function_init
 - multifit.finc, [215](#)
- fgsl_multifit_gradient
 - multifit.finc, [215](#)
- fgsl_multifit_linear
 - fit.finc, [183](#)
- fgsl_multifit_linear_alloc
 - fit.finc, [183](#)
- fgsl_multifit_linear_est
 - fit.finc, [183](#)
- fgsl_multifit_linear_free
 - fit.finc, [184](#)
- fgsl_multifit_linear_residuals
 - fit.finc, [184](#)
- fgsl_multifit_linear_svd
 - fit.finc, [184](#)
- fgsl_multifit_linear_usvd
 - fit.finc, [184](#)
- fgsl_multifit_status
 - fgsl_well_defined, [158](#)
 - fit.finc, [184](#)
- fgsl_multifit_test_delta
 - multifit.finc, [216](#)
- fgsl_multifit_test_gradient
 - multifit.finc, [216](#)
- fgsl_multifit_wlinear
 - fit.finc, [184](#)
- fgsl_multifit_wlinear_svd
 - fit.finc, [184](#)
- fgsl_multifit_wlinear_usvd
 - fit.finc, [184](#)
- fgsl_multimin_fdfminimizer_alloc
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_conjugate_fr
 - fgsl, [111](#)
- fgsl_multimin_fdfminimizer_conjugate_pr
 - fgsl, [111](#)
- fgsl_multimin_fdfminimizer_free
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_gradient
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_iterate
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_minimum
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_name
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_restart
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_set
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_status
 - fgsl_well_defined, [158](#)
 - multimin.finc, [217](#)
- fgsl_multimin_fdfminimizer_steepest_descent
 - fgsl, [111](#)
- fgsl_multimin_fdfminimizer_vector_bfgs
 - fgsl, [111](#)
- fgsl_multimin_fdfminimizer_vector_bfgs2
 - fgsl, [111](#)
- fgsl_multimin_fdfminimizer_x
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_alloc
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_free
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_iterate
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_minimum
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_name
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_nmsimplex
 - fgsl, [111](#)
- fgsl_multimin_fminimizer_nmsimplex2
 - fgsl, [111](#)
- fgsl_multimin_fminimizer_nmsimplex2rand
 - fgsl, [111](#)
- fgsl_multimin_fminimizer_set
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_size
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_status
 - fgsl_well_defined, [158](#)
 - multimin.finc, [217](#)
- fgsl_multimin_fminimizer_x
 - multimin.finc, [217](#)
- fgsl_multimin_function_fdf_free
 - multimin.finc, [217](#)
- fgsl_multimin_function_fdf_init
 - multimin.finc, [217](#)
- fgsl_multimin_function_free
 - multimin.finc, [218](#)
- fgsl_multimin_function_init
 - multimin.finc, [218](#)
- fgsl_multimin_test_gradient
 - multimin.finc, [218](#)
- fgsl_multimin_test_size
 - multimin.finc, [218](#)
- fgsl_multiroot_fdfsolver_alloc
 - multiroots.finc, [219](#)
- fgsl_multiroot_fdfsolver_dx
 - multiroots.finc, [219](#)
- fgsl_multiroot_fdfsolver_f
 - multiroots.finc, [219](#)
- fgsl_multiroot_fdfsolver_free
 - multiroots.finc, [219](#)
- fgsl_multiroot_fdfsolver_gnewton
 - fgsl, [111](#)
- fgsl_multiroot_fdfsolver_hybridj
 - fgsl, [111](#)
- fgsl_multiroot_fdfsolver_hybridjsj
 - fgsl, [111](#)
- fgsl_multiroot_fdfsolver_iterate

- multiroots.finc, 219
- fgsl_multiroot_fdsolver_name
 - multiroots.finc, 219
- fgsl_multiroot_fdsolver_newton
 - fgsl, 111
- fgsl_multiroot_fdsolver_root
 - multiroots.finc, 219
- fgsl_multiroot_fdsolver_set
 - multiroots.finc, 219
- fgsl_multiroot_fdsolver_status
 - fgsl_well_defined, 158
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_alloc
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_broyden
 - fgsl, 111
- fgsl_multiroot_fsolver_dnewton
 - fgsl, 111
- fgsl_multiroot_fsolver_dx
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_f
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_free
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_hybrid
 - fgsl, 111
- fgsl_multiroot_fsolver_hybrids
 - fgsl, 111
- fgsl_multiroot_fsolver_iterate
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_name
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_root
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_set
 - multiroots.finc, 219
- fgsl_multiroot_fsolver_status
 - fgsl_well_defined, 158
 - multiroots.finc, 219
- fgsl_multiroot_function_fdf_free
 - multiroots.finc, 219
- fgsl_multiroot_function_fdf_init
 - multiroots.finc, 220
- fgsl_multiroot_function_free
 - multiroots.finc, 220
- fgsl_multiroot_function_init
 - multiroots.finc, 220
- fgsl_multiroot_test_delta
 - multiroots.finc, 220
- fgsl_multiroot_test_residual
 - multiroots.finc, 220
- fgsl_multiset_alloc
 - permutation.finc, 230
- fgsl_multiset_calloc
 - permutation.finc, 230
- fgsl_multiset_data
 - permutation.finc, 230
- fgsl_multiset_fprintf
 - permutation.finc, 230
- fgsl_multiset_fread
 - permutation.finc, 230
- fgsl_multiset_free
 - permutation.finc, 230
- fgsl_multiset_fscanf
 - permutation.finc, 230
- fgsl_multiset_fwrite
 - permutation.finc, 230
- fgsl_multiset_get
 - permutation.finc, 230
- fgsl_multiset_init_first
 - permutation.finc, 230
- fgsl_multiset_init_last
 - permutation.finc, 230
- fgsl_multiset_k
 - permutation.finc, 230
- fgsl_multiset_memcpy
 - permutation.finc, 230
- fgsl_multiset_n
 - permutation.finc, 230
- fgsl_multiset_next
 - permutation.finc, 230
- fgsl_multiset_prev
 - permutation.finc, 230
- fgsl_multiset_status
 - fgsl_well_defined, 158
 - permutation.finc, 230
- fgsl_multiset_valid
 - permutation.finc, 230
- fgsl_name
 - misc.finc, 210
- fgsl_ntuple_bookdata
 - ntuple.finc, 221
- fgsl_ntuple_close
 - ntuple.finc, 221
- fgsl_ntuple_create
 - ntuple.finc, 221
- fgsl_ntuple_data
 - ntuple.finc, 221
- fgsl_ntuple_open
 - ntuple.finc, 221
- fgsl_ntuple_project
 - ntuple.finc, 221
- fgsl_ntuple_read
 - ntuple.finc, 221
- fgsl_ntuple_select_fn_free
 - ntuple.finc, 221
- fgsl_ntuple_select_fn_init
 - ntuple.finc, 221
- fgsl_ntuple_select_fn_status
 - fgsl_well_defined, 158
 - ntuple.finc, 221
- fgsl_ntuple_size
 - ntuple.finc, 221
- fgsl_ntuple_status
 - fgsl_well_defined, 158
 - ntuple.finc, 221

fgsl_ntuple_value_fn_free
 ntuple.finc, 221

fgsl_ntuple_value_fn_init
 ntuple.finc, 221

fgsl_ntuple_value_fn_status
 fgsl_well_defined, 158
 ntuple.finc, 221

fgsl_ntuple_write
 ntuple.finc, 221

fgsl_obj_c_ptr, 139
 fgsl_matrix_c_ptr, 139
 fgsl_rng_c_ptr, 139
 fgsl_vector_c_ptr, 139

fgsl_odeiv2_control_alloc
 ode.finc, 223

fgsl_odeiv2_control_errlevel
 ode.finc, 223

fgsl_odeiv2_control_free
 ode.finc, 223

fgsl_odeiv2_control_hadjust
 ode.finc, 223

fgsl_odeiv2_control_init
 ode.finc, 223

fgsl_odeiv2_control_name
 ode.finc, 223

fgsl_odeiv2_control_scaled_new
 ode.finc, 223

fgsl_odeiv2_control_set_driver
 ode.finc, 223

fgsl_odeiv2_control_standard_new
 ode.finc, 224

fgsl_odeiv2_control_status
 fgsl_well_defined, 158
 ode.finc, 224

fgsl_odeiv2_control_y_new
 ode.finc, 224

fgsl_odeiv2_control_yp_new
 ode.finc, 224

fgsl_odeiv2_driver_alloc_scaled_new
 ode.finc, 224

fgsl_odeiv2_driver_alloc_standard_new
 ode.finc, 224

fgsl_odeiv2_driver_alloc_y_new
 ode.finc, 224

fgsl_odeiv2_driver_alloc_yp_new
 ode.finc, 224

fgsl_odeiv2_driver_apply
 ode.finc, 224

fgsl_odeiv2_driver_apply_fixed_step
 ode.finc, 224

fgsl_odeiv2_driver_free
 ode.finc, 224

fgsl_odeiv2_driver_reset
 ode.finc, 224

fgsl_odeiv2_driver_set_hmax
 ode.finc, 224

fgsl_odeiv2_driver_set_hmin
 ode.finc, 224

fgsl_odeiv2_driver_set_nmax
 ode.finc, 224

fgsl_odeiv2_driver_status
 fgsl_well_defined, 158
 ode.finc, 224

fgsl_odeiv2_evolve_alloc
 ode.finc, 224

fgsl_odeiv2_evolve_apply
 ode.finc, 224

fgsl_odeiv2_evolve_apply_fixed_step
 ode.finc, 225

fgsl_odeiv2_evolve_free
 ode.finc, 225

fgsl_odeiv2_evolve_reset
 ode.finc, 225

fgsl_odeiv2_evolve_set_driver
 ode.finc, 225

fgsl_odeiv2_evolve_status
 fgsl_well_defined, 158
 ode.finc, 225

fgsl_odeiv2_step_alloc
 ode.finc, 225

fgsl_odeiv2_step_apply
 ode.finc, 225

fgsl_odeiv2_step_bsimp
 fgsl, 112

fgsl_odeiv2_step_free
 ode.finc, 225

fgsl_odeiv2_step_msadams
 fgsl, 112

fgsl_odeiv2_step_msbdf
 fgsl, 112

fgsl_odeiv2_step_name
 ode.finc, 225

fgsl_odeiv2_step_order
 ode.finc, 225

fgsl_odeiv2_step_reset
 ode.finc, 225

fgsl_odeiv2_step_rk1imp
 fgsl, 112

fgsl_odeiv2_step_rk2
 fgsl, 112

fgsl_odeiv2_step_rk2imp
 fgsl, 112

fgsl_odeiv2_step_rk4
 fgsl, 112

fgsl_odeiv2_step_rk4imp
 fgsl, 112

fgsl_odeiv2_step_rk8pd
 fgsl, 112

fgsl_odeiv2_step_rkck
 fgsl, 112

fgsl_odeiv2_step_rkf45
 fgsl, 112

fgsl_odeiv2_step_set_driver
 ode.finc, 225

fgsl_odeiv2_step_status
 fgsl_well_defined, 158

- ode.finc, [225](#)
- fgsl_odeiv2_system_free
 - ode.finc, [225](#)
- fgsl_odeiv2_system_init
 - ode.finc, [225](#)
- fgsl_odeiv2_system_status
 - fgsl_well_defined, [158](#)
 - ode.finc, [225](#)
- fgsl_odeiv_control_alloc
 - ode.finc, [226](#)
- fgsl_odeiv_control_free
 - ode.finc, [226](#)
- fgsl_odeiv_control_hadjust
 - ode.finc, [226](#)
- fgsl_odeiv_control_init
 - ode.finc, [226](#)
- fgsl_odeiv_control_name
 - ode.finc, [226](#)
- fgsl_odeiv_control_scaled_new
 - ode.finc, [226](#)
- fgsl_odeiv_control_standard_new
 - ode.finc, [226](#)
- fgsl_odeiv_control_status
 - fgsl_well_defined, [158](#)
 - ode.finc, [226](#)
- fgsl_odeiv_control_y_new
 - ode.finc, [226](#)
- fgsl_odeiv_control_yp_new
 - ode.finc, [226](#)
- fgsl_odeiv_evolve_alloc
 - ode.finc, [226](#)
- fgsl_odeiv_evolve_apply
 - ode.finc, [226](#)
- fgsl_odeiv_evolve_free
 - ode.finc, [226](#)
- fgsl_odeiv_evolve_reset
 - ode.finc, [226](#)
- fgsl_odeiv_evolve_status
 - fgsl_well_defined, [158](#)
 - ode.finc, [226](#)
- fgsl_odeiv_hadj_dec
 - fgsl, [112](#)
- fgsl_odeiv_hadj_inc
 - fgsl, [112](#)
- fgsl_odeiv_hadj_nil
 - fgsl, [112](#)
- fgsl_odeiv_step_alloc
 - ode.finc, [226](#)
- fgsl_odeiv_step_apply
 - ode.finc, [226](#)
- fgsl_odeiv_step_bsimp
 - fgsl, [112](#)
- fgsl_odeiv_step_free
 - ode.finc, [226](#)
- fgsl_odeiv_step_gear1
 - fgsl, [112](#)
- fgsl_odeiv_step_gear2
 - fgsl, [112](#)
- fgsl_odeiv_step_name
 - ode.finc, [226](#)
- fgsl_odeiv_step_order
 - ode.finc, [226](#)
- fgsl_odeiv_step_reset
 - ode.finc, [227](#)
- fgsl_odeiv_step_rk2
 - fgsl, [112](#)
- fgsl_odeiv_step_rk2imp
 - fgsl, [112](#)
- fgsl_odeiv_step_rk2simp
 - fgsl, [112](#)
- fgsl_odeiv_step_rk4
 - fgsl, [112](#)
- fgsl_odeiv_step_rk4imp
 - fgsl, [112](#)
- fgsl_odeiv_step_rk8pd
 - fgsl, [112](#)
- fgsl_odeiv_step_rkck
 - fgsl, [112](#)
- fgsl_odeiv_step_rkf45
 - fgsl, [112](#)
- fgsl_odeiv_step_status
 - fgsl_well_defined, [158](#)
 - ode.finc, [227](#)
- fgsl_odeiv_system_free
 - ode.finc, [227](#)
- fgsl_odeiv_system_init
 - ode.finc, [227](#)
- fgsl_odeiv_system_status
 - fgsl_well_defined, [158](#)
 - ode.finc, [227](#)
- fgsl_open
 - io.finc, [198](#)
- fgsl_pathmax
 - fgsl, [112](#)
- fgsl_permutation_alloc
 - permutation.finc, [230](#)
- fgsl_permutation_calloc
 - permutation.finc, [230](#)
- fgsl_permutation_canonical_cycles
 - permutation.finc, [230](#)
- fgsl_permutation_canonical_to_linear
 - permutation.finc, [230](#)
- fgsl_permutation_data
 - permutation.finc, [230](#)
- fgsl_permutation_fprintf
 - permutation.finc, [230](#)
- fgsl_permutation_fread
 - permutation.finc, [230](#)
- fgsl_permutation_free
 - permutation.finc, [230](#)
- fgsl_permutation_fscanf
 - permutation.finc, [231](#)
- fgsl_permutation_fwrite
 - permutation.finc, [231](#)
- fgsl_permutation_get
 - permutation.finc, [231](#)

fgsl_permutation_init
 permutation.finc, 231

fgsl_permutation_inverse
 permutation.finc, 231

fgsl_permutation_inversions
 permutation.finc, 231

fgsl_permutation_linear_cycles
 permutation.finc, 231

fgsl_permutation_linear_to_canonical
 permutation.finc, 231

fgsl_permutation_memcpy
 permutation.finc, 231

fgsl_permutation_mul
 permutation.finc, 231

fgsl_permutation_next
 permutation.finc, 231

fgsl_permutation_prev
 permutation.finc, 231

fgsl_permutation_reverse
 permutation.finc, 231

fgsl_permutation_size
 permutation.finc, 231

fgsl_permutation_status
 fgsl_well_defined, 158
 permutation.finc, 231

fgsl_permutation_swap
 permutation.finc, 231

fgsl_permutation_valid
 permutation.finc, 231

fgsl_permute, 143
 fgsl_permute, 143
 fgsl_permute_long, 143
 fgsl_permute, 143
 permutation.finc, 231

fgsl_permute_inverse, 143
 fgsl_permute_inverse, 144
 fgsl_permute_long_inverse, 144
 fgsl_permute_inverse, 144
 permutation.finc, 231

fgsl_permute_long
 fgsl_permute, 143
 permutation.finc, 231

fgsl_permute_long_inverse
 fgsl_permute_inverse, 144
 permutation.finc, 231

fgsl_permute_vector
 permutation.finc, 231

fgsl_permute_vector_inverse
 permutation.finc, 232

fgsl_poly_complex_eval
 poly.finc, 233

fgsl_poly_complex_solve
 poly.finc, 233

fgsl_poly_complex_solve_cubic
 poly.finc, 233

fgsl_poly_complex_solve_quadratic
 poly.finc, 233

fgsl_poly_complex_workspace_alloc
 poly.finc, 233

fgsl_poly_complex_workspace_free
 poly.finc, 233

fgsl_poly_complex_workspace_stat
 fgsl_well_defined, 158
 poly.finc, 233

fgsl_poly_dd_eval
 poly.finc, 233

fgsl_poly_dd_init
 poly.finc, 233

fgsl_poly_dd_taylor
 poly.finc, 233

fgsl_poly_eval
 poly.finc, 233

fgsl_poly_eval_derivs
 poly.finc, 233

fgsl_poly_solve_cubic
 poly.finc, 233

fgsl_poly_solve_quadratic
 poly.finc, 233

fgsl_prec_approx
 fgsl, 112

fgsl_prec_double
 fgsl, 113

fgsl_prec_single
 fgsl, 113

fgsl_qrng_alloc
 rng.finc, 242

fgsl_qrng_clone
 rng.finc, 242

fgsl_qrng_free
 rng.finc, 242

fgsl_qrng_get
 rng.finc, 242

fgsl_qrng_halt
 fgsl, 113

fgsl_qrng_init
 rng.finc, 242

fgsl_qrng_memcpy
 rng.finc, 242

fgsl_qrng_name
 rng.finc, 242

fgsl_qrng_niederreiter_2
 fgsl, 113

fgsl_qrng_reversehalt
 fgsl, 113

fgsl_qrng_sobol
 fgsl, 113

fgsl_qrng_status
 fgsl_well_defined, 158
 rng.finc, 242

fgsl_ran_bernoulli
 rng.finc, 242

fgsl_ran_bernoulli_pdf
 rng.finc, 242

fgsl_ran_beta
 rng.finc, 242

fgsl_ran_beta_pdf

- rng.finc, [242](#)
- fgsl_ran_binomial
 - rng.finc, [242](#)
- fgsl_ran_binomial_pdf
 - rng.finc, [242](#)
- fgsl_ran_bivariate_gaussian
 - rng.finc, [242](#)
- fgsl_ran_bivariate_gaussian_pdf
 - rng.finc, [242](#)
- fgsl_ran_cauchy
 - rng.finc, [242](#)
- fgsl_ran_cauchy_pdf
 - rng.finc, [242](#)
- fgsl_ran_chisq
 - rng.finc, [242](#)
- fgsl_ran_chisq_pdf
 - rng.finc, [242](#)
- fgsl_ran_choose
 - rng.finc, [242](#)
- fgsl_ran_dir_2d
 - rng.finc, [242](#)
- fgsl_ran_dir_2d_trig_method
 - rng.finc, [243](#)
- fgsl_ran_dir_3d
 - rng.finc, [243](#)
- fgsl_ran_dir_nd
 - rng.finc, [243](#)
- fgsl_ran_dirichlet
 - rng.finc, [243](#)
- fgsl_ran_dirichlet_lnpdf
 - rng.finc, [243](#)
- fgsl_ran_dirichlet_pdf
 - rng.finc, [243](#)
- fgsl_ran_discrete
 - rng.finc, [243](#)
- fgsl_ran_discrete_free
 - rng.finc, [243](#)
- fgsl_ran_discrete_pdf
 - rng.finc, [243](#)
- fgsl_ran_discrete_preproc
 - rng.finc, [243](#)
- fgsl_ran_discrete_t_status
 - fgsl_well_defined, [158](#)
 - rng.finc, [243](#)
- fgsl_ran_exponential
 - rng.finc, [243](#)
- fgsl_ran_exponential_pdf
 - rng.finc, [243](#)
- fgsl_ran_exppow
 - rng.finc, [243](#)
- fgsl_ran_exppow_pdf
 - rng.finc, [243](#)
- fgsl_ran_fdist
 - rng.finc, [243](#)
- fgsl_ran_fdist_pdf
 - rng.finc, [243](#)
- fgsl_ran_flat
 - rng.finc, [243](#)
- fgsl_ran_flat_pdf
 - rng.finc, [243](#)
- fgsl_ran_gamma
 - rng.finc, [243](#)
- fgsl_ran_gamma_mt
 - rng.finc, [244](#)
- fgsl_ran_gamma_pdf
 - rng.finc, [244](#)
- fgsl_ran_gaussian
 - rng.finc, [244](#)
- fgsl_ran_gaussian_pdf
 - rng.finc, [244](#)
- fgsl_ran_gaussian_ratio_method
 - rng.finc, [244](#)
- fgsl_ran_gaussian_tail
 - rng.finc, [244](#)
- fgsl_ran_gaussian_tail_pdf
 - rng.finc, [244](#)
- fgsl_ran_gaussian_ziggurat
 - rng.finc, [244](#)
- fgsl_ran_geometric
 - rng.finc, [244](#)
- fgsl_ran_geometric_pdf
 - rng.finc, [244](#)
- fgsl_ran_gumbel1
 - rng.finc, [244](#)
- fgsl_ran_gumbel1_pdf
 - rng.finc, [244](#)
- fgsl_ran_gumbel2
 - rng.finc, [244](#)
- fgsl_ran_gumbel2_pdf
 - rng.finc, [244](#)
- fgsl_ran_hypergeometric
 - rng.finc, [244](#)
- fgsl_ran_hypergeometric_pdf
 - rng.finc, [244](#)
- fgsl_ran_landau
 - rng.finc, [244](#)
- fgsl_ran_landau_pdf
 - rng.finc, [244](#)
- fgsl_ran_laplace
 - rng.finc, [244](#)
- fgsl_ran_laplace_pdf
 - rng.finc, [244](#)
- fgsl_ran_levy
 - rng.finc, [244](#)
- fgsl_ran_levy_skew
 - rng.finc, [245](#)
- fgsl_ran_logarithmic
 - rng.finc, [245](#)
- fgsl_ran_logarithmic_pdf
 - rng.finc, [245](#)
- fgsl_ran_logistic
 - rng.finc, [245](#)
- fgsl_ran_logistic_pdf
 - rng.finc, [245](#)
- fgsl_ran_lognormal
 - rng.finc, [245](#)

fgsl_ran_lognormal_pdf
rng.finc, [245](#)

fgsl_ran_multinomial
rng.finc, [245](#)

fgsl_ran_multinomial_lnpdf
rng.finc, [245](#)

fgsl_ran_multinomial_pdf
rng.finc, [245](#)

fgsl_ran_negative_binomial
rng.finc, [245](#)

fgsl_ran_negative_binomial_pdf
rng.finc, [245](#)

fgsl_ran_pareto
rng.finc, [245](#)

fgsl_ran_pareto_pdf
rng.finc, [245](#)

fgsl_ran_pascal
rng.finc, [245](#)

fgsl_ran_pascal_pdf
rng.finc, [245](#)

fgsl_ran_poisson
rng.finc, [245](#)

fgsl_ran_poisson_pdf
rng.finc, [245](#)

fgsl_ran_rayleigh
rng.finc, [245](#)

fgsl_ran_rayleigh_pdf
rng.finc, [245](#)

fgsl_ran_rayleigh_tail
rng.finc, [245](#)

fgsl_ran_rayleigh_tail_pdf
rng.finc, [246](#)

fgsl_ran_sample
rng.finc, [246](#)

fgsl_ran_shuffle, [145](#)
fgsl_ran_shuffle, [145](#)
fgsl_ran_shuffle_double, [145](#)
fgsl_ran_shuffle_size_t, [145](#)
fgsl_ran_shuffle, [145](#)
rng.finc, [246](#)

fgsl_ran_shuffle_double
fgsl_ran_shuffle, [145](#)
rng.finc, [246](#)

fgsl_ran_shuffle_size_t
fgsl_ran_shuffle, [145](#)
rng.finc, [246](#)

fgsl_ran_tdist
rng.finc, [246](#)

fgsl_ran_tdist_pdf
rng.finc, [246](#)

fgsl_ran_ugaussian
rng.finc, [246](#)

fgsl_ran_ugaussian_pdf
rng.finc, [246](#)

fgsl_ran_ugaussian_ratio_method
rng.finc, [246](#)

fgsl_ran_ugaussian_tail
rng.finc, [246](#)

fgsl_ran_ugaussian_tail_pdf
rng.finc, [246](#)

fgsl_ran_weibull
rng.finc, [246](#)

fgsl_ran_weibull_pdf
rng.finc, [246](#)

fgsl_rng_alloc
rng.finc, [246](#)

fgsl_rng_borosh13
fgsl, [113](#)

fgsl_rng_c_ptr
fgsl_obj_c_ptr, [139](#)
rng.finc, [246](#)

fgsl_rng_clone
rng.finc, [246](#)

fgsl_rng_cmrg
fgsl, [113](#)

fgsl_rng_coveyou
fgsl, [113](#)

fgsl_rng_default
fgsl, [113](#)

fgsl_rng_default_seed
fgsl, [113](#)

fgsl_rng_env_setup
rng.finc, [246](#)

fgsl_rng_fishman18
fgsl, [113](#)

fgsl_rng_fishman20
fgsl, [113](#)

fgsl_rng_fishman2x
fgsl, [113](#)

fgsl_rng_fread
rng.finc, [246](#)

fgsl_rng_free
rng.finc, [246](#)

fgsl_rng_fwrite
rng.finc, [246](#)

fgsl_rng_get
rng.finc, [246](#)

fgsl_rng_gfsr4
fgsl, [113](#)

fgsl_rng_knuthran
fgsl, [113](#)

fgsl_rng_knuthran2
fgsl, [113](#)

fgsl_rng_knuthran2002
fgsl, [113](#)

fgsl_rng_lecuyer21
fgsl, [113](#)

fgsl_rng_max
rng.finc, [246](#)

fgsl_rng_memcpy
rng.finc, [246](#)

fgsl_rng_min
rng.finc, [247](#)

fgsl_rng_minstd
fgsl, [113](#)

fgsl_rng_mrg

- fgsl, [113](#)
- fgsl_rng_mt19937
 - fgsl, [113](#)
- fgsl_rng_mt19937_1998
 - fgsl, [113](#)
- fgsl_rng_mt19937_1999
 - fgsl, [113](#)
- fgsl_rng_name
 - rng.finc, [247](#)
- fgsl_rng_r250
 - fgsl, [113](#)
- fgsl_rng_ran0
 - fgsl, [113](#)
- fgsl_rng_ran1
 - fgsl, [113](#)
- fgsl_rng_ran2
 - fgsl, [113](#)
- fgsl_rng_ran3
 - fgsl, [114](#)
- fgsl_rng_rand
 - fgsl, [114](#)
- fgsl_rng_rand48
 - fgsl, [114](#)
- fgsl_rng_random128_bsd
 - fgsl, [114](#)
- fgsl_rng_random128_glibc2
 - fgsl, [114](#)
- fgsl_rng_random128_libc5
 - fgsl, [114](#)
- fgsl_rng_random256_bsd
 - fgsl, [114](#)
- fgsl_rng_random256_glibc2
 - fgsl, [114](#)
- fgsl_rng_random256_libc5
 - fgsl, [114](#)
- fgsl_rng_random32_bsd
 - fgsl, [114](#)
- fgsl_rng_random32_glibc2
 - fgsl, [114](#)
- fgsl_rng_random32_libc5
 - fgsl, [114](#)
- fgsl_rng_random64_bsd
 - fgsl, [114](#)
- fgsl_rng_random64_glibc2
 - fgsl, [114](#)
- fgsl_rng_random64_libc5
 - fgsl, [114](#)
- fgsl_rng_random8_bsd
 - fgsl, [114](#)
- fgsl_rng_random8_glibc2
 - fgsl, [114](#)
- fgsl_rng_random8_libc5
 - fgsl, [114](#)
- fgsl_rng_random_bsd
 - fgsl, [114](#)
- fgsl_rng_random_glibc2
 - fgsl, [114](#)
- fgsl_rng_random_libc5
 - fgsl, [114](#)
- fgsl, [114](#)
 - fgsl_rng_randu
 - fgsl, [114](#)
 - fgsl_rng_ranf
 - fgsl, [114](#)
 - fgsl_rng_ranlux
 - fgsl, [114](#)
 - fgsl_rng_ranlux389
 - fgsl, [114](#)
 - fgsl_rng_ranlxd1
 - fgsl, [114](#)
 - fgsl_rng_ranlxd2
 - fgsl, [114](#)
 - fgsl_rng_ranlxs0
 - fgsl, [114](#)
 - fgsl_rng_ranlxs1
 - fgsl, [115](#)
 - fgsl_rng_ranlxs2
 - fgsl, [115](#)
 - fgsl_rng_ranmar
 - fgsl, [115](#)
 - fgsl_rng_set
 - rng.finc, [247](#)
 - fgsl_rng_slatec
 - fgsl, [115](#)
 - fgsl_rng_status
 - fgsl_well_defined, [158](#)
 - rng.finc, [247](#)
 - fgsl_rng_taus
 - fgsl, [115](#)
 - fgsl_rng_taus113
 - fgsl, [115](#)
 - fgsl_rng_taus2
 - fgsl, [115](#)
 - fgsl_rng_transputer
 - fgsl, [115](#)
 - fgsl_rng_tt800
 - fgsl, [115](#)
 - fgsl_rng_uni
 - fgsl, [115](#)
 - fgsl_rng_uni32
 - fgsl, [115](#)
 - fgsl_rng_uniform
 - rng.finc, [247](#)
 - fgsl_rng_uniform_int
 - rng.finc, [247](#)
 - fgsl_rng_uniform_pos
 - rng.finc, [247](#)
 - fgsl_rng_vax
 - fgsl, [115](#)
 - fgsl_rng_waterman14
 - fgsl, [115](#)
 - fgsl_rng_zuf
 - fgsl, [115](#)
 - fgsl_root_fdfsolver_alloc
 - roots.finc, [248](#)
 - fgsl_root_fdfsolver_free
 - roots.finc, [248](#)

fgsl_root_fdfsolver_iterate
 roots.finc, [248](#)

fgsl_root_fdfsolver_name
 roots.finc, [248](#)

fgsl_root_fdfsolver_newton
 fgsl, [115](#)

fgsl_root_fdfsolver_root
 roots.finc, [248](#)

fgsl_root_fdfsolver_secant
 fgsl, [115](#)

fgsl_root_fdfsolver_set
 roots.finc, [248](#)

fgsl_root_fdfsolver_status
 fgsl_well_defined, [158](#)
 roots.finc, [248](#)

fgsl_root_fdfsolver_steffenson
 fgsl, [115](#)

fgsl_root_fsolver_alloc
 roots.finc, [248](#)

fgsl_root_fsolver_bisection
 fgsl, [115](#)

fgsl_root_fsolver_brent
 fgsl, [115](#)

fgsl_root_fsolver_falsepos
 fgsl, [115](#)

fgsl_root_fsolver_free
 roots.finc, [248](#)

fgsl_root_fsolver_iterate
 roots.finc, [248](#)

fgsl_root_fsolver_name
 roots.finc, [248](#)

fgsl_root_fsolver_root
 roots.finc, [248](#)

fgsl_root_fsolver_set
 roots.finc, [248](#)

fgsl_root_fsolver_status
 fgsl_well_defined, [159](#)
 roots.finc, [248](#)

fgsl_root_fsolver_x_lower
 roots.finc, [248](#)

fgsl_root_fsolver_x_upper
 roots.finc, [248](#)

fgsl_root_test_delta
 roots.finc, [248](#)

fgsl_root_test_interval
 roots.finc, [248](#)

fgsl_root_test_residual
 roots.finc, [248](#)

fgsl_set_error_handler
 error.finc, [179](#)

fgsl_set_error_handler_off
 error.finc, [179](#)

fgsl_sf_airy_ai
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_deriv
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_deriv_e
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_deriv_scaled
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_deriv_scaled_e
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_e
 specfunc.finc, [260](#)

fgsl_sf_airy_ai_scaled
 specfunc.finc, [261](#)

fgsl_sf_airy_ai_scaled_e
 specfunc.finc, [261](#)

fgsl_sf_airy_bi
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_deriv
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_deriv_e
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_deriv_scaled
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_deriv_scaled_e
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_e
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_scaled
 specfunc.finc, [261](#)

fgsl_sf_airy_bi_scaled_e
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_ai
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_ai_deriv
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_ai_deriv_e
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_ai_e
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_bi
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_bi_deriv
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_bi_deriv_e
 specfunc.finc, [261](#)

fgsl_sf_airy_zero_bi_e
 specfunc.finc, [261](#)

fgsl_sf_angle_restrict_pos
 specfunc.finc, [261](#)

fgsl_sf_angle_restrict_pos_e
 specfunc.finc, [261](#)

fgsl_sf_angle_restrict_symm
 specfunc.finc, [261](#)

fgsl_sf_angle_restrict_symm_e
 specfunc.finc, [261](#)

fgsl_sf_atanint
 specfunc.finc, [261](#)

fgsl_sf_atanint_e
 specfunc.finc, [261](#)

fgsl_sf_bessel_ic0
 specfunc.finc, [262](#)

fgsl_sf_bessel_ic0_e
 specfunc.finc, [262](#)

fgsl_sf_bessel_ic0_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_ic0_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_ic1
 specfunc.finc, [262](#)
 fgsl_sf_bessel_ic1_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_ic1_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_ic1_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn_array
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn_scaled_array
 specfunc.finc, [262](#)
 fgsl_sf_bessel_icn_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_inu
 specfunc.finc, [262](#)
 fgsl_sf_bessel_inu_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_inu_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_inu_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is0_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is0_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is1_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is1_scaled_e
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is2_scaled
 specfunc.finc, [262](#)
 fgsl_sf_bessel_is2_scaled_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_isl_scaled
 specfunc.finc, [263](#)
 fgsl_sf_bessel_isl_scaled_array
 specfunc.finc, [263](#)
 fgsl_sf_bessel_isl_scaled_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jc0
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jc0_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jc1
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jc1_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jcn
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jcn_array
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jcn_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jnu
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jnu_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js0
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js0_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js1
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js1_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js2
 specfunc.finc, [263](#)
 fgsl_sf_bessel_js2_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jsl
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jsl_array
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jsl_e
 specfunc.finc, [263](#)
 fgsl_sf_bessel_jsl_stepped_array
 specfunc.finc, [263](#)
 fgsl_sf_bessel_kc0
 specfunc.finc, [263](#)
 fgsl_sf_bessel_kc0_e
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc0_scaled
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc0_scaled_e
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc1
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc1_e
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc1_scaled
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kc1_scaled_e
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn_array
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn_e
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn_scaled
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn_scaled_array
 specfunc.finc, [264](#)
 fgsl_sf_bessel_kcn_scaled_e
 specfunc.finc, [264](#)

fgsl_sf_bessel_knu
 specfunc.finc, [264](#)
fgsl_sf_bessel_knu_e
 specfunc.finc, [264](#)
fgsl_sf_bessel_knu_scaled
 specfunc.finc, [264](#)
fgsl_sf_bessel_knu_scaled_e
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks0_scaled
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks0_scaled_e
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks1_scaled
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks1_scaled_e
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks2_scaled
 specfunc.finc, [264](#)
fgsl_sf_bessel_ks2_scaled_e
 specfunc.finc, [264](#)
fgsl_sf_bessel_ksl_scaled
 specfunc.finc, [265](#)
fgsl_sf_bessel_ksl_scaled_array
 specfunc.finc, [265](#)
fgsl_sf_bessel_ksl_scaled_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_lnknu
 specfunc.finc, [265](#)
fgsl_sf_bessel_lnknu_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_sequence_jnu_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_yc0
 specfunc.finc, [265](#)
fgsl_sf_bessel_yc0_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_yc1
 specfunc.finc, [265](#)
fgsl_sf_bessel_yc1_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ycn
 specfunc.finc, [265](#)
fgsl_sf_bessel_ycn_array
 specfunc.finc, [265](#)
fgsl_sf_bessel_ycn_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ynu
 specfunc.finc, [265](#)
fgsl_sf_bessel_ynu_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys0
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys0_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys1
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys1_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys2
 specfunc.finc, [265](#)
fgsl_sf_bessel_ys2_e
 specfunc.finc, [265](#)
fgsl_sf_bessel_ysl
 specfunc.finc, [265](#)
fgsl_sf_bessel_ysl_array
 specfunc.finc, [266](#)
fgsl_sf_bessel_ysl_e
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jc0
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jc0_e
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jc1
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jc1_e
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jnu
 specfunc.finc, [266](#)
fgsl_sf_bessel_zero_jnu_e
 specfunc.finc, [266](#)
fgsl_sf_beta
 specfunc.finc, [266](#)
fgsl_sf_beta_e
 specfunc.finc, [266](#)
fgsl_sf_beta_inc
 specfunc.finc, [266](#)
fgsl_sf_beta_inc_e
 specfunc.finc, [266](#)
fgsl_sf_chi
 specfunc.finc, [266](#)
fgsl_sf_chi_e
 specfunc.finc, [266](#)
fgsl_sf_choose
 specfunc.finc, [266](#)
fgsl_sf_choose_e
 specfunc.finc, [266](#)
fgsl_sf_ci
 specfunc.finc, [266](#)
fgsl_sf_ci_e
 specfunc.finc, [266](#)
fgsl_sf_clausen
 specfunc.finc, [266](#)
fgsl_sf_clausen_e
 specfunc.finc, [266](#)
fgsl_sf_complex_cos_e
 specfunc.finc, [266](#)
fgsl_sf_complex_dilog_e
 specfunc.finc, [266](#)
fgsl_sf_complex_log_e
 specfunc.finc, [266](#)
fgsl_sf_complex_logsin_e
 specfunc.finc, [267](#)
fgsl_sf_complex_sin_e
 specfunc.finc, [267](#)
fgsl_sf_conicalp_0
 specfunc.finc, [267](#)

- fgsl_sf_conicalp_0_e
specfunc.finc, [267](#)
- fgsl_sf_conicalp_1
specfunc.finc, [267](#)
- fgsl_sf_conicalp_1_e
specfunc.finc, [267](#)
- fgsl_sf_conicalp_cyl_reg
specfunc.finc, [267](#)
- fgsl_sf_conicalp_cyl_reg_e
specfunc.finc, [267](#)
- fgsl_sf_conicalp_half
specfunc.finc, [267](#)
- fgsl_sf_conicalp_half_e
specfunc.finc, [267](#)
- fgsl_sf_conicalp_mhalf
specfunc.finc, [267](#)
- fgsl_sf_conicalp_mhalf_e
specfunc.finc, [267](#)
- fgsl_sf_conicalp_sph_reg
specfunc.finc, [267](#)
- fgsl_sf_conicalp_sph_reg_e
specfunc.finc, [267](#)
- fgsl_sf_cos_err_e
specfunc.finc, [267](#)
- fgsl_sf_coulomb_cl_array
specfunc.finc, [267](#)
- fgsl_sf_coulomb_cl_e
specfunc.finc, [267](#)
- fgsl_sf_coulomb_wave_f_array
specfunc.finc, [267](#)
- fgsl_sf_coulomb_wave_fg_array
specfunc.finc, [267](#)
- fgsl_sf_coulomb_wave_fg_e
specfunc.finc, [268](#)
- fgsl_sf_coulomb_wave_fgp_array
specfunc.finc, [268](#)
- fgsl_sf_coulomb_wave_sphf_array
specfunc.finc, [268](#)
- fgsl_sf_coupling_3j
specfunc.finc, [268](#)
- fgsl_sf_coupling_3j_e
specfunc.finc, [268](#)
- fgsl_sf_coupling_6j
specfunc.finc, [268](#)
- fgsl_sf_coupling_6j_e
specfunc.finc, [268](#)
- fgsl_sf_coupling_9j
specfunc.finc, [268](#)
- fgsl_sf_coupling_9j_e
specfunc.finc, [268](#)
- fgsl_sf_dawson
specfunc.finc, [268](#)
- fgsl_sf_dawson_e
specfunc.finc, [268](#)
- fgsl_sf_debye_1
specfunc.finc, [268](#)
- fgsl_sf_debye_1_e
specfunc.finc, [268](#)
- fgsl_sf_debye_2
specfunc.finc, [268](#)
- fgsl_sf_debye_2_e
specfunc.finc, [268](#)
- fgsl_sf_debye_3
specfunc.finc, [268](#)
- fgsl_sf_debye_3_e
specfunc.finc, [269](#)
- fgsl_sf_debye_4
specfunc.finc, [269](#)
- fgsl_sf_debye_4_e
specfunc.finc, [269](#)
- fgsl_sf_debye_5
specfunc.finc, [269](#)
- fgsl_sf_debye_5_e
specfunc.finc, [269](#)
- fgsl_sf_debye_6
specfunc.finc, [269](#)
- fgsl_sf_debye_6_e
specfunc.finc, [269](#)
- fgsl_sf_dilog
specfunc.finc, [269](#)
- fgsl_sf_dilog_e
specfunc.finc, [269](#)
- fgsl_sf_doublefact
specfunc.finc, [269](#)
- fgsl_sf_doublefact_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_d
specfunc.finc, [269](#)
- fgsl_sf_ellint_d_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_e_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_ecomp
specfunc.finc, [269](#)
- fgsl_sf_ellint_ecomp_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_f
specfunc.finc, [269](#)
- fgsl_sf_ellint_f_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_kcomp
specfunc.finc, [269](#)
- fgsl_sf_ellint_kcomp_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_p
specfunc.finc, [269](#)
- fgsl_sf_ellint_p_e
specfunc.finc, [269](#)
- fgsl_sf_ellint_pcomp
specfunc.finc, [270](#)
- fgsl_sf_ellint_pcomp_e
specfunc.finc, [270](#)
- fgsl_sf_ellint_rc
specfunc.finc, [270](#)

fgsl_sf_ellint_rc_e
 specfunc.finc, [270](#)
fgsl_sf_ellint_rd
 specfunc.finc, [270](#)
fgsl_sf_ellint_rd_e
 specfunc.finc, [270](#)
fgsl_sf_ellint_rf
 specfunc.finc, [270](#)
fgsl_sf_ellint_rf_e
 specfunc.finc, [270](#)
fgsl_sf_ellint_rj
 specfunc.finc, [270](#)
fgsl_sf_ellint_rj_e
 specfunc.finc, [270](#)
fgsl_sf_elljac_e
 specfunc.finc, [270](#)
fgsl_sf_erf
 specfunc.finc, [270](#)
fgsl_sf_erf_e
 specfunc.finc, [270](#)
fgsl_sf_erf_q
 specfunc.finc, [270](#)
fgsl_sf_erf_q_e
 specfunc.finc, [270](#)
fgsl_sf_erf_z
 specfunc.finc, [270](#)
fgsl_sf_erf_z_e
 specfunc.finc, [270](#)
fgsl_sf_erfc
 specfunc.finc, [270](#)
fgsl_sf_erfc_e
 specfunc.finc, [270](#)
fgsl_sf_eta
 specfunc.finc, [270](#)
fgsl_sf_eta_e
 specfunc.finc, [270](#)
fgsl_sf_eta_int
 specfunc.finc, [270](#)
fgsl_sf_eta_int_e
 specfunc.finc, [271](#)
fgsl_sf_exp
 specfunc.finc, [271](#)
fgsl_sf_exp_e
 specfunc.finc, [271](#)
fgsl_sf_exp_e10_e
 specfunc.finc, [271](#)
fgsl_sf_exp_err_e
 specfunc.finc, [271](#)
fgsl_sf_exp_err_e10_e
 specfunc.finc, [271](#)
fgsl_sf_exp_mult
 specfunc.finc, [271](#)
fgsl_sf_exp_mult_e
 specfunc.finc, [271](#)
fgsl_sf_exp_mult_e10_e
 specfunc.finc, [271](#)
fgsl_sf_exp_mult_err_e
 specfunc.finc, [271](#)
fgsl_sf_exp_mult_err_e10_e
 specfunc.finc, [271](#)
fgsl_sf_expint_3
 specfunc.finc, [271](#)
fgsl_sf_expint_3_e
 specfunc.finc, [271](#)
fgsl_sf_expint_e1
 specfunc.finc, [271](#)
fgsl_sf_expint_e1_e
 specfunc.finc, [271](#)
fgsl_sf_expint_e2
 specfunc.finc, [271](#)
fgsl_sf_expint_e2_e
 specfunc.finc, [271](#)
fgsl_sf_expint_ei
 specfunc.finc, [271](#)
fgsl_sf_expint_ei_e
 specfunc.finc, [271](#)
fgsl_sf_expint_en
 specfunc.finc, [271](#)
fgsl_sf_expint_en_e
 specfunc.finc, [271](#)
fgsl_sf_expm1
 specfunc.finc, [271](#)
fgsl_sf_expm1_e
 specfunc.finc, [271](#)
fgsl_sf_exprel
 specfunc.finc, [271](#)
fgsl_sf_exprel_2
 specfunc.finc, [272](#)
fgsl_sf_exprel_2_e
 specfunc.finc, [272](#)
fgsl_sf_exprel_e
 specfunc.finc, [272](#)
fgsl_sf_exprel_n
 specfunc.finc, [272](#)
fgsl_sf_exprel_n_e
 specfunc.finc, [272](#)
fgsl_sf_fact
 specfunc.finc, [272](#)
fgsl_sf_fact_e
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_0
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_0_e
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_1
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_1_e
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_2
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_2_e
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_3half
 specfunc.finc, [272](#)
fgsl_sf_fermi_dirac_3half_e
 specfunc.finc, [272](#)

- fgsl_sf_fermi_dirac_half
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_half_e
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_inc_0
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_inc_0_e
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_int
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_int_e
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_m1
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_m1_e
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_mhalf
specfunc.finc, [272](#)
- fgsl_sf_fermi_dirac_mhalf_e
specfunc.finc, [273](#)
- fgsl_sf_gamma
specfunc.finc, [273](#)
- fgsl_sf_gamma_e
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc_e
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc_p
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc_p_e
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc_q
specfunc.finc, [273](#)
- fgsl_sf_gamma_inc_q_e
specfunc.finc, [273](#)
- fgsl_sf_gammainv
specfunc.finc, [273](#)
- fgsl_sf_gammainv_e
specfunc.finc, [273](#)
- fgsl_sf_gammastar
specfunc.finc, [273](#)
- fgsl_sf_gammastar_e
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_1
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_1_e
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_2
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_2_e
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_3
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_3_e
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_array
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_n
specfunc.finc, [273](#)
- fgsl_sf_gegenpoly_n_e
specfunc.finc, [273](#)
- fgsl_sf_hazard
specfunc.finc, [273](#)
- fgsl_sf_hazard_e
specfunc.finc, [274](#)
- fgsl_sf_hydrogenic
specfunc.finc, [274](#)
- fgsl_sf_hydrogenic_1
specfunc.finc, [274](#)
- fgsl_sf_hydrogenic_1_e
specfunc.finc, [274](#)
- fgsl_sf_hydrogenic_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_0f1
specfunc.finc, [274](#)
- fgsl_sf_hyperg_0f1_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_1f1
specfunc.finc, [274](#)
- fgsl_sf_hyperg_1f1_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_1f1_int
specfunc.finc, [274](#)
- fgsl_sf_hyperg_1f1_int_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f0
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f0_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_conj
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_conj_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_conj_renorm
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_conj_renorm_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_e
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_renorm
specfunc.finc, [274](#)
- fgsl_sf_hyperg_2f1_renorm_e
specfunc.finc, [275](#)
- fgsl_sf_hyperg_u
specfunc.finc, [275](#)
- fgsl_sf_hyperg_u_e
specfunc.finc, [275](#)
- fgsl_sf_hyperg_u_e10_e
specfunc.finc, [275](#)
- fgsl_sf_hyperg_u_int
specfunc.finc, [275](#)
- fgsl_sf_hyperg_u_int_e
specfunc.finc, [275](#)

fgsl_sf_hyperg_u_int_e10_e
 specfunc.finc, [275](#)

fgsl_sf_hypot
 specfunc.finc, [275](#)

fgsl_sf_hypot_e
 specfunc.finc, [275](#)

fgsl_sf_hzeta
 specfunc.finc, [275](#)

fgsl_sf_hzeta_e
 specfunc.finc, [275](#)

fgsl_sf_laguerre_1
 specfunc.finc, [275](#)

fgsl_sf_laguerre_1_e
 specfunc.finc, [275](#)

fgsl_sf_laguerre_2
 specfunc.finc, [275](#)

fgsl_sf_laguerre_2_e
 specfunc.finc, [275](#)

fgsl_sf_laguerre_3
 specfunc.finc, [275](#)

fgsl_sf_laguerre_3_e
 specfunc.finc, [275](#)

fgsl_sf_laguerre_n
 specfunc.finc, [275](#)

fgsl_sf_laguerre_n_e
 specfunc.finc, [275](#)

fgsl_sf_lambert_w0
 specfunc.finc, [275](#)

fgsl_sf_lambert_w0_e
 specfunc.finc, [275](#)

fgsl_sf_lambert_wm1
 specfunc.finc, [276](#)

fgsl_sf_lambert_wm1_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_array_size
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_0
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_0_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_1
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_1_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_array
 specfunc.finc, [276](#)

fgsl_sf_legendre_h3d_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_p1
 specfunc.finc, [276](#)

fgsl_sf_legendre_p1_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_p2
 specfunc.finc, [276](#)

fgsl_sf_legendre_p2_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_p3
 specfunc.finc, [276](#)

fgsl_sf_legendre_p3_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_pl
 specfunc.finc, [276](#)

fgsl_sf_legendre_pl_array
 specfunc.finc, [276](#)

fgsl_sf_legendre_pl_deriv_array
 specfunc.finc, [276](#)

fgsl_sf_legendre_pl_e
 specfunc.finc, [276](#)

fgsl_sf_legendre_plm
 specfunc.finc, [277](#)

fgsl_sf_legendre_plm_array
 specfunc.finc, [277](#)

fgsl_sf_legendre_plm_deriv_array
 specfunc.finc, [277](#)

fgsl_sf_legendre_plm_e
 specfunc.finc, [277](#)

fgsl_sf_legendre_q0
 specfunc.finc, [277](#)

fgsl_sf_legendre_q0_e
 specfunc.finc, [277](#)

fgsl_sf_legendre_q1
 specfunc.finc, [277](#)

fgsl_sf_legendre_q1_e
 specfunc.finc, [277](#)

fgsl_sf_legendre_ql
 specfunc.finc, [277](#)

fgsl_sf_legendre_ql_e
 specfunc.finc, [277](#)

fgsl_sf_legendre_sphplm
 specfunc.finc, [277](#)

fgsl_sf_legendre_sphplm_array
 specfunc.finc, [277](#)

fgsl_sf_legendre_sphplm_deriv_array
 specfunc.finc, [277](#)

fgsl_sf_legendre_sphplm_e
 specfunc.finc, [277](#)

fgsl_sf_Inbeta
 specfunc.finc, [277](#)

fgsl_sf_Inbeta_e
 specfunc.finc, [277](#)

fgsl_sf_Inchoose
 specfunc.finc, [277](#)

fgsl_sf_Inchoose_e
 specfunc.finc, [277](#)

fgsl_sf_Incosh
 specfunc.finc, [277](#)

fgsl_sf_Incosh_e
 specfunc.finc, [277](#)

fgsl_sf_Indoublefact
 specfunc.finc, [278](#)

fgsl_sf_Indoublefact_e
 specfunc.finc, [278](#)

fgsl_sf_Infact
 specfunc.finc, [278](#)

- fgsl_sf_infact_e
 specfunc.finc, [278](#)
- fgsl_sf_lngamma
 specfunc.finc, [278](#)
- fgsl_sf_lngamma_complex_e
 specfunc.finc, [278](#)
- fgsl_sf_lngamma_e
 specfunc.finc, [278](#)
- fgsl_sf_lngamma_sgn_e
 specfunc.finc, [278](#)
- fgsl_sf_inpoch
 specfunc.finc, [278](#)
- fgsl_sf_inpoch_e
 specfunc.finc, [278](#)
- fgsl_sf_inpoch_sgn_e
 specfunc.finc, [278](#)
- fgsl_sf_Insinh
 specfunc.finc, [278](#)
- fgsl_sf_Insinh_e
 specfunc.finc, [278](#)
- fgsl_sf_log
 specfunc.finc, [278](#)
- fgsl_sf_log_1plusx
 specfunc.finc, [278](#)
- fgsl_sf_log_1plusx_e
 specfunc.finc, [278](#)
- fgsl_sf_log_1plusx_mx
 specfunc.finc, [278](#)
- fgsl_sf_log_1plusx_mx_e
 specfunc.finc, [278](#)
- fgsl_sf_log_abs
 specfunc.finc, [278](#)
- fgsl_sf_log_abs_e
 specfunc.finc, [278](#)
- fgsl_sf_log_e
 specfunc.finc, [278](#)
- fgsl_sf_log_erfc
 specfunc.finc, [278](#)
- fgsl_sf_log_erfc_e
 specfunc.finc, [278](#)
- fgsl_sf_multiply_e
 specfunc.finc, [278](#)
- fgsl_sf_multiply_err_e
 specfunc.finc, [278](#)
- fgsl_sf_poch
 specfunc.finc, [279](#)
- fgsl_sf_poch_e
 specfunc.finc, [279](#)
- fgsl_sf_pochrel
 specfunc.finc, [279](#)
- fgsl_sf_pochrel_e
 specfunc.finc, [279](#)
- fgsl_sf_polar_to_rect
 specfunc.finc, [279](#)
- fgsl_sf_psi
 specfunc.finc, [279](#)
- fgsl_sf_psi_1
 specfunc.finc, [279](#)
- fgsl_sf_psi_1_e
 specfunc.finc, [279](#)
- fgsl_sf_psi_1_int
 specfunc.finc, [279](#)
- fgsl_sf_psi_1_int_e
 specfunc.finc, [279](#)
- fgsl_sf_psi_1piy
 specfunc.finc, [279](#)
- fgsl_sf_psi_1piy_e
 specfunc.finc, [279](#)
- fgsl_sf_psi_e
 specfunc.finc, [279](#)
- fgsl_sf_psi_int
 specfunc.finc, [279](#)
- fgsl_sf_psi_int_e
 specfunc.finc, [279](#)
- fgsl_sf_psi_n
 specfunc.finc, [279](#)
- fgsl_sf_psi_n_e
 specfunc.finc, [279](#)
- fgsl_sf_rect_to_polar
 specfunc.finc, [279](#)
- fgsl_sf_shi
 specfunc.finc, [279](#)
- fgsl_sf_shi_e
 specfunc.finc, [279](#)
- fgsl_sf_si
 specfunc.finc, [279](#)
- fgsl_sf_si_e
 specfunc.finc, [279](#)
- fgsl_sf_sin_err_e
 specfunc.finc, [279](#)
- fgsl_sf_sinc
 specfunc.finc, [279](#)
- fgsl_sf_sinc_e
 specfunc.finc, [279](#)
- fgsl_sf_synchrotron_1
 specfunc.finc, [280](#)
- fgsl_sf_synchrotron_1_e
 specfunc.finc, [280](#)
- fgsl_sf_synchrotron_2
 specfunc.finc, [280](#)
- fgsl_sf_synchrotron_2_e
 specfunc.finc, [280](#)
- fgsl_sf_taylorcoeff
 specfunc.finc, [280](#)
- fgsl_sf_taylorcoeff_e
 specfunc.finc, [280](#)
- fgsl_sf_transport_2
 specfunc.finc, [280](#)
- fgsl_sf_transport_2_e
 specfunc.finc, [280](#)
- fgsl_sf_transport_3
 specfunc.finc, [280](#)
- fgsl_sf_transport_3_e
 specfunc.finc, [280](#)
- fgsl_sf_transport_4
 specfunc.finc, [280](#)

- fgsl_sf_transport_4_e
 - specfunc.finc, 280
- fgsl_sf_transport_5
 - specfunc.finc, 280
- fgsl_sf_transport_5_e
 - specfunc.finc, 280
- fgsl_sf_zeta
 - specfunc.finc, 280
- fgsl_sf_zeta_e
 - specfunc.finc, 280
- fgsl_sf_zeta_int
 - specfunc.finc, 280
- fgsl_sf_zeta_int_e
 - specfunc.finc, 280
- fgsl_sf_zetam1
 - specfunc.finc, 280
- fgsl_sf_zetam1_e
 - specfunc.finc, 280
- fgsl_sf_zetam1_int
 - specfunc.finc, 280
- fgsl_sf_zetam1_int_e
 - specfunc.finc, 280
- fgsl_siman_params_free
 - siman.finc, 249
- fgsl_siman_params_init
 - siman.finc, 249
- fgsl_siman_params_t_status
 - fgsl_well_defined, 159
 - siman.finc, 249
- fgsl_siman_solve
 - siman.finc, 249
- fgsl_size_t
 - fgsl, 115
- fgsl_sizeof, 149
 - fgsl_sizeof_char, 149
 - fgsl_sizeof_combination, 149
 - fgsl_sizeof_double, 149
 - fgsl_sizeof_float, 149
 - fgsl_sizeof_int, 149
 - fgsl_sizeof_integration_qawo_table, 149
 - fgsl_sizeof_integration_qaws_table, 149
 - fgsl_sizeof_integration_workspace, 149
 - fgsl_sizeof_interp, 149
 - fgsl_sizeof_matrix, 149
 - fgsl_sizeof_matrix_complex, 149
 - fgsl_sizeof_multiset, 149
 - fgsl_sizeof_permutation, 149
 - fgsl_sizeof_size_t, 149
 - fgsl_sizeof_vector, 149
 - fgsl_sizeof_vector_complex, 149
 - fgsl_sizeof_wavelet, 150
 - fgsl_sizeof_wavelet_workspace, 150
- fgsl_sizeof_char
 - fgsl_sizeof, 149
 - misc.finc, 210
- fgsl_sizeof_combination
 - fgsl_sizeof, 149
 - permutation.finc, 232
- fgsl_sizeof_double
 - fgsl_sizeof, 149
 - misc.finc, 210
- fgsl_sizeof_float
 - fgsl_sizeof, 149
 - misc.finc, 210
- fgsl_sizeof_int
 - fgsl_sizeof, 149
 - misc.finc, 211
- fgsl_sizeof_integration_qawo_table
 - fgsl_sizeof, 149
 - integration.finc, 194
- fgsl_sizeof_integration_qaws_table
 - fgsl_sizeof, 149
 - integration.finc, 194
- fgsl_sizeof_integration_workspace
 - fgsl_sizeof, 149
 - integration.finc, 194
- fgsl_sizeof_interp
 - fgsl_sizeof, 149
 - interp.finc, 196
- fgsl_sizeof_long
 - misc.finc, 211
- fgsl_sizeof_matrix
 - array.finc, 165
 - fgsl_sizeof, 149
- fgsl_sizeof_matrix_complex
 - array.finc, 165
 - fgsl_sizeof, 149
- fgsl_sizeof_multiset
 - fgsl_sizeof, 149
 - permutation.finc, 232
- fgsl_sizeof_permutation
 - fgsl_sizeof, 149
 - permutation.finc, 232
- fgsl_sizeof_size_t
 - fgsl_sizeof, 149
 - misc.finc, 211
- fgsl_sizeof_vector
 - array.finc, 165
 - fgsl_sizeof, 149
- fgsl_sizeof_vector_complex
 - array.finc, 165
 - fgsl_sizeof, 149
- fgsl_sizeof_wavelet
 - fgsl_sizeof, 150
 - wavelet.finc, 286
- fgsl_sizeof_wavelet_workspace
 - fgsl_sizeof, 150
 - wavelet.finc, 286
- fgsl_sort, 150
 - fgsl_sort_double, 150
 - fgsl_sort_long, 150
 - fgsl_sort_vector, 150
- fgsl_sort_double
 - fgsl_sort, 150
 - sort.finc, 250
- fgsl_sort_double_index

- fgsl_sort_index, 150
 - sort.finc, 250
- fgsl_sort_double_largest
 - fgsl_sort_largest, 151
 - sort.finc, 251
- fgsl_sort_double_largest_index
 - fgsl_sort_largest_index, 151
 - sort.finc, 251
- fgsl_sort_double_smallest
 - fgsl_sort_smallest, 152
 - sort.finc, 251
- fgsl_sort_double_smallest_index
 - fgsl_sort_smallest_index, 152
 - sort.finc, 251
- fgsl_sort_index, 150
 - fgsl_sort_double_index, 150
 - fgsl_sort_long_index, 150
 - fgsl_sort_vector_index, 150
- fgsl_sort_largest, 151
 - fgsl_sort_double_largest, 151
 - fgsl_sort_long_largest, 151
 - fgsl_sort_vector_largest, 151
- fgsl_sort_largest_index, 151
 - fgsl_sort_double_largest_index, 151
 - fgsl_sort_long_largest_index, 151
 - fgsl_sort_vector_largest_index, 151
- fgsl_sort_long
 - fgsl_sort, 150
 - sort.finc, 251
- fgsl_sort_long_index
 - fgsl_sort_index, 150
 - sort.finc, 251
- fgsl_sort_long_largest
 - fgsl_sort_largest, 151
 - sort.finc, 251
- fgsl_sort_long_largest_index
 - fgsl_sort_largest_index, 151
 - sort.finc, 251
- fgsl_sort_long_smallest
 - fgsl_sort_smallest, 152
 - sort.finc, 251
- fgsl_sort_long_smallest_index
 - fgsl_sort_smallest_index, 152
 - sort.finc, 251
- fgsl_sort_smallest, 151
 - fgsl_sort_double_smallest, 152
 - fgsl_sort_long_smallest, 152
 - fgsl_sort_vector_smallest, 152
- fgsl_sort_smallest_index, 152
 - fgsl_sort_double_smallest_index, 152
 - fgsl_sort_long_smallest_index, 152
 - fgsl_sort_vector_smallest_index, 152
- fgsl_sort_vector
 - fgsl_sort, 150
 - sort.finc, 251
- fgsl_sort_vector_index
 - fgsl_sort_index, 150
 - sort.finc, 251
- fgsl_sort_vector_largest
 - fgsl_sort_largest, 151
 - sort.finc, 251
- fgsl_sort_vector_largest_index
 - fgsl_sort_largest_index, 151
 - sort.finc, 251
- fgsl_sort_vector_smallest
 - fgsl_sort_smallest, 152
 - sort.finc, 251
- fgsl_sort_vector_smallest_index
 - fgsl_sort_smallest_index, 152
 - sort.finc, 251
- fgsl_spline_alloc
 - interp.finc, 196
- fgsl_spline_eval
 - interp.finc, 196
- fgsl_spline_eval_deriv
 - interp.finc, 196
- fgsl_spline_eval_deriv2
 - interp.finc, 196
- fgsl_spline_eval_deriv2_e
 - interp.finc, 196
- fgsl_spline_eval_deriv_e
 - interp.finc, 196
- fgsl_spline_eval_e
 - interp.finc, 196
- fgsl_spline_eval_integ
 - interp.finc, 196
- fgsl_spline_eval_integ_e
 - interp.finc, 196
- fgsl_spline_free
 - interp.finc, 197
- fgsl_spline_init
 - interp.finc, 197
- fgsl_spline_min_size
 - interp.finc, 197
- fgsl_spline_name
 - interp.finc, 197
- fgsl_spline_status
 - fgsl_well_defined, 159
 - interp.finc, 197
- fgsl_stats_absdev
 - statistics.finc, 282
- fgsl_stats_absdev_m
 - statistics.finc, 282
- fgsl_stats_correlation
 - statistics.finc, 282
- fgsl_stats_covariance
 - statistics.finc, 282
- fgsl_stats_covariance_m
 - statistics.finc, 282
- fgsl_stats_kurtosis
 - statistics.finc, 282
- fgsl_stats_kurtosis_m_sd
 - statistics.finc, 282
- fgsl_stats_lag1_autocorrelation
 - statistics.finc, 282
- fgsl_stats_lag1_autocorrelation_m

- statistics.finc, [282](#)
- fgsl_stats_max
 - statistics.finc, [282](#)
- fgsl_stats_max_index
 - statistics.finc, [282](#)
- fgsl_stats_mean
 - statistics.finc, [282](#)
- fgsl_stats_median_from_sorted_data
 - statistics.finc, [282](#)
- fgsl_stats_min
 - statistics.finc, [282](#)
- fgsl_stats_min_index
 - statistics.finc, [283](#)
- fgsl_stats_minmax
 - statistics.finc, [283](#)
- fgsl_stats_minmax_index
 - statistics.finc, [283](#)
- fgsl_stats_quantile_from_sorted_data
 - statistics.finc, [283](#)
- fgsl_stats_sd
 - statistics.finc, [283](#)
- fgsl_stats_sd_m
 - statistics.finc, [283](#)
- fgsl_stats_sd_with_fixed_mean
 - statistics.finc, [283](#)
- fgsl_stats_skew
 - statistics.finc, [283](#)
- fgsl_stats_skew_m_sd
 - statistics.finc, [283](#)
- fgsl_stats_variance
 - statistics.finc, [283](#)
- fgsl_stats_variance_m
 - statistics.finc, [283](#)
- fgsl_stats_variance_with_fixed_mean
 - statistics.finc, [283](#)
- fgsl_stats_wabsdev
 - statistics.finc, [283](#)
- fgsl_stats_wabsdev_m
 - statistics.finc, [283](#)
- fgsl_stats_wkurtosis
 - statistics.finc, [283](#)
- fgsl_stats_wkurtosis_m_sd
 - statistics.finc, [283](#)
- fgsl_stats_wmean
 - statistics.finc, [283](#)
- fgsl_stats_wsd
 - statistics.finc, [284](#)
- fgsl_stats_wsd_m
 - statistics.finc, [284](#)
- fgsl_stats_wsd_with_fixed_mean
 - statistics.finc, [284](#)
- fgsl_stats_wskew
 - statistics.finc, [284](#)
- fgsl_stats_wskew_m_sd
 - statistics.finc, [284](#)
- fgsl_stats_wvariance
 - statistics.finc, [284](#)
- fgsl_stats_wvariance_m
 - statistics.finc, [284](#)
- fgsl_stats_wvariance_with_fixed_mean
 - statistics.finc, [284](#)
- fgsl_stderr
 - io.finc, [198](#)
- fgsl_stdin
 - io.finc, [198](#)
- fgsl_stdout
 - io.finc, [198](#)
- fgsl_strerror
 - error.finc, [179](#)
- fgsl_strmax
 - fgsl, [115](#)
- fgsl_success
 - fgsl, [115](#)
- fgsl_sum_levin_u_accel
 - sum_levin.finc, [285](#)
- fgsl_sum_levin_u_alloc
 - sum_levin.finc, [285](#)
- fgsl_sum_levin_u_free
 - sum_levin.finc, [285](#)
- fgsl_sum_levin_utrunc_accel
 - sum_levin.finc, [285](#)
- fgsl_sum_levin_utrunc_alloc
 - sum_levin.finc, [285](#)
- fgsl_sum_levin_utrunc_free
 - sum_levin.finc, [285](#)
- fgsl_vector_align, [153](#)
 - array.finc, [165](#)
 - fgsl_vector_align, [154](#)
 - fgsl_vector_complex_align, [154](#)
 - fgsl_vector_complex_pointer_align, [154](#)
 - fgsl_vector_pointer_align, [154](#)
 - fgsl_vector_align, [154](#)
- fgsl_vector_c_ptr
 - array.finc, [166](#)
 - fgsl_obj_c_ptr, [139](#)
- fgsl_vector_complex_align
 - array.finc, [166](#)
 - fgsl_vector_align, [154](#)
- fgsl_vector_complex_c_ptr
 - array.finc, [166](#)
- fgsl_vector_complex_free
 - array.finc, [166](#)
 - fgsl_vector_free, [154](#)
- fgsl_vector_complex_init
 - array.finc, [166](#)
 - fgsl_vector_init, [155](#)
- fgsl_vector_complex_pointer_align
 - array.finc, [167](#)
 - fgsl_vector_align, [154](#)
- fgsl_vector_complex_status
 - array.finc, [167](#)
 - fgsl_well_defined, [159](#)
- fgsl_vector_complex_to_array
 - array.finc, [167](#)
 - assignment(=), [83](#)
- fgsl_vector_free, [154](#)

- array.finc, 167
- fgsl_vector_complex_free, 154
- fgsl_vector_free, 154
- fgsl_vector_free, 154
- fgsl_vector_init, 155
 - array.finc, 167
 - fgsl_vector_complex_init, 155
 - fgsl_vector_init, 155
 - fgsl_vector_init, 155
- fgsl_vector_pointer_align
 - array.finc, 167
 - fgsl_vector_align, 154
- fgsl_vector_status
 - array.finc, 168
 - fgsl_well_defined, 159
- fgsl_vector_to_array
 - array.finc, 168
 - assignment(=), 83
- fgsl_vegas_mode_importance
 - fgsl, 115
- fgsl_vegas_mode_importance_only
 - fgsl, 115
- fgsl_vegas_mode_stratified
 - fgsl, 115
- fgsl_version
 - fgsl, 115
- fgsl_wavelet2d_nstransform
 - wavelet.finc, 286
- fgsl_wavelet2d_nstransform_forward
 - wavelet.finc, 286
- fgsl_wavelet2d_nstransform_inverse
 - wavelet.finc, 286
- fgsl_wavelet2d_nstransform_matrix
 - wavelet.finc, 286
- fgsl_wavelet2d_nstransform_matrix_forward
 - wavelet.finc, 286
- fgsl_wavelet2d_nstransform_matrix_inverse
 - wavelet.finc, 286
- fgsl_wavelet2d_transform
 - wavelet.finc, 286
- fgsl_wavelet2d_transform_forward
 - wavelet.finc, 286
- fgsl_wavelet2d_transform_inverse
 - wavelet.finc, 287
- fgsl_wavelet2d_transform_matrix
 - wavelet.finc, 287
- fgsl_wavelet2d_transform_matrix_forward
 - wavelet.finc, 287
- fgsl_wavelet2d_transform_matrix_inverse
 - wavelet.finc, 287
- fgsl_wavelet_alloc
 - wavelet.finc, 287
- fgsl_wavelet_bspline
 - fgsl, 116
- fgsl_wavelet_bspline_centered
 - fgsl, 116
- fgsl_wavelet_daubechies
 - fgsl, 116
- fgsl_wavelet_daubechies_centered
 - fgsl, 116
- fgsl_wavelet_free
 - wavelet.finc, 287
- fgsl_wavelet_haar
 - fgsl, 116
- fgsl_wavelet_haar_centered
 - fgsl, 116
- fgsl_wavelet_name
 - wavelet.finc, 287
- fgsl_wavelet_status
 - fgsl_well_defined, 159
 - wavelet.finc, 287
- fgsl_wavelet_transform
 - wavelet.finc, 287
- fgsl_wavelet_transform_forward
 - wavelet.finc, 287
- fgsl_wavelet_transform_inverse
 - wavelet.finc, 287
- fgsl_wavelet_workspace_alloc
 - wavelet.finc, 287
- fgsl_wavelet_workspace_free
 - wavelet.finc, 287
- fgsl_wavelet_workspace_status
 - fgsl_well_defined, 159
 - wavelet.finc, 287
- fgsl_well_defined, 156
 - fgsl_cheb_series_status, 157
 - fgsl_combination_status, 157
 - fgsl_dht_status, 157
 - fgsl_error_handler_status, 157
 - fgsl_file_status, 157
 - fgsl_histogram_status, 157
 - fgsl_integration_cquad_workspace_status, 157
 - fgsl_integration_glfixed_table_status, 157
 - fgsl_integration_qawo_table_status, 157
 - fgsl_integration_qaws_table_status, 157
 - fgsl_integration_workspace_status, 157
 - fgsl_interp_accel_status, 157
 - fgsl_interp_status, 157
 - fgsl_matrix_complex_status, 157
 - fgsl_matrix_status, 157
 - fgsl_min_fminimizer_status, 157
 - fgsl_monte_function_status, 157
 - fgsl_monte_miser_status, 157
 - fgsl_monte_plain_status, 158
 - fgsl_monte_vegas_status, 158
 - fgsl_multifit_fdfsolver_status, 158
 - fgsl_multifit_fsolver_status, 158
 - fgsl_multifit_status, 158
 - fgsl_multimin_fdfminimizer_status, 158
 - fgsl_multimin_fminimizer_status, 158
 - fgsl_multiroot_fdfsolver_status, 158
 - fgsl_multiroot_fsolver_status, 158
 - fgsl_multiset_status, 158
 - fgsl_ntuple_select_fn_status, 158
 - fgsl_ntuple_status, 158
 - fgsl_ntuple_value_fn_status, 158

- fgsl_odeiv2_control_status, 158
- fgsl_odeiv2_driver_status, 158
- fgsl_odeiv2_evolve_status, 158
- fgsl_odeiv2_step_status, 158
- fgsl_odeiv2_system_status, 158
- fgsl_odeiv_control_status, 158
- fgsl_odeiv_evolve_status, 158
- fgsl_odeiv_step_status, 158
- fgsl_odeiv_system_status, 158
- fgsl_permutation_status, 158
- fgsl_poly_complex_workspace_stat, 158
- fgsl_qrng_status, 158
- fgsl_ran_discrete_t_status, 158
- fgsl_rng_status, 158
- fgsl_root_fdfsolver_status, 158
- fgsl_root_fsolver_status, 159
- fgsl_siman_params_t_status, 159
- fgsl_spline_status, 159
- fgsl_vector_complex_status, 159
- fgsl_vector_status, 159
- fgsl_wavelet_status, 159
- fgsl_wavelet_workspace_status, 159
- fit.finc
 - fgsl_fit_linear, 183
 - fgsl_fit_linear_est, 183
 - fgsl_fit_mul, 183
 - fgsl_fit_mul_est, 183
 - fgsl_fit_wlinear, 183
 - fgsl_fit_wmul, 183
 - fgsl_multifit_linear, 183
 - fgsl_multifit_linear_alloc, 183
 - fgsl_multifit_linear_est, 183
 - fgsl_multifit_linear_free, 184
 - fgsl_multifit_linear_residuals, 184
 - fgsl_multifit_linear_svd, 184
 - fgsl_multifit_linear_usvd, 184
 - fgsl_multifit_status, 184
 - fgsl_multifit_wlinear, 184
 - fgsl_multifit_wlinear_svd, 184
 - fgsl_multifit_wlinear_usvd, 184
- gsl_bspline_deriv_workspace
 - fgsl::fgsl_bspline_deriv_workspace, 117
- gsl_bspline_workspace
 - fgsl::fgsl_bspline_workspace, 117
- gsl_cheb_series
 - fgsl::fgsl_cheb_series, 117
- gsl_combination
 - fgsl::fgsl_combination, 118
- gsl_dht
 - fgsl::fgsl_dht, 118
- gsl_eigen_gen_workspace
 - fgsl::fgsl_eigen_gen_workspace, 118
- gsl_eigen_genherm_workspace
 - fgsl::fgsl_eigen_genherm_workspace, 118
- gsl_eigen_genhermv_workspace
 - fgsl::fgsl_eigen_genhermv_workspace, 119
- gsl_eigen_gensymm_workspace
 - fgsl::fgsl_eigen_gensymm_workspace, 119
- gsl_eigen_gensymmv_workspace
 - fgsl::fgsl_eigen_gensymmv_workspace, 119
- gsl_eigen_genv_workspace
 - fgsl::fgsl_eigen_genv_workspace, 120
- gsl_eigen_herm_workspace
 - fgsl::fgsl_eigen_herm_workspace, 120
- gsl_eigen_hermv_workspace
 - fgsl::fgsl_eigen_hermv_workspace, 120
- gsl_eigen_nonsymm_workspace
 - fgsl::fgsl_eigen_nonsymm_workspace, 120
- gsl_eigen_nonsymmv_workspace
 - fgsl::fgsl_eigen_nonsymmv_workspace, 121
- gsl_eigen_symm_workspace
 - fgsl::fgsl_eigen_symm_workspace, 121
- gsl_eigen_symmv_workspace
 - fgsl::fgsl_eigen_symmv_workspace, 121
- gsl_error_handler_t
 - fgsl::fgsl_error_handler_t, 122
- gsl_fft_complex_wavetable
 - fgsl::fgsl_fft_complex_wavetable, 122
- gsl_fft_complex_workspace
 - fgsl::fgsl_fft_complex_workspace, 122
- gsl_fft_halfcomplex_wavetable
 - fgsl::fgsl_fft_halfcomplex_wavetable, 122
- gsl_fft_real_wavetable
 - fgsl::fgsl_fft_real_wavetable, 123
- gsl_fft_real_workspace
 - fgsl::fgsl_fft_real_workspace, 123
- gsl_file
 - fgsl::fgsl_file, 123
- gsl_function
 - fgsl::fgsl_function, 124
- gsl_function_fdf
 - fgsl::fgsl_function_fdf, 124
- gsl_histogram
 - fgsl::fgsl_histogram, 124
- gsl_histogram2d
 - fgsl::fgsl_histogram2d, 124
- gsl_histogram2d_pdf
 - fgsl::fgsl_histogram2d_pdf, 125
- gsl_histogram_pdf
 - fgsl::fgsl_histogram_pdf, 125
- gsl_integration_cquad_workspace
 - fgsl::fgsl_integration_cquad_workspace, 126
- gsl_integration_glfixed_table
 - fgsl::fgsl_integration_glfixed_table, 126
- gsl_integration_qawo_table
 - fgsl::fgsl_integration_qawo_table, 127
- gsl_integration_qaws_table
 - fgsl::fgsl_integration_qaws_table, 127
- gsl_integration_workspace
 - fgsl::fgsl_integration_workspace, 127
- gsl_interp
 - fgsl::fgsl_interp, 127
- gsl_interp_accel
 - fgsl::fgsl_interp_accel, 128
- gsl_matrix
 - fgsl::fgsl_matrix, 128

- gsl_matrix_complex
 - fgsl::fgsl_matrix_complex, 129
- gsl_min_fminimizer
 - fgsl::fgsl_min_fminimizer, 130
- gsl_mode
 - fgsl::fgsl_mode_t, 131
- gsl_monte_function
 - fgsl::fgsl_monte_function, 131
- gsl_monte_miser_state
 - fgsl::fgsl_monte_miser_state, 131
- gsl_monte_plain_state
 - fgsl::fgsl_monte_plain_state, 132
- gsl_monte_vegas_state
 - fgsl::fgsl_monte_vegas_state, 132
- gsl_multifit_fdfsolver
 - fgsl::fgsl_multifit_fdfsolver, 132
- gsl_multifit_fsolver
 - fgsl::fgsl_multifit_fsolver, 133
- gsl_multifit_function
 - fgsl::fgsl_multifit_function, 133
- gsl_multifit_function_fdf
 - fgsl::fgsl_multifit_function_fdf, 134
- gsl_multifit_linear_workspace
 - fgsl::fgsl_multifit_linear_workspace, 134
- gsl_multimin_fdfminimizer
 - fgsl::fgsl_multimin_fdfminimizer, 134
- gsl_multimin_fminimizer
 - fgsl::fgsl_multimin_fminimizer, 135
- gsl_multimin_function
 - fgsl::fgsl_multimin_function, 135
- gsl_multimin_function_fdf
 - fgsl::fgsl_multimin_function_fdf, 136
- gsl_multiroot_fdfsolver
 - fgsl::fgsl_multiroot_fdfsolver, 136
- gsl_multiroot_fsolver
 - fgsl::fgsl_multiroot_fsolver, 136
- gsl_multiroot_function
 - fgsl::fgsl_multiroot_function, 137
- gsl_multiroot_function_fdf
 - fgsl::fgsl_multiroot_function_fdf, 137
- gsl_multiset
 - fgsl::fgsl_multiset, 138
- gsl_ntuple
 - fgsl::fgsl_ntuple, 138
- gsl_ntuple_select_fn
 - fgsl::fgsl_ntuple_select_fn, 138
- gsl_ntuple_value_fn
 - fgsl::fgsl_ntuple_value_fn, 138
- gsl_odeiv2_control
 - fgsl::fgsl_odeiv2_control, 139
- gsl_odeiv2_control_type
 - fgsl::fgsl_odeiv2_control_type, 139
- gsl_odeiv2_driver
 - fgsl::fgsl_odeiv2_driver, 140
- gsl_odeiv2_evolve
 - fgsl::fgsl_odeiv2_evolve, 140
- gsl_odeiv2_step
 - fgsl::fgsl_odeiv2_step, 140
- gsl_odeiv2_system
 - fgsl::fgsl_odeiv2_system, 141
- gsl_odeiv_control
 - fgsl::fgsl_odeiv_control, 141
- gsl_odeiv_control_type
 - fgsl::fgsl_odeiv_control_type, 141
- gsl_odeiv_evolve
 - fgsl::fgsl_odeiv_evolve, 142
- gsl_odeiv_step
 - fgsl::fgsl_odeiv_step, 142
- gsl_odeiv_system
 - fgsl::fgsl_odeiv_system, 143
- gsl_permutation
 - fgsl::fgsl_permutation, 143
- gsl_poly_complex_workspace
 - fgsl::fgsl_poly_complex_workspace, 144
- gsl_qrng
 - fgsl::fgsl_qrng, 144
- gsl_ran_discrete_t
 - fgsl::fgsl_ran_discrete_t, 145
- gsl_rng
 - fgsl::fgsl_rng, 146
- gsl_rng_type
 - fgsl::fgsl_rng_type, 146
- gsl_root_fdfsolver
 - fgsl::fgsl_root_fdfsolver, 146
- gsl_root_fsolver
 - fgsl::fgsl_root_fsolver, 147
- gsl_sf_to_fgsl_sf
 - assignment(=), 83
 - specfunc.finc, 280
- gsl_sfe10_to_fgsl_sfe10
 - assignment(=), 83
 - specfunc.finc, 280
- gsl_siman_params_t
 - fgsl::fgsl_siman_params_t, 148
- gsl_spline
 - fgsl::fgsl_spline, 152
- gsl_sum_levin_u_workspace
 - fgsl::fgsl_sum_levin_u_workspace, 153
- gsl_sum_levin_ustrunc_workspace
 - fgsl::fgsl_sum_levin_ustrunc_workspace, 153
- gsl_vector
 - fgsl::fgsl_vector, 153
- gsl_vector_complex
 - fgsl::fgsl_vector_complex, 154
- gsl_wavelet
 - fgsl::fgsl_wavelet, 155
- gsl_wavelet_workspace
 - fgsl::fgsl_wavelet_workspace, 156
- histogram.finc
 - fgsl_histogram2d_accumulate, 186
 - fgsl_histogram2d_add, 186
 - fgsl_histogram2d_alloc, 186
 - fgsl_histogram2d_clone, 186
 - fgsl_histogram2d_cov, 186
 - fgsl_histogram2d_div, 186
 - fgsl_histogram2d_equal_bins_p, 186

- fgsl_histogram2d_find, 186
- fgsl_histogram2d_fprintf, 186
- fgsl_histogram2d_fread, 186
- fgsl_histogram2d_free, 187
- fgsl_histogram2d_fscanf, 187
- fgsl_histogram2d_fwrite, 187
- fgsl_histogram2d_get, 187
- fgsl_histogram2d_get_xrange, 187
- fgsl_histogram2d_get_yrange, 187
- fgsl_histogram2d_increment, 187
- fgsl_histogram2d_max_bin, 187
- fgsl_histogram2d_max_val, 187
- fgsl_histogram2d_memcpy, 187
- fgsl_histogram2d_min_bin, 187
- fgsl_histogram2d_min_val, 187
- fgsl_histogram2d_mul, 187
- fgsl_histogram2d_nx, 187
- fgsl_histogram2d_ny, 187
- fgsl_histogram2d_pdf_alloc, 187
- fgsl_histogram2d_pdf_free, 187
- fgsl_histogram2d_pdf_init, 187
- fgsl_histogram2d_pdf_sample, 187
- fgsl_histogram2d_reset, 187
- fgsl_histogram2d_scale, 187
- fgsl_histogram2d_set_ranges, 188
- fgsl_histogram2d_set_ranges_uniform, 188
- fgsl_histogram2d_shift, 188
- fgsl_histogram2d_sub, 188
- fgsl_histogram2d_sum, 188
- fgsl_histogram2d_xmax, 188
- fgsl_histogram2d_xmean, 188
- fgsl_histogram2d_xmin, 188
- fgsl_histogram2d_xsigma, 188
- fgsl_histogram2d_ymax, 188
- fgsl_histogram2d_ymean, 188
- fgsl_histogram2d_ymin, 188
- fgsl_histogram2d_ysigma, 188
- fgsl_histogram_accumulate, 188
- fgsl_histogram_add, 188
- fgsl_histogram_alloc, 188
- fgsl_histogram_bins, 188
- fgsl_histogram_clone, 188
- fgsl_histogram_div, 188
- fgsl_histogram_equal_bins_p, 188
- fgsl_histogram_find, 188
- fgsl_histogram_fprintf, 188
- fgsl_histogram_fread, 189
- fgsl_histogram_free, 189
- fgsl_histogram_fscanf, 189
- fgsl_histogram_fwrite, 189
- fgsl_histogram_get, 189
- fgsl_histogram_get_range, 189
- fgsl_histogram_increment, 189
- fgsl_histogram_max, 189
- fgsl_histogram_max_bin, 189
- fgsl_histogram_max_val, 189
- fgsl_histogram_mean, 189
- fgsl_histogram_memcpy, 189
- fgsl_histogram_min, 189
- fgsl_histogram_min_bin, 189
- fgsl_histogram_min_val, 189
- fgsl_histogram_mul, 189
- fgsl_histogram_pdf_alloc, 189
- fgsl_histogram_pdf_free, 189
- fgsl_histogram_pdf_init, 189
- fgsl_histogram_pdf_sample, 189
- fgsl_histogram_reset, 189
- fgsl_histogram_scale, 189
- fgsl_histogram_set_ranges, 189
- fgsl_histogram_set_ranges_uniform, 190
- fgsl_histogram_shift, 190
- fgsl_histogram_sigma, 190
- fgsl_histogram_status, 190
- fgsl_histogram_sub, 190
- fgsl_histogram_sum, 190
- ieee.finc
 - fgsl_ieee_env_setup, 190
 - fgsl_ieee_fprintf_double, 190
 - fgsl_ieee_fprintf_float, 190
 - fgsl_ieee_printf_double, 190
 - fgsl_ieee_printf_float, 190
- integration.finc
 - fgsl_integration_cquad, 192
 - fgsl_integration_cquad_workspace_alloc, 192
 - fgsl_integration_cquad_workspace_free, 192
 - fgsl_integration_cquad_workspace_status, 192
 - fgsl_integration_glfixed, 192
 - fgsl_integration_glfixed_point, 192
 - fgsl_integration_glfixed_table_alloc, 192
 - fgsl_integration_glfixed_table_free, 192
 - fgsl_integration_glfixed_table_status, 192
 - fgsl_integration_qag, 192
 - fgsl_integration_qagi, 192
 - fgsl_integration_qagil, 192
 - fgsl_integration_qagiu, 192
 - fgsl_integration_qagp, 193
 - fgsl_integration_qags, 193
 - fgsl_integration_qawc, 193
 - fgsl_integration_qawf, 193
 - fgsl_integration_qawo, 193
 - fgsl_integration_qawo_table_alloc, 193
 - fgsl_integration_qawo_table_free, 193
 - fgsl_integration_qawo_table_set, 193
 - fgsl_integration_qawo_table_set_length, 193
 - fgsl_integration_qawo_table_status, 193
 - fgsl_integration_qaws, 193
 - fgsl_integration_qaws_table_alloc, 193
 - fgsl_integration_qaws_table_free, 193
 - fgsl_integration_qaws_table_set, 193
 - fgsl_integration_qaws_table_status, 193
 - fgsl_integration_qng, 194
 - fgsl_integration_workspace_alloc, 194
 - fgsl_integration_workspace_free, 194
 - fgsl_integration_workspace_status, 194
 - fgsl_sizeof_integration_qawo_table, 194
 - fgsl_sizeof_integration_qaws_table, 194

- fgsl_sizeof_integration_workspace, 194
- interface/generics.finc, 291
- interp.finc
 - fgsl_interp_accel_alloc, 195
 - fgsl_interp_accel_find, 195
 - fgsl_interp_accel_free, 195
 - fgsl_interp_accel_status, 195
 - fgsl_interp_alloc, 195
 - fgsl_interp_bsearch, 195
 - fgsl_interp_eval, 195
 - fgsl_interp_eval_deriv, 195
 - fgsl_interp_eval_deriv2, 195
 - fgsl_interp_eval_deriv2_e, 195
 - fgsl_interp_eval_deriv_e, 195
 - fgsl_interp_eval_e, 196
 - fgsl_interp_eval_integ, 196
 - fgsl_interp_eval_integ_e, 196
 - fgsl_interp_free, 196
 - fgsl_interp_init, 196
 - fgsl_interp_min_size, 196
 - fgsl_interp_name, 196
 - fgsl_interp_status, 196
 - fgsl_interp_type_min_size, 196
 - fgsl_sizeof_interp, 196
 - fgsl_spline_alloc, 196
 - fgsl_spline_eval, 196
 - fgsl_spline_eval_deriv, 196
 - fgsl_spline_eval_deriv2, 196
 - fgsl_spline_eval_deriv2_e, 196
 - fgsl_spline_eval_deriv_e, 196
 - fgsl_spline_eval_e, 196
 - fgsl_spline_eval_integ, 196
 - fgsl_spline_eval_integ_e, 196
 - fgsl_spline_free, 197
 - fgsl_spline_init, 197
 - fgsl_spline_min_size, 197
 - fgsl_spline_name, 197
 - fgsl_spline_status, 197
- io.finc
 - fgsl_close, 197
 - fgsl_file_status, 198
 - fgsl_flush, 198
 - fgsl_open, 198
 - fgsl_stderr, 198
 - fgsl_stdin, 198
 - fgsl_stdout, 198
- linalg.finc
 - fgsl_linalg_balance_matrix, 201
 - fgsl_linalg_bidiag_decomp, 201
 - fgsl_linalg_bidiag_unpack, 201
 - fgsl_linalg_bidiag_unpack2, 201
 - fgsl_linalg_bidiag_unpack_b, 201
 - fgsl_linalg_cholesky_decomp, 201
 - fgsl_linalg_cholesky_invert, 201
 - fgsl_linalg_cholesky_solve, 201
 - fgsl_linalg_cholesky_svx, 201
 - fgsl_linalg_complex_cholesky_decomp, 201
 - fgsl_linalg_complex_cholesky_invert, 201
 - fgsl_linalg_complex_cholesky_solve, 201
 - fgsl_linalg_complex_cholesky_svx, 201
 - fgsl_linalg_complex_householder_hm, 201
 - fgsl_linalg_complex_householder_hv, 201
 - fgsl_linalg_complex_householder_mh, 201
 - fgsl_linalg_complex_householder_transform, 201
 - fgsl_linalg_complex_lu_decomp, 201
 - fgsl_linalg_complex_lu_det, 201
 - fgsl_linalg_complex_lu_invert, 201
 - fgsl_linalg_complex_lu_lndet, 202
 - fgsl_linalg_complex_lu_refine, 202
 - fgsl_linalg_complex_lu_sgndet, 202
 - fgsl_linalg_complex_lu_solve, 202
 - fgsl_linalg_complex_lu_svx, 202
 - fgsl_linalg_hermt_d_decomp, 202
 - fgsl_linalg_hermt_d_unpack, 202
 - fgsl_linalg_hermt_d_unpack_t, 202
 - fgsl_linalg_hessenberg_decomp, 202
 - fgsl_linalg_hessenberg_set_zero, 202
 - fgsl_linalg_hessenberg_unpack, 202
 - fgsl_linalg_hessenberg_unpack_accum, 202
 - fgsl_linalg_hesstri_decomp, 202
 - fgsl_linalg_hh_solve, 202
 - fgsl_linalg_hh_svx, 202
 - fgsl_linalg_householder_hm, 202
 - fgsl_linalg_householder_hv, 202
 - fgsl_linalg_householder_mh, 202
 - fgsl_linalg_householder_transform, 203
 - fgsl_linalg_lu_decomp, 203
 - fgsl_linalg_lu_det, 203
 - fgsl_linalg_lu_invert, 203
 - fgsl_linalg_lu_lndet, 203
 - fgsl_linalg_lu_refine, 203
 - fgsl_linalg_lu_sgndet, 203
 - fgsl_linalg_lu_solve, 203
 - fgsl_linalg_lu_svx, 203
 - fgsl_linalg_qr_decomp, 203
 - fgsl_linalg_qr_lssolve, 203
 - fgsl_linalg_qr_qrsolve, 203
 - fgsl_linalg_qr_qtmat, 203
 - fgsl_linalg_qr_qtvec, 203
 - fgsl_linalg_qr_qvec, 203
 - fgsl_linalg_qr_solve, 203
 - fgsl_linalg_qr_rsvx, 203
 - fgsl_linalg_qr_solve, 203
 - fgsl_linalg_qr_svx, 203
 - fgsl_linalg_qr_unpack, 203
 - fgsl_linalg_qr_update, 204
 - fgsl_linalg_qrpt_decomp, 204
 - fgsl_linalg_qrpt_decomp2, 204
 - fgsl_linalg_qrpt_qrsolve, 204
 - fgsl_linalg_qrpt_solve, 204
 - fgsl_linalg_qrpt_rsvx, 204
 - fgsl_linalg_qrpt_solve, 204
 - fgsl_linalg_qrpt_svx, 204
 - fgsl_linalg_qrpt_update, 204
 - fgsl_linalg_r_solve, 204
 - fgsl_linalg_r_svx, 204

- fgsl_linalg_solve_cyc_tridiag, 204
- fgsl_linalg_solve_symm_cyc_tridiag, 204
- fgsl_linalg_solve_symm_tridiag, 204
- fgsl_linalg_solve_tridiag, 204
- fgsl_linalg_sv_decomp, 204
- fgsl_linalg_sv_decomp_jacobi, 204
- fgsl_linalg_sv_decomp_mod, 204
- fgsl_linalg_sv_solve, 205
- fgsl_linalg_symmtd_decomp, 205
- fgsl_linalg_symmtd_unpack, 205
- fgsl_linalg_symmtd_unpack_t, 205
- m_1_pi
 - fgsl, 116
- m_2_pi
 - fgsl, 116
- m_2_sqrtpi
 - fgsl, 116
- m_e
 - fgsl, 116
- m_euler
 - fgsl, 116
- m_ln10
 - fgsl, 116
- m_ln2
 - fgsl, 116
- m_lnp1
 - fgsl, 116
- m_log10e
 - fgsl, 116
- m_log2e
 - fgsl, 116
- m_pi
 - fgsl, 116
- m_pi_2
 - fgsl, 116
- m_pi_4
 - fgsl, 116
- m_sqrt1_2
 - fgsl, 116
- m_sqrt2
 - fgsl, 116
- m_sqrt3
 - fgsl, 116
- m_sqrtpi
 - fgsl, 116
- math.finc
 - fgsl_acosh, 206
 - fgsl_asinh, 206
 - fgsl_atanh, 206
 - fgsl_expm1, 206
 - fgsl_fcmp, 206
 - fgsl_finite, 206
 - fgsl_fn_eval, 206
 - fgsl_fn_fdf_eval_df, 206
 - fgsl_fn_fdf_eval_f, 206
 - fgsl_fn_fdf_eval_f_df, 207
 - fgsl_frexp, 207
 - fgsl_function_fdf_free, 207
 - fgsl_function_fdf_init, 207
 - fgsl_function_free, 207
 - fgsl_function_init, 207
 - fgsl_hypot, 208
 - fgsl_isinf, 208
 - fgsl_isnan, 208
 - fgsl_ldexp, 208
 - fgsl_log1p, 208
- min.finc
 - fgsl_min_fminimizer_alloc, 209
 - fgsl_min_fminimizer_f_lower, 209
 - fgsl_min_fminimizer_f_minimum, 209
 - fgsl_min_fminimizer_f_upper, 209
 - fgsl_min_fminimizer_free, 209
 - fgsl_min_fminimizer_iterate, 209
 - fgsl_min_fminimizer_name, 209
 - fgsl_min_fminimizer_set, 209
 - fgsl_min_fminimizer_set_with_values, 209
 - fgsl_min_fminimizer_status, 209
 - fgsl_min_fminimizer_x_lower, 209
 - fgsl_min_fminimizer_x_minimum, 209
 - fgsl_min_fminimizer_x_upper, 209
 - fgsl_min_test_interval, 209
- misc.finc
 - fgsl_name, 210
 - fgsl_sizeof_char, 210
 - fgsl_sizeof_double, 210
 - fgsl_sizeof_float, 210
 - fgsl_sizeof_int, 211
 - fgsl_sizeof_long, 211
 - fgsl_sizeof_size_t, 211
- montecarlo.finc
 - fgsl_monte_function_free, 212
 - fgsl_monte_function_init, 212
 - fgsl_monte_function_status, 212
 - fgsl_monte_miser_alloc, 212
 - fgsl_monte_miser_free, 212
 - fgsl_monte_miser_getparams, 212
 - fgsl_monte_miser_init, 212
 - fgsl_monte_miser_integrate, 212
 - fgsl_monte_miser_setparams, 212
 - fgsl_monte_miser_status, 212
 - fgsl_monte_plain_alloc, 213
 - fgsl_monte_plain_free, 213
 - fgsl_monte_plain_init, 213
 - fgsl_monte_plain_integrate, 213
 - fgsl_monte_plain_status, 213
 - fgsl_monte_vegas_alloc, 213
 - fgsl_monte_vegas_chisq, 213
 - fgsl_monte_vegas_free, 213
 - fgsl_monte_vegas_getparams, 213
 - fgsl_monte_vegas_init, 213
 - fgsl_monte_vegas_integrate, 213
 - fgsl_monte_vegas_runval, 213
 - fgsl_monte_vegas_setparams, 213
 - fgsl_monte_vegas_status, 213
- multifit.finc
 - fgsl_multifit_covar, 215

- fgsl_multifit_fdfsolver_alloc, 215
- fgsl_multifit_fdfsolver_dx, 215
- fgsl_multifit_fdfsolver_f, 215
- fgsl_multifit_fdfsolver_free, 215
- fgsl_multifit_fdfsolver_iterate, 215
- fgsl_multifit_fdfsolver_jac, 215
- fgsl_multifit_fdfsolver_name, 215
- fgsl_multifit_fdfsolver_position, 215
- fgsl_multifit_fdfsolver_set, 215
- fgsl_multifit_fdfsolver_status, 215
- fgsl_multifit_fsolver_alloc, 215
- fgsl_multifit_fsolver_free, 215
- fgsl_multifit_fsolver_iterate, 215
- fgsl_multifit_fsolver_name, 215
- fgsl_multifit_fsolver_position, 215
- fgsl_multifit_fsolver_set, 215
- fgsl_multifit_fsolver_status, 215
- fgsl_multifit_function_fdf_free, 215
- fgsl_multifit_function_fdf_init, 215
- fgsl_multifit_function_free, 215
- fgsl_multifit_function_init, 215
- fgsl_multifit_gradient, 215
- fgsl_multifit_test_delta, 216
- fgsl_multifit_test_gradient, 216
- multimin.finc
 - fgsl_multimin_fdfminimizer_alloc, 217
 - fgsl_multimin_fdfminimizer_free, 217
 - fgsl_multimin_fdfminimizer_gradient, 217
 - fgsl_multimin_fdfminimizer_iterate, 217
 - fgsl_multimin_fdfminimizer_minimum, 217
 - fgsl_multimin_fdfminimizer_name, 217
 - fgsl_multimin_fdfminimizer_restart, 217
 - fgsl_multimin_fdfminimizer_set, 217
 - fgsl_multimin_fdfminimizer_status, 217
 - fgsl_multimin_fdfminimizer_x, 217
 - fgsl_multimin_fminimizer_alloc, 217
 - fgsl_multimin_fminimizer_free, 217
 - fgsl_multimin_fminimizer_iterate, 217
 - fgsl_multimin_fminimizer_minimum, 217
 - fgsl_multimin_fminimizer_name, 217
 - fgsl_multimin_fminimizer_set, 217
 - fgsl_multimin_fminimizer_size, 217
 - fgsl_multimin_fminimizer_status, 217
 - fgsl_multimin_fminimizer_x, 217
 - fgsl_multimin_function_fdf_free, 217
 - fgsl_multimin_function_fdf_init, 217
 - fgsl_multimin_function_free, 218
 - fgsl_multimin_function_init, 218
 - fgsl_multimin_test_gradient, 218
 - fgsl_multimin_test_size, 218
- multiroots.finc
 - fgsl_multiroot_fdfsolver_alloc, 219
 - fgsl_multiroot_fdfsolver_dx, 219
 - fgsl_multiroot_fdfsolver_f, 219
 - fgsl_multiroot_fdfsolver_free, 219
 - fgsl_multiroot_fdfsolver_iterate, 219
 - fgsl_multiroot_fdfsolver_name, 219
 - fgsl_multiroot_fdfsolver_root, 219
 - fgsl_multiroot_fdfsolver_set, 219
 - fgsl_multiroot_fdfsolver_status, 219
 - fgsl_multiroot_fsolver_alloc, 219
 - fgsl_multiroot_fsolver_dx, 219
 - fgsl_multiroot_fsolver_f, 219
 - fgsl_multiroot_fsolver_free, 219
 - fgsl_multiroot_fsolver_iterate, 219
 - fgsl_multiroot_fsolver_name, 219
 - fgsl_multiroot_fsolver_root, 219
 - fgsl_multiroot_fsolver_set, 219
 - fgsl_multiroot_fsolver_status, 219
 - fgsl_multiroot_function_fdf_free, 219
 - fgsl_multiroot_function_fdf_init, 220
 - fgsl_multiroot_function_free, 220
 - fgsl_multiroot_function_init, 220
 - fgsl_multiroot_test_delta, 220
 - fgsl_multiroot_test_residual, 220
- ntuple.finc
 - fgsl_ntuple_bookdata, 221
 - fgsl_ntuple_close, 221
 - fgsl_ntuple_create, 221
 - fgsl_ntuple_data, 221
 - fgsl_ntuple_open, 221
 - fgsl_ntuple_project, 221
 - fgsl_ntuple_read, 221
 - fgsl_ntuple_select_fn_free, 221
 - fgsl_ntuple_select_fn_init, 221
 - fgsl_ntuple_select_fn_status, 221
 - fgsl_ntuple_size, 221
 - fgsl_ntuple_status, 221
 - fgsl_ntuple_value_fn_free, 221
 - fgsl_ntuple_value_fn_init, 221
 - fgsl_ntuple_value_fn_status, 221
 - fgsl_ntuple_write, 221
- ode.finc
 - fgsl_odeiv2_control_alloc, 223
 - fgsl_odeiv2_control_errlevel, 223
 - fgsl_odeiv2_control_free, 223
 - fgsl_odeiv2_control_hadjust, 223
 - fgsl_odeiv2_control_init, 223
 - fgsl_odeiv2_control_name, 223
 - fgsl_odeiv2_control_scaled_new, 223
 - fgsl_odeiv2_control_set_driver, 223
 - fgsl_odeiv2_control_standard_new, 224
 - fgsl_odeiv2_control_status, 224
 - fgsl_odeiv2_control_y_new, 224
 - fgsl_odeiv2_control_yp_new, 224
 - fgsl_odeiv2_driver_alloc_scaled_new, 224
 - fgsl_odeiv2_driver_alloc_standard_new, 224
 - fgsl_odeiv2_driver_alloc_y_new, 224
 - fgsl_odeiv2_driver_alloc_yp_new, 224
 - fgsl_odeiv2_driver_apply, 224
 - fgsl_odeiv2_driver_apply_fixed_step, 224
 - fgsl_odeiv2_driver_free, 224
 - fgsl_odeiv2_driver_reset, 224
 - fgsl_odeiv2_driver_set_hmax, 224
 - fgsl_odeiv2_driver_set_hmin, 224

- fgsl_odeiv2_driver_set_nmax, 224
- fgsl_odeiv2_driver_status, 224
- fgsl_odeiv2_evolve_alloc, 224
- fgsl_odeiv2_evolve_apply, 224
- fgsl_odeiv2_evolve_apply_fixed_step, 225
- fgsl_odeiv2_evolve_free, 225
- fgsl_odeiv2_evolve_reset, 225
- fgsl_odeiv2_evolve_set_driver, 225
- fgsl_odeiv2_evolve_status, 225
- fgsl_odeiv2_step_alloc, 225
- fgsl_odeiv2_step_apply, 225
- fgsl_odeiv2_step_free, 225
- fgsl_odeiv2_step_name, 225
- fgsl_odeiv2_step_order, 225
- fgsl_odeiv2_step_reset, 225
- fgsl_odeiv2_step_set_driver, 225
- fgsl_odeiv2_step_status, 225
- fgsl_odeiv2_system_free, 225
- fgsl_odeiv2_system_init, 225
- fgsl_odeiv2_system_status, 225
- fgsl_odeiv_control_alloc, 226
- fgsl_odeiv_control_free, 226
- fgsl_odeiv_control_hadjust, 226
- fgsl_odeiv_control_init, 226
- fgsl_odeiv_control_name, 226
- fgsl_odeiv_control_scaled_new, 226
- fgsl_odeiv_control_standard_new, 226
- fgsl_odeiv_control_status, 226
- fgsl_odeiv_control_y_new, 226
- fgsl_odeiv_control_yp_new, 226
- fgsl_odeiv_evolve_alloc, 226
- fgsl_odeiv_evolve_apply, 226
- fgsl_odeiv_evolve_free, 226
- fgsl_odeiv_evolve_reset, 226
- fgsl_odeiv_evolve_status, 226
- fgsl_odeiv_step_alloc, 226
- fgsl_odeiv_step_apply, 226
- fgsl_odeiv_step_free, 226
- fgsl_odeiv_step_name, 226
- fgsl_odeiv_step_order, 226
- fgsl_odeiv_step_reset, 227
- fgsl_odeiv_step_status, 227
- fgsl_odeiv_system_free, 227
- fgsl_odeiv_system_init, 227
- fgsl_odeiv_system_status, 227
- permutation.finc
 - fgsl_combination_alloc, 229
 - fgsl_combination_calloc, 229
 - fgsl_combination_data, 229
 - fgsl_combination_fprintf, 229
 - fgsl_combination_fread, 229
 - fgsl_combination_free, 229
 - fgsl_combination_fscanf, 229
 - fgsl_combination_fwrite, 229
 - fgsl_combination_get, 229
 - fgsl_combination_init_first, 229
 - fgsl_combination_init_last, 229
 - fgsl_combination_k, 229
 - fgsl_combination_memcpy, 229
 - fgsl_combination_n, 229
 - fgsl_combination_next, 229
 - fgsl_combination_prev, 229
 - fgsl_combination_status, 229
 - fgsl_combination_valid, 229
 - fgsl_multiset_alloc, 230
 - fgsl_multiset_calloc, 230
 - fgsl_multiset_data, 230
 - fgsl_multiset_fprintf, 230
 - fgsl_multiset_fread, 230
 - fgsl_multiset_free, 230
 - fgsl_multiset_fscanf, 230
 - fgsl_multiset_fwrite, 230
 - fgsl_multiset_get, 230
 - fgsl_multiset_init_first, 230
 - fgsl_multiset_init_last, 230
 - fgsl_multiset_k, 230
 - fgsl_multiset_memcpy, 230
 - fgsl_multiset_n, 230
 - fgsl_multiset_next, 230
 - fgsl_multiset_prev, 230
 - fgsl_multiset_status, 230
 - fgsl_multiset_valid, 230
 - fgsl_permutation_alloc, 230
 - fgsl_permutation_calloc, 230
 - fgsl_permutation_canonical_cycles, 230
 - fgsl_permutation_canonical_to_linear, 230
 - fgsl_permutation_data, 230
 - fgsl_permutation_fprintf, 230
 - fgsl_permutation_fread, 230
 - fgsl_permutation_free, 230
 - fgsl_permutation_fscanf, 231
 - fgsl_permutation_fwrite, 231
 - fgsl_permutation_get, 231
 - fgsl_permutation_init, 231
 - fgsl_permutation_inverse, 231
 - fgsl_permutation_inversions, 231
 - fgsl_permutation_linear_cycles, 231
 - fgsl_permutation_linear_to_canonical, 231
 - fgsl_permutation_memcpy, 231
 - fgsl_permutation_mul, 231
 - fgsl_permutation_next, 231
 - fgsl_permutation_prev, 231
 - fgsl_permutation_reverse, 231
 - fgsl_permutation_size, 231
 - fgsl_permutation_status, 231
 - fgsl_permutation_swap, 231
 - fgsl_permutation_valid, 231
 - fgsl_permute, 231
 - fgsl_permute_inverse, 231
 - fgsl_permute_long, 231
 - fgsl_permute_long_inverse, 231
 - fgsl_permute_vector, 231
 - fgsl_permute_vector_inverse, 232
 - fgsl_sizeof_combination, 232
 - fgsl_sizeof_multiset, 232
 - fgsl_sizeof_permutation, 232

poly.finc

fgsl_complex_poly_complex_eval, 232
 fgsl_poly_complex_eval, 233
 fgsl_poly_complex_solve, 233
 fgsl_poly_complex_solve_cubic, 233
 fgsl_poly_complex_solve_quadratic, 233
 fgsl_poly_complex_workspace_alloc, 233
 fgsl_poly_complex_workspace_free, 233
 fgsl_poly_complex_workspace_stat, 233
 fgsl_poly_dd_eval, 233
 fgsl_poly_dd_init, 233
 fgsl_poly_dd_taylor, 233
 fgsl_poly_eval, 233
 fgsl_poly_eval_derivs, 233
 fgsl_poly_solve_cubic, 233
 fgsl_poly_solve_quadratic, 233

rng.finc

fgsl_cdf_beta_p, 238
 fgsl_cdf_beta_pinv, 238
 fgsl_cdf_beta_q, 238
 fgsl_cdf_beta_qinv, 238
 fgsl_cdf_binomial_p, 238
 fgsl_cdf_binomial_q, 238
 fgsl_cdf_cauchy_p, 238
 fgsl_cdf_cauchy_pinv, 238
 fgsl_cdf_cauchy_q, 238
 fgsl_cdf_cauchy_qinv, 238
 fgsl_cdf_chisq_p, 238
 fgsl_cdf_chisq_pinv, 238
 fgsl_cdf_chisq_q, 238
 fgsl_cdf_chisq_qinv, 238
 fgsl_cdf_exponential_p, 238
 fgsl_cdf_exponential_pinv, 238
 fgsl_cdf_exponential_q, 238
 fgsl_cdf_exponential_qinv, 238
 fgsl_cdf_exppow_p, 238
 fgsl_cdf_exppow_q, 238
 fgsl_cdf_fdist_p, 238
 fgsl_cdf_fdist_pinv, 239
 fgsl_cdf_fdist_q, 239
 fgsl_cdf_fdist_qinv, 239
 fgsl_cdf_flat_p, 239
 fgsl_cdf_flat_pinv, 239
 fgsl_cdf_flat_q, 239
 fgsl_cdf_flat_qinv, 239
 fgsl_cdf_gamma_p, 239
 fgsl_cdf_gamma_pinv, 239
 fgsl_cdf_gamma_q, 239
 fgsl_cdf_gamma_qinv, 239
 fgsl_cdf_gaussian_p, 239
 fgsl_cdf_gaussian_pinv, 239
 fgsl_cdf_gaussian_q, 239
 fgsl_cdf_gaussian_qinv, 239
 fgsl_cdf_geometric_p, 239
 fgsl_cdf_geometric_q, 239
 fgsl_cdf_gumbel1_p, 239
 fgsl_cdf_gumbel1_pinv, 239
 fgsl_cdf_gumbel1_q, 239

fgsl_cdf_gumbel1_qinv, 239
 fgsl_cdf_gumbel2_p, 240
 fgsl_cdf_gumbel2_pinv, 240
 fgsl_cdf_gumbel2_q, 240
 fgsl_cdf_gumbel2_qinv, 240
 fgsl_cdf_hypergeometric_p, 240
 fgsl_cdf_hypergeometric_q, 240
 fgsl_cdf_laplace_p, 240
 fgsl_cdf_laplace_pinv, 240
 fgsl_cdf_laplace_q, 240
 fgsl_cdf_laplace_qinv, 240
 fgsl_cdf_logistic_p, 240
 fgsl_cdf_logistic_pinv, 240
 fgsl_cdf_logistic_q, 240
 fgsl_cdf_logistic_qinv, 240
 fgsl_cdf_lognormal_p, 240
 fgsl_cdf_lognormal_pinv, 240
 fgsl_cdf_lognormal_q, 240
 fgsl_cdf_lognormal_qinv, 240
 fgsl_cdf_negative_binomial_p, 240
 fgsl_cdf_negative_binomial_q, 240
 fgsl_cdf_pareto_p, 240
 fgsl_cdf_pareto_pinv, 241
 fgsl_cdf_pareto_q, 241
 fgsl_cdf_pareto_qinv, 241
 fgsl_cdf_pascal_p, 241
 fgsl_cdf_pascal_q, 241
 fgsl_cdf_poisson_p, 241
 fgsl_cdf_poisson_q, 241
 fgsl_cdf_rayleigh_p, 241
 fgsl_cdf_rayleigh_pinv, 241
 fgsl_cdf_rayleigh_q, 241
 fgsl_cdf_rayleigh_qinv, 241
 fgsl_cdf_tdist_p, 241
 fgsl_cdf_tdist_pinv, 241
 fgsl_cdf_tdist_q, 241
 fgsl_cdf_tdist_qinv, 241
 fgsl_cdf_ugaussian_p, 241
 fgsl_cdf_ugaussian_pinv, 241
 fgsl_cdf_ugaussian_q, 241
 fgsl_cdf_ugaussian_qinv, 241
 fgsl_cdf_weibull_p, 241
 fgsl_cdf_weibull_pinv, 241
 fgsl_cdf_weibull_q, 241
 fgsl_cdf_weibull_qinv, 241
 fgsl_qrng_alloc, 242
 fgsl_qrng_clone, 242
 fgsl_qrng_free, 242
 fgsl_qrng_get, 242
 fgsl_qrng_init, 242
 fgsl_qrng_memcpy, 242
 fgsl_qrng_name, 242
 fgsl_qrng_status, 242
 fgsl_ran_bernoulli, 242
 fgsl_ran_bernoulli_pdf, 242
 fgsl_ran_beta, 242
 fgsl_ran_beta_pdf, 242
 fgsl_ran_binomial, 242

- fgsl_ran_binomial_pdf, 242
- fgsl_ran_bivariate_gaussian, 242
- fgsl_ran_bivariate_gaussian_pdf, 242
- fgsl_ran_cauchy, 242
- fgsl_ran_cauchy_pdf, 242
- fgsl_ran_chisq, 242
- fgsl_ran_chisq_pdf, 242
- fgsl_ran_choose, 242
- fgsl_ran_dir_2d, 242
- fgsl_ran_dir_2d_trig_method, 243
- fgsl_ran_dir_3d, 243
- fgsl_ran_dir_nd, 243
- fgsl_ran_dirichlet, 243
- fgsl_ran_dirichlet_lnpdf, 243
- fgsl_ran_dirichlet_pdf, 243
- fgsl_ran_discrete, 243
- fgsl_ran_discrete_free, 243
- fgsl_ran_discrete_pdf, 243
- fgsl_ran_discrete_preproc, 243
- fgsl_ran_discrete_t_status, 243
- fgsl_ran_exponential, 243
- fgsl_ran_exponential_pdf, 243
- fgsl_ran_exppow, 243
- fgsl_ran_exppow_pdf, 243
- fgsl_ran_fdist, 243
- fgsl_ran_fdist_pdf, 243
- fgsl_ran_flat, 243
- fgsl_ran_flat_pdf, 243
- fgsl_ran_gamma, 243
- fgsl_ran_gamma_mt, 244
- fgsl_ran_gamma_pdf, 244
- fgsl_ran_gaussian, 244
- fgsl_ran_gaussian_pdf, 244
- fgsl_ran_gaussian_ratio_method, 244
- fgsl_ran_gaussian_tail, 244
- fgsl_ran_gaussian_tail_pdf, 244
- fgsl_ran_gaussian_ziggurat, 244
- fgsl_ran_geometric, 244
- fgsl_ran_geometric_pdf, 244
- fgsl_ran_gumbel1, 244
- fgsl_ran_gumbel1_pdf, 244
- fgsl_ran_gumbel2, 244
- fgsl_ran_gumbel2_pdf, 244
- fgsl_ran_hypergeometric, 244
- fgsl_ran_hypergeometric_pdf, 244
- fgsl_ran_landau, 244
- fgsl_ran_landau_pdf, 244
- fgsl_ran_laplace, 244
- fgsl_ran_laplace_pdf, 244
- fgsl_ran_levy, 244
- fgsl_ran_levy_skew, 245
- fgsl_ran_logarithmic, 245
- fgsl_ran_logarithmic_pdf, 245
- fgsl_ran_logistic, 245
- fgsl_ran_logistic_pdf, 245
- fgsl_ran_lognormal, 245
- fgsl_ran_lognormal_pdf, 245
- fgsl_ran_multinomial, 245
- fgsl_ran_multinomial_lnpdf, 245
- fgsl_ran_multinomial_pdf, 245
- fgsl_ran_negative_binomial, 245
- fgsl_ran_negative_binomial_pdf, 245
- fgsl_ran_pareto, 245
- fgsl_ran_pareto_pdf, 245
- fgsl_ran_pascal, 245
- fgsl_ran_pascal_pdf, 245
- fgsl_ran_poisson, 245
- fgsl_ran_poisson_pdf, 245
- fgsl_ran_rayleigh, 245
- fgsl_ran_rayleigh_pdf, 245
- fgsl_ran_rayleigh_tail, 245
- fgsl_ran_rayleigh_tail_pdf, 246
- fgsl_ran_sample, 246
- fgsl_ran_shuffle, 246
- fgsl_ran_shuffle_double, 246
- fgsl_ran_shuffle_size_t, 246
- fgsl_ran_tdist, 246
- fgsl_ran_tdist_pdf, 246
- fgsl_ran_ugaussian, 246
- fgsl_ran_ugaussian_pdf, 246
- fgsl_ran_ugaussian_ratio_method, 246
- fgsl_ran_ugaussian_tail, 246
- fgsl_ran_ugaussian_tail_pdf, 246
- fgsl_ran_weibull, 246
- fgsl_ran_weibull_pdf, 246
- fgsl_rng_alloc, 246
- fgsl_rng_c_ptr, 246
- fgsl_rng_clone, 246
- fgsl_rng_env_setup, 246
- fgsl_rng_fread, 246
- fgsl_rng_free, 246
- fgsl_rng_fwrite, 246
- fgsl_rng_get, 246
- fgsl_rng_max, 246
- fgsl_rng_memcpy, 246
- fgsl_rng_min, 247
- fgsl_rng_name, 247
- fgsl_rng_set, 247
- fgsl_rng_status, 247
- fgsl_rng_uniform, 247
- fgsl_rng_uniform_int, 247
- fgsl_rng_uniform_pos, 247
- roots.finc
 - fgsl_root_fdfsolver_alloc, 248
 - fgsl_root_fdfsolver_free, 248
 - fgsl_root_fdfsolver_iterate, 248
 - fgsl_root_fdfsolver_name, 248
 - fgsl_root_fdfsolver_root, 248
 - fgsl_root_fdfsolver_set, 248
 - fgsl_root_fdfsolver_status, 248
 - fgsl_root_fsolver_alloc, 248
 - fgsl_root_fsolver_free, 248
 - fgsl_root_fsolver_iterate, 248
 - fgsl_root_fsolver_name, 248
 - fgsl_root_fsolver_root, 248
 - fgsl_root_fsolver_set, 248

- fgsl_root_fsolver_status, 248
- fgsl_root_fsolver_x_lower, 248
- fgsl_root_fsolver_x_upper, 248
- fgsl_root_test_delta, 248
- fgsl_root_test_interval, 248
- fgsl_root_test_residual, 248
- siman.finc
 - fgsl_siman_params_free, 249
 - fgsl_siman_params_init, 249
 - fgsl_siman_params_t_status, 249
 - fgsl_siman_solve, 249
- sort.finc
 - fgsl_heapsort, 250
 - fgsl_heapsort_index, 250
 - fgsl_sort_double, 250
 - fgsl_sort_double_index, 250
 - fgsl_sort_double_largest, 251
 - fgsl_sort_double_largest_index, 251
 - fgsl_sort_double_smallest, 251
 - fgsl_sort_double_smallest_index, 251
 - fgsl_sort_long, 251
 - fgsl_sort_long_index, 251
 - fgsl_sort_long_largest, 251
 - fgsl_sort_long_largest_index, 251
 - fgsl_sort_long_smallest, 251
 - fgsl_sort_long_smallest_index, 251
 - fgsl_sort_vector, 251
 - fgsl_sort_vector_index, 251
 - fgsl_sort_vector_largest, 251
 - fgsl_sort_vector_largest_index, 251
 - fgsl_sort_vector_smallest, 251
 - fgsl_sort_vector_smallest_index, 251
- specfunc.finc
 - fgsl_sf_airy_ai, 260
 - fgsl_sf_airy_ai_deriv, 260
 - fgsl_sf_airy_ai_deriv_e, 260
 - fgsl_sf_airy_ai_deriv_scaled, 260
 - fgsl_sf_airy_ai_deriv_scaled_e, 260
 - fgsl_sf_airy_ai_e, 260
 - fgsl_sf_airy_ai_scaled, 261
 - fgsl_sf_airy_ai_scaled_e, 261
 - fgsl_sf_airy_bi, 261
 - fgsl_sf_airy_bi_deriv, 261
 - fgsl_sf_airy_bi_deriv_e, 261
 - fgsl_sf_airy_bi_deriv_scaled, 261
 - fgsl_sf_airy_bi_deriv_scaled_e, 261
 - fgsl_sf_airy_bi_e, 261
 - fgsl_sf_airy_bi_scaled, 261
 - fgsl_sf_airy_bi_scaled_e, 261
 - fgsl_sf_airy_zero_ai, 261
 - fgsl_sf_airy_zero_ai_deriv, 261
 - fgsl_sf_airy_zero_ai_deriv_e, 261
 - fgsl_sf_airy_zero_ai_e, 261
 - fgsl_sf_airy_zero_bi, 261
 - fgsl_sf_airy_zero_bi_deriv, 261
 - fgsl_sf_airy_zero_bi_deriv_e, 261
 - fgsl_sf_airy_zero_bi_e, 261
 - fgsl_sf_angle_restrict_pos, 261
 - fgsl_sf_angle_restrict_pos_e, 261
 - fgsl_sf_angle_restrict_symm, 261
 - fgsl_sf_angle_restrict_symm_e, 261
 - fgsl_sf_atanint, 261
 - fgsl_sf_atanint_e, 261
 - fgsl_sf_bessel_ic0, 262
 - fgsl_sf_bessel_ic0_e, 262
 - fgsl_sf_bessel_ic0_scaled, 262
 - fgsl_sf_bessel_ic0_scaled_e, 262
 - fgsl_sf_bessel_ic1, 262
 - fgsl_sf_bessel_ic1_e, 262
 - fgsl_sf_bessel_ic1_scaled, 262
 - fgsl_sf_bessel_ic1_scaled_e, 262
 - fgsl_sf_bessel_icn, 262
 - fgsl_sf_bessel_icn_array, 262
 - fgsl_sf_bessel_icn_e, 262
 - fgsl_sf_bessel_icn_scaled, 262
 - fgsl_sf_bessel_icn_scaled_array, 262
 - fgsl_sf_bessel_icn_scaled_e, 262
 - fgsl_sf_bessel_inu, 262
 - fgsl_sf_bessel_inu_e, 262
 - fgsl_sf_bessel_inu_scaled, 262
 - fgsl_sf_bessel_inu_scaled_e, 262
 - fgsl_sf_bessel_is0_scaled, 262
 - fgsl_sf_bessel_is0_scaled_e, 262
 - fgsl_sf_bessel_is1_scaled, 262
 - fgsl_sf_bessel_is1_scaled_e, 262
 - fgsl_sf_bessel_is2_scaled, 262
 - fgsl_sf_bessel_is2_scaled_e, 263
 - fgsl_sf_bessel_isl_scaled, 263
 - fgsl_sf_bessel_isl_scaled_array, 263
 - fgsl_sf_bessel_isl_scaled_e, 263
 - fgsl_sf_bessel_jc0, 263
 - fgsl_sf_bessel_jc0_e, 263
 - fgsl_sf_bessel_jc1, 263
 - fgsl_sf_bessel_jc1_e, 263
 - fgsl_sf_bessel_jcn, 263
 - fgsl_sf_bessel_jcn_array, 263
 - fgsl_sf_bessel_jcn_e, 263
 - fgsl_sf_bessel_jnu, 263
 - fgsl_sf_bessel_jnu_e, 263
 - fgsl_sf_bessel_js0, 263
 - fgsl_sf_bessel_js0_e, 263
 - fgsl_sf_bessel_js1, 263
 - fgsl_sf_bessel_js1_e, 263
 - fgsl_sf_bessel_js2, 263
 - fgsl_sf_bessel_js2_e, 263
 - fgsl_sf_bessel_jsl, 263
 - fgsl_sf_bessel_jsl_array, 263
 - fgsl_sf_bessel_jsl_e, 263
 - fgsl_sf_bessel_jsl_stepped_array, 263
 - fgsl_sf_bessel_kc0, 263
 - fgsl_sf_bessel_kc0_e, 264
 - fgsl_sf_bessel_kc0_scaled, 264
 - fgsl_sf_bessel_kc0_scaled_e, 264
 - fgsl_sf_bessel_kc1, 264
 - fgsl_sf_bessel_kc1_e, 264
 - fgsl_sf_bessel_kc1_scaled, 264

fgsl_sf_bessel_kc1_scaled_e, 264
fgsl_sf_bessel_kcn, 264
fgsl_sf_bessel_kcn_array, 264
fgsl_sf_bessel_kcn_e, 264
fgsl_sf_bessel_kcn_scaled, 264
fgsl_sf_bessel_kcn_scaled_array, 264
fgsl_sf_bessel_kcn_scaled_e, 264
fgsl_sf_bessel_knu, 264
fgsl_sf_bessel_knu_e, 264
fgsl_sf_bessel_knu_scaled, 264
fgsl_sf_bessel_knu_scaled_e, 264
fgsl_sf_bessel_ks0_scaled, 264
fgsl_sf_bessel_ks0_scaled_e, 264
fgsl_sf_bessel_ks1_scaled, 264
fgsl_sf_bessel_ks1_scaled_e, 264
fgsl_sf_bessel_ks2_scaled, 264
fgsl_sf_bessel_ks2_scaled_e, 264
fgsl_sf_bessel_ksl_scaled, 265
fgsl_sf_bessel_ksl_scaled_array, 265
fgsl_sf_bessel_ksl_scaled_e, 265
fgsl_sf_bessel_lnknu, 265
fgsl_sf_bessel_lnknu_e, 265
fgsl_sf_bessel_sequence_jnu_e, 265
fgsl_sf_bessel_yc0, 265
fgsl_sf_bessel_yc0_e, 265
fgsl_sf_bessel_yc1, 265
fgsl_sf_bessel_yc1_e, 265
fgsl_sf_bessel_ycn, 265
fgsl_sf_bessel_ycn_array, 265
fgsl_sf_bessel_ycn_e, 265
fgsl_sf_bessel_ynu, 265
fgsl_sf_bessel_ynu_e, 265
fgsl_sf_bessel_ys0, 265
fgsl_sf_bessel_ys0_e, 265
fgsl_sf_bessel_ys1, 265
fgsl_sf_bessel_ys1_e, 265
fgsl_sf_bessel_ys2, 265
fgsl_sf_bessel_ys2_e, 265
fgsl_sf_bessel_ysl, 265
fgsl_sf_bessel_ysl_array, 266
fgsl_sf_bessel_ysl_e, 266
fgsl_sf_bessel_zero_jc0, 266
fgsl_sf_bessel_zero_jc0_e, 266
fgsl_sf_bessel_zero_jc1, 266
fgsl_sf_bessel_zero_jc1_e, 266
fgsl_sf_bessel_zero_jnu, 266
fgsl_sf_bessel_zero_jnu_e, 266
fgsl_sf_beta, 266
fgsl_sf_beta_e, 266
fgsl_sf_beta_inc, 266
fgsl_sf_beta_inc_e, 266
fgsl_sf_chi, 266
fgsl_sf_chi_e, 266
fgsl_sf_choose, 266
fgsl_sf_choose_e, 266
fgsl_sf_ci, 266
fgsl_sf_ci_e, 266
fgsl_sf_clausen, 266
fgsl_sf_clausen_e, 266
fgsl_sf_complex_cos_e, 266
fgsl_sf_complex_dilog_e, 266
fgsl_sf_complex_log_e, 266
fgsl_sf_complex_logsin_e, 267
fgsl_sf_complex_sin_e, 267
fgsl_sf_conicalp_0, 267
fgsl_sf_conicalp_0_e, 267
fgsl_sf_conicalp_1, 267
fgsl_sf_conicalp_1_e, 267
fgsl_sf_conicalp_cyl_reg, 267
fgsl_sf_conicalp_cyl_reg_e, 267
fgsl_sf_conicalp_half, 267
fgsl_sf_conicalp_half_e, 267
fgsl_sf_conicalp_mhalf, 267
fgsl_sf_conicalp_mhalf_e, 267
fgsl_sf_conicalp_sph_reg, 267
fgsl_sf_conicalp_sph_reg_e, 267
fgsl_sf_cos_err_e, 267
fgsl_sf_coulomb_cl_array, 267
fgsl_sf_coulomb_cl_e, 267
fgsl_sf_coulomb_wave_f_array, 267
fgsl_sf_coulomb_wave_fg_array, 267
fgsl_sf_coulomb_wave_fg_e, 268
fgsl_sf_coulomb_wave_fgp_array, 268
fgsl_sf_coulomb_wave_sphf_array, 268
fgsl_sf_coupling_3j, 268
fgsl_sf_coupling_3j_e, 268
fgsl_sf_coupling_6j, 268
fgsl_sf_coupling_6j_e, 268
fgsl_sf_coupling_9j, 268
fgsl_sf_coupling_9j_e, 268
fgsl_sf_dawson, 268
fgsl_sf_dawson_e, 268
fgsl_sf_debye_1, 268
fgsl_sf_debye_1_e, 268
fgsl_sf_debye_2, 268
fgsl_sf_debye_2_e, 268
fgsl_sf_debye_3, 268
fgsl_sf_debye_3_e, 269
fgsl_sf_debye_4, 269
fgsl_sf_debye_4_e, 269
fgsl_sf_debye_5, 269
fgsl_sf_debye_5_e, 269
fgsl_sf_debye_6, 269
fgsl_sf_debye_6_e, 269
fgsl_sf_dilog, 269
fgsl_sf_dilog_e, 269
fgsl_sf_doublefact, 269
fgsl_sf_doublefact_e, 269
fgsl_sf_ellint_d, 269
fgsl_sf_ellint_d_e, 269
fgsl_sf_ellint_e, 269
fgsl_sf_ellint_e_e, 269
fgsl_sf_ellint_ecomp, 269
fgsl_sf_ellint_ecomp_e, 269
fgsl_sf_ellint_f, 269
fgsl_sf_ellint_f_e, 269

- fgsl_sf_ellint_kcomp, 269
- fgsl_sf_ellint_kcomp_e, 269
- fgsl_sf_ellint_p, 269
- fgsl_sf_ellint_p_e, 269
- fgsl_sf_ellint_pcomp, 270
- fgsl_sf_ellint_pcomp_e, 270
- fgsl_sf_ellint_rc, 270
- fgsl_sf_ellint_rc_e, 270
- fgsl_sf_ellint_rd, 270
- fgsl_sf_ellint_rd_e, 270
- fgsl_sf_ellint_rf, 270
- fgsl_sf_ellint_rf_e, 270
- fgsl_sf_ellint_rj, 270
- fgsl_sf_ellint_rj_e, 270
- fgsl_sf_elljac_e, 270
- fgsl_sf_erf, 270
- fgsl_sf_erf_e, 270
- fgsl_sf_erf_q, 270
- fgsl_sf_erf_q_e, 270
- fgsl_sf_erf_z, 270
- fgsl_sf_erf_z_e, 270
- fgsl_sf_erfc, 270
- fgsl_sf_erfc_e, 270
- fgsl_sf_eta, 270
- fgsl_sf_eta_e, 270
- fgsl_sf_eta_int, 270
- fgsl_sf_eta_int_e, 271
- fgsl_sf_exp, 271
- fgsl_sf_exp_e, 271
- fgsl_sf_exp_e10_e, 271
- fgsl_sf_exp_err_e, 271
- fgsl_sf_exp_err_e10_e, 271
- fgsl_sf_exp_mult, 271
- fgsl_sf_exp_mult_e, 271
- fgsl_sf_exp_mult_e10_e, 271
- fgsl_sf_exp_mult_err_e, 271
- fgsl_sf_exp_mult_err_e10_e, 271
- fgsl_sf_expint_3, 271
- fgsl_sf_expint_3_e, 271
- fgsl_sf_expint_e1, 271
- fgsl_sf_expint_e1_e, 271
- fgsl_sf_expint_e2, 271
- fgsl_sf_expint_e2_e, 271
- fgsl_sf_expint_ei, 271
- fgsl_sf_expint_ei_e, 271
- fgsl_sf_expint_en, 271
- fgsl_sf_expint_en_e, 271
- fgsl_sf_expm1, 271
- fgsl_sf_expm1_e, 271
- fgsl_sf_exprel, 271
- fgsl_sf_exprel_2, 272
- fgsl_sf_exprel_2_e, 272
- fgsl_sf_exprel_e, 272
- fgsl_sf_exprel_n, 272
- fgsl_sf_exprel_n_e, 272
- fgsl_sf_fact, 272
- fgsl_sf_fact_e, 272
- fgsl_sf_fermi_dirac_0, 272
- fgsl_sf_fermi_dirac_0_e, 272
- fgsl_sf_fermi_dirac_1, 272
- fgsl_sf_fermi_dirac_1_e, 272
- fgsl_sf_fermi_dirac_2, 272
- fgsl_sf_fermi_dirac_2_e, 272
- fgsl_sf_fermi_dirac_3half, 272
- fgsl_sf_fermi_dirac_3half_e, 272
- fgsl_sf_fermi_dirac_half, 272
- fgsl_sf_fermi_dirac_half_e, 272
- fgsl_sf_fermi_dirac_inc_0, 272
- fgsl_sf_fermi_dirac_inc_0_e, 272
- fgsl_sf_fermi_dirac_int, 272
- fgsl_sf_fermi_dirac_int_e, 272
- fgsl_sf_fermi_dirac_m1, 272
- fgsl_sf_fermi_dirac_m1_e, 272
- fgsl_sf_fermi_dirac_mhalf, 272
- fgsl_sf_fermi_dirac_mhalf_e, 273
- fgsl_sf_gamma, 273
- fgsl_sf_gamma_e, 273
- fgsl_sf_gamma_inc, 273
- fgsl_sf_gamma_inc_e, 273
- fgsl_sf_gamma_inc_p, 273
- fgsl_sf_gamma_inc_p_e, 273
- fgsl_sf_gamma_inc_q, 273
- fgsl_sf_gamma_inc_q_e, 273
- fgsl_sf_gammainv, 273
- fgsl_sf_gammainv_e, 273
- fgsl_sf_gammastar, 273
- fgsl_sf_gammastar_e, 273
- fgsl_sf_gegenpoly_1, 273
- fgsl_sf_gegenpoly_1_e, 273
- fgsl_sf_gegenpoly_2, 273
- fgsl_sf_gegenpoly_2_e, 273
- fgsl_sf_gegenpoly_3, 273
- fgsl_sf_gegenpoly_3_e, 273
- fgsl_sf_gegenpoly_array, 273
- fgsl_sf_gegenpoly_n, 273
- fgsl_sf_gegenpoly_n_e, 273
- fgsl_sf_hazard, 273
- fgsl_sf_hazard_e, 274
- fgsl_sf_hydrogenic, 274
- fgsl_sf_hydrogenic_1, 274
- fgsl_sf_hydrogenic_1_e, 274
- fgsl_sf_hydrogenic_e, 274
- fgsl_sf_hyperg_0f1, 274
- fgsl_sf_hyperg_0f1_e, 274
- fgsl_sf_hyperg_1f1, 274
- fgsl_sf_hyperg_1f1_e, 274
- fgsl_sf_hyperg_1f1_int, 274
- fgsl_sf_hyperg_1f1_int_e, 274
- fgsl_sf_hyperg_2f0, 274
- fgsl_sf_hyperg_2f0_e, 274
- fgsl_sf_hyperg_2f1, 274
- fgsl_sf_hyperg_2f1_conj, 274
- fgsl_sf_hyperg_2f1_conj_e, 274
- fgsl_sf_hyperg_2f1_conj_renorm, 274
- fgsl_sf_hyperg_2f1_conj_renorm_e, 274
- fgsl_sf_hyperg_2f1_e, 274

- fgsl_sf_hyperg_2f1_renorm, 274
- fgsl_sf_hyperg_2f1_renorm_e, 275
- fgsl_sf_hyperg_u, 275
- fgsl_sf_hyperg_u_e, 275
- fgsl_sf_hyperg_u_e10_e, 275
- fgsl_sf_hyperg_u_int, 275
- fgsl_sf_hyperg_u_int_e, 275
- fgsl_sf_hyperg_u_int_e10_e, 275
- fgsl_sf_hypot, 275
- fgsl_sf_hypot_e, 275
- fgsl_sf_hzeta, 275
- fgsl_sf_hzeta_e, 275
- fgsl_sf_laguerre_1, 275
- fgsl_sf_laguerre_1_e, 275
- fgsl_sf_laguerre_2, 275
- fgsl_sf_laguerre_2_e, 275
- fgsl_sf_laguerre_3, 275
- fgsl_sf_laguerre_3_e, 275
- fgsl_sf_laguerre_n, 275
- fgsl_sf_laguerre_n_e, 275
- fgsl_sf_lambert_w0, 275
- fgsl_sf_lambert_w0_e, 275
- fgsl_sf_lambert_wm1, 276
- fgsl_sf_lambert_wm1_e, 276
- fgsl_sf_legendre_array_size, 276
- fgsl_sf_legendre_h3d, 276
- fgsl_sf_legendre_h3d_0, 276
- fgsl_sf_legendre_h3d_0_e, 276
- fgsl_sf_legendre_h3d_1, 276
- fgsl_sf_legendre_h3d_1_e, 276
- fgsl_sf_legendre_h3d_array, 276
- fgsl_sf_legendre_h3d_e, 276
- fgsl_sf_legendre_p1, 276
- fgsl_sf_legendre_p1_e, 276
- fgsl_sf_legendre_p2, 276
- fgsl_sf_legendre_p2_e, 276
- fgsl_sf_legendre_p3, 276
- fgsl_sf_legendre_p3_e, 276
- fgsl_sf_legendre_pl, 276
- fgsl_sf_legendre_pl_array, 276
- fgsl_sf_legendre_pl_deriv_array, 276
- fgsl_sf_legendre_pl_e, 276
- fgsl_sf_legendre_plm, 277
- fgsl_sf_legendre_plm_array, 277
- fgsl_sf_legendre_plm_deriv_array, 277
- fgsl_sf_legendre_plm_e, 277
- fgsl_sf_legendre_q0, 277
- fgsl_sf_legendre_q0_e, 277
- fgsl_sf_legendre_q1, 277
- fgsl_sf_legendre_q1_e, 277
- fgsl_sf_legendre_ql, 277
- fgsl_sf_legendre_ql_e, 277
- fgsl_sf_legendre_sphplm, 277
- fgsl_sf_legendre_sphplm_array, 277
- fgsl_sf_legendre_sphplm_deriv_array, 277
- fgsl_sf_legendre_sphplm_e, 277
- fgsl_sf_lnbeta, 277
- fgsl_sf_lnbeta_e, 277
- fgsl_sf_lnchoose, 277
- fgsl_sf_lnchoose_e, 277
- fgsl_sf_lncosh, 277
- fgsl_sf_lncosh_e, 277
- fgsl_sf_lndoublefact, 278
- fgsl_sf_lndoublefact_e, 278
- fgsl_sf_lnfact, 278
- fgsl_sf_lnfact_e, 278
- fgsl_sf_lngamma, 278
- fgsl_sf_lngamma_complex_e, 278
- fgsl_sf_lngamma_e, 278
- fgsl_sf_lngamma_sgn_e, 278
- fgsl_sf_lnpoch, 278
- fgsl_sf_lnpoch_e, 278
- fgsl_sf_lnpoch_sgn_e, 278
- fgsl_sf_lnsinh, 278
- fgsl_sf_lnsinh_e, 278
- fgsl_sf_log, 278
- fgsl_sf_log_1plusx, 278
- fgsl_sf_log_1plusx_e, 278
- fgsl_sf_log_1plusx_mx, 278
- fgsl_sf_log_1plusx_mx_e, 278
- fgsl_sf_log_abs, 278
- fgsl_sf_log_abs_e, 278
- fgsl_sf_log_e, 278
- fgsl_sf_log_erfc, 278
- fgsl_sf_log_erfc_e, 278
- fgsl_sf_multiply_e, 278
- fgsl_sf_multiply_err_e, 278
- fgsl_sf_poch, 279
- fgsl_sf_poch_e, 279
- fgsl_sf_pochrel, 279
- fgsl_sf_pochrel_e, 279
- fgsl_sf_polar_to_rect, 279
- fgsl_sf_psi, 279
- fgsl_sf_psi_1, 279
- fgsl_sf_psi_1_e, 279
- fgsl_sf_psi_1_int, 279
- fgsl_sf_psi_1_int_e, 279
- fgsl_sf_psi_1piy, 279
- fgsl_sf_psi_1piy_e, 279
- fgsl_sf_psi_e, 279
- fgsl_sf_psi_int, 279
- fgsl_sf_psi_int_e, 279
- fgsl_sf_psi_n, 279
- fgsl_sf_psi_n_e, 279
- fgsl_sf_rect_to_polar, 279
- fgsl_sf_shi, 279
- fgsl_sf_shi_e, 279
- fgsl_sf_si, 279
- fgsl_sf_si_e, 279
- fgsl_sf_sin_err_e, 279
- fgsl_sf_sinc, 279
- fgsl_sf_sinc_e, 279
- fgsl_sf_synchrotron_1, 280
- fgsl_sf_synchrotron_1_e, 280
- fgsl_sf_synchrotron_2, 280
- fgsl_sf_synchrotron_2_e, 280

- fgsl_sf_taylorcoeff, [280](#)
- fgsl_sf_taylorcoeff_e, [280](#)
- fgsl_sf_transport_2, [280](#)
- fgsl_sf_transport_2_e, [280](#)
- fgsl_sf_transport_3, [280](#)
- fgsl_sf_transport_3_e, [280](#)
- fgsl_sf_transport_4, [280](#)
- fgsl_sf_transport_4_e, [280](#)
- fgsl_sf_transport_5, [280](#)
- fgsl_sf_transport_5_e, [280](#)
- fgsl_sf_zeta, [280](#)
- fgsl_sf_zeta_e, [280](#)
- fgsl_sf_zeta_int, [280](#)
- fgsl_sf_zeta_int_e, [280](#)
- fgsl_sf_zetam1, [280](#)
- fgsl_sf_zetam1_e, [280](#)
- fgsl_sf_zetam1_int, [280](#)
- fgsl_sf_zetam1_int_e, [280](#)
- gsl_sf_to_fgsl_sf, [280](#)
- gsl_sfe10_to_fgsl_sfe10, [280](#)
- statistics.finc
 - fgsl_stats_absdev, [282](#)
 - fgsl_stats_absdev_m, [282](#)
 - fgsl_stats_correlation, [282](#)
 - fgsl_stats_covariance, [282](#)
 - fgsl_stats_covariance_m, [282](#)
 - fgsl_stats_kurtosis, [282](#)
 - fgsl_stats_kurtosis_m_sd, [282](#)
 - fgsl_stats_lag1_autocorrelation, [282](#)
 - fgsl_stats_lag1_autocorrelation_m, [282](#)
 - fgsl_stats_max, [282](#)
 - fgsl_stats_max_index, [282](#)
 - fgsl_stats_mean, [282](#)
 - fgsl_stats_median_from_sorted_data, [282](#)
 - fgsl_stats_min, [282](#)
 - fgsl_stats_min_index, [283](#)
 - fgsl_stats_minmax, [283](#)
 - fgsl_stats_minmax_index, [283](#)
 - fgsl_stats_quantile_from_sorted_data, [283](#)
 - fgsl_stats_sd, [283](#)
 - fgsl_stats_sd_m, [283](#)
 - fgsl_stats_sd_with_fixed_mean, [283](#)
 - fgsl_stats_skew, [283](#)
 - fgsl_stats_skew_m_sd, [283](#)
 - fgsl_stats_variance, [283](#)
 - fgsl_stats_variance_m, [283](#)
 - fgsl_stats_variance_with_fixed_mean, [283](#)
 - fgsl_stats_wabsdev, [283](#)
 - fgsl_stats_wabsdev_m, [283](#)
 - fgsl_stats_wkurtosis, [283](#)
 - fgsl_stats_wkurtosis_m_sd, [283](#)
 - fgsl_stats_wmean, [283](#)
 - fgsl_stats_wsd, [284](#)
 - fgsl_stats_wsd_m, [284](#)
 - fgsl_stats_wsd_with_fixed_mean, [284](#)
 - fgsl_stats_wskew, [284](#)
 - fgsl_stats_wskew_m_sd, [284](#)
 - fgsl_stats_wvariance, [284](#)
 - fgsl_stats_wvariance_m, [284](#)
 - fgsl_stats_wvariance_with_fixed_mean, [284](#)
- sum_levin.finc
 - fgsl_sum_levin_u_accel, [285](#)
 - fgsl_sum_levin_u_alloc, [285](#)
 - fgsl_sum_levin_u_free, [285](#)
 - fgsl_sum_levin_utrunc_accel, [285](#)
 - fgsl_sum_levin_utrunc_alloc, [285](#)
 - fgsl_sum_levin_utrunc_free, [285](#)
- type
 - fgsl::fgsl_qrng_type, [145](#)
 - fgsl::fgsl_rng_type, [146](#)
- val
 - fgsl::fgsl_sf_result, [147](#)
 - fgsl::fgsl_sf_result_e10, [148](#)
 - fgsl::gsl_sf_result, [159](#)
 - fgsl::gsl_sf_result_e10, [160](#)
- wavelet.finc
 - fgsl_sizeof_wavelet, [286](#)
 - fgsl_sizeof_wavelet_workspace, [286](#)
 - fgsl_wavelet2d_nstransform, [286](#)
 - fgsl_wavelet2d_nstransform_forward, [286](#)
 - fgsl_wavelet2d_nstransform_inverse, [286](#)
 - fgsl_wavelet2d_nstransform_matrix, [286](#)
 - fgsl_wavelet2d_nstransform_matrix_forward, [286](#)
 - fgsl_wavelet2d_nstransform_matrix_inverse, [286](#)
 - fgsl_wavelet2d_transform, [286](#)
 - fgsl_wavelet2d_transform_forward, [286](#)
 - fgsl_wavelet2d_transform_inverse, [287](#)
 - fgsl_wavelet2d_transform_matrix, [287](#)
 - fgsl_wavelet2d_transform_matrix_forward, [287](#)
 - fgsl_wavelet2d_transform_matrix_inverse, [287](#)
 - fgsl_wavelet_alloc, [287](#)
 - fgsl_wavelet_free, [287](#)
 - fgsl_wavelet_name, [287](#)
 - fgsl_wavelet_status, [287](#)
 - fgsl_wavelet_transform, [287](#)
 - fgsl_wavelet_transform_forward, [287](#)
 - fgsl_wavelet_transform_inverse, [287](#)
 - fgsl_wavelet_workspace_alloc, [287](#)
 - fgsl_wavelet_workspace_free, [287](#)
 - fgsl_wavelet_workspace_status, [287](#)
- which
 - fgsl::fgsl_interp_type, [128](#)
 - fgsl::fgsl_min_fminimizer_type, [130](#)
 - fgsl::fgsl_multifit_fdfsolver_type, [132](#)
 - fgsl::fgsl_multifit_fsolver_type, [133](#)
 - fgsl::fgsl_multimin_fdfminimizer_type, [134](#)
 - fgsl::fgsl_multimin_fminimizer_type, [135](#)
 - fgsl::fgsl_multiroot_fdfsolver_type, [136](#)
 - fgsl::fgsl_multiroot_fsolver_type, [137](#)
 - fgsl::fgsl_odeiv2_step_type, [141](#)
 - fgsl::fgsl_odeiv_step_type, [142](#)
 - fgsl::fgsl_root_fdfsolver_type, [146](#)
 - fgsl::fgsl_root_fsolver_type, [147](#)
 - fgsl::fgsl_wavelet_type, [155](#)