

VMEC

8.52

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Chapter 1

Data Type Index

1.1 Data Types List

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Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

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Chapter 3

Data Type Documentation

3.1 read_wout_mod::read_wout_file Interface Reference

Public Member Functions

- subroutine **readw_and_open** (file_or_extension, ierr, iopen)

3.1.1 Detailed Description

Definition at line 236 of file read_wout_mod.f.

Chapter 4

File Documentation

4.1 src/add_fluxes.f90 File Reference

Functions/Subroutines

- subroutine **add_fluxes** (overg, bsupu, bsupv)

4.2 src/alias.f90 File Reference

Functions/Subroutines

- subroutine **alias** (gcons, ztemp, gcs, gsc, gcc, gss)

4.3 src/allocate_func3d.f90 File Reference

Functions/Subroutines

- subroutine **allocate_func3d**

4.4 src/allocate_ns.f90 File Reference

Functions/Subroutines

- subroutine **allocate_ns** (linterp, neqs_old)

4.5 src/allocate_nunv.f90 File Reference

Functions/Subroutines

- subroutine **allocate_nunv**

4.6 src/aspectratio.f90 File Reference

Functions/Subroutines

- real(rprec) function **aspectratio** ()

4.7 src/bcovar.f90 File Reference

Functions/Subroutines

- subroutine **bcovar** (lu, lv)

4.7.1 Function/Subroutine Documentation

4.7.1.1 bcovar()

```
subroutine bcovar (
    real(rprec), dimension(nrzt,0:1), intent(inout) lu,
    real(rprec), dimension(nrzt,0:1), intent(inout) lv )
```

R12 from RP in force

Norm, unpreconditioned R,Z forces

Norm for preconditioned R,Z forces

Norm for unpreconditioned Lambda force

Definition at line 2 of file bcovar.f90.

Here is the caller graph for this function:



4.8 src/bextrema.f90 File Reference

Functions/Subroutines

- subroutine **bextrema** (modb, bmin, bmax, nzeta, ntheta)

4.9 src/bss.f90 File Reference

Functions/Subroutines

- subroutine **bss** (r12, rs, zs, ru12, zu12, bsubs, bsupu, bsupv, br, bphi, bz)

4.10 src/calc_fbal.f90 File Reference

Functions/Subroutines

- subroutine **calc_fbal** (bsubu, bsubv)

4.11 src/convert.f90 File Reference

Functions/Subroutines

- subroutine **convert** (rmnc, zmns, lmns, rmns, zmnc, lmnc, rzl_array, js)

4.12 src/data/fbal.f90 File Reference

Variables

- real(dp), dimension(:), allocatable **fbal::rzu_fac**
- real(dp), dimension(:), allocatable **fbal::rru_fac**
- real(dp), dimension(:), allocatable **fbal::frcc_fac**
- real(dp), dimension(:), allocatable **fbal::fzsc_fac**

4.13 src/data/realspace.f90 File Reference

Variables

- real(rprec), dimension(:, :), allocatable **realspace::r1**
- real(rprec), dimension(:, :), allocatable **realspace::ru**
- real(rprec), dimension(:, :), allocatable **realspace::rv**
- real(rprec), dimension(:, :), allocatable, target **realspace::z1**
- real(rprec), dimension(:, :), allocatable **realspace::zu**
- real(rprec), dimension(:, :), allocatable **realspace::zv**
- real(rprec), dimension(:, :), allocatable **realspace::rcon**
- real(rprec), dimension(:, :), allocatable **realspace::zcon**
- real(rprec), dimension(:), allocatable **realspace::guu**
- real(rprec), dimension(:), allocatable **realspace::guv**
- real(rprec), dimension(:), allocatable **realspace::gvv**
- real(rprec), dimension(:), allocatable **realspace::ru0**
- real(rprec), dimension(:), allocatable **realspace::zu0**
- real(rprec), dimension(:), allocatable **realspace::gcon**

- `real(rprec), dimension(:), allocatable realspace::rcon0`
- `real(rprec), dimension(:), allocatable realspace::zcon0`
- `real(rprec), dimension(:), allocatable realspace::phip`
radial derivative of $\phi/(2\pi)$ on half-grid
- `real(rprec), dimension(:), allocatable realspace::chip`
radial derivative of $\chi/(2\pi)$ on half-grid
- `real(rprec), dimension(:), allocatable realspace::shalf`
 \sqrt{s} , two-dimensional array on half-grid
- `real(rprec), dimension(:), allocatable realspace::sqrts`
 \sqrt{s} , two-dimensional array on full-grid
- `real(rprec), dimension(:), allocatable realspace::wint`
two-dimensional array for normalizing angle integrations
- `real(rprec), dimension(:, :), allocatable, target realspace::extra1`
- `real(rprec), dimension(:, :), allocatable, target realspace::extra2`
- `real(rprec), dimension(:, :), allocatable, target realspace::extra3`
- `real(rprec), dimension(:, :), allocatable, target realspace::extra4`

4.14 `src/data/stel_constants.f` File Reference

Variables

- `real(dp), parameter stel_constants::pi = 3.14159265358979323846264338328_dp`
- `real(dp), parameter stel_constants::pio2 = pi/2`
- `real(dp), parameter stel_constants::twopi = 2*pi`
- `real(dp), parameter stel_constants::sqrt2 = 1.41421356237309504880168872_dp`
- `real(dp), parameter stel_constants::degree = twopi / 360`
- `real(dp), parameter stel_constants::one = 1`
- `real(dp), parameter stel_constants::zero = 0`
- `real(dp), parameter stel_constants::mu0 = 2 * twopi * 1.0e-7_dp`

4.15 `src/data/stel_kinds.f` File Reference

Variables

- `integer, parameter stel_kinds::rprec = SELECTED_REAL_KIND(12, 100)`
- `integer, parameter stel_kinds::iprec = SELECTED_INT_KIND(8)`
- `integer, parameter stel_kinds::cprec = KIND((1.0_rprec, 1.0_rprec))`
- `integer, parameter stel_kinds::dp = rprec`

4.16 src/data/vforces.f90 File Reference

Variables

- real(rprec), dimension(:), allocatable, target **vforces::armn**
- real(rprec), dimension(:), allocatable, target **vforces::azmn**
- real(rprec), dimension(:), allocatable, target **vforces::brmn**
- real(rprec), dimension(:), allocatable, target **vforces::bzmn**
- real(rprec), dimension(:), allocatable, target **vforces::blmn**
- real(rprec), dimension(:), allocatable, target **vforces::crmn**
- real(rprec), dimension(:), allocatable, target **vforces::czmn**
- real(rprec), dimension(:), allocatable, target **vforces::clmn**
- real(rprec), dimension(:), pointer **vforces::armn_e**
- real(rprec), dimension(:), pointer **vforces::armn_o**
- real(rprec), dimension(:), pointer **vforces::azmn_e**
- real(rprec), dimension(:), pointer **vforces::azmn_o**
- real(rprec), dimension(:), pointer **vforces::brmn_e**
- real(rprec), dimension(:), pointer **vforces::brmn_o**
- real(rprec), dimension(:), pointer **vforces::bzmn_e**
- real(rprec), dimension(:), pointer **vforces::bzmn_o**
- real(rprec), dimension(:), pointer **vforces::blmn_e**
- real(rprec), dimension(:), pointer **vforces::blmn_o**
- real(rprec), dimension(:), pointer **vforces::crmn_e**
- real(rprec), dimension(:), pointer **vforces::crmn_o**
- real(rprec), dimension(:), pointer **vforces::czmn_e**
- real(rprec), dimension(:), pointer **vforces::czmn_o**
- real(rprec), dimension(:), pointer **vforces::clmn_e**
- real(rprec), dimension(:), pointer **vforces::clmn_o**

4.17 src/data/vmec_dim.f90 File Reference

Variables

- integer **vmec_dim::mpol1**
- integer **vmec_dim::ntor1**
- integer **vmec_dim::mnmax**
- integer **vmec_dim::ntheta1**
- integer **vmec_dim::ntheta2**
- integer **vmec_dim::ntheta3**
- integer **vmec_dim::nznt**
- integer **vmec_dim::nrzt**
- integer **vmec_dim::mns**
- integer **vmec_dim::mnsize**
- integer **vmec_dim::mnmax_nyq**
- integer **vmec_dim::ns**
- integer **vmec_dim::ns1**
- integer **vmec_dim::ns_maxval**

4.18 src/data/vmec_input.f90 File Reference

Functions/Subroutines

- subroutine **vmec_input::read_indata_namelist** (iunit, istat)
- subroutine **vmec_input::write_indata_namelist** (iunit, istat)

Variables

- integer, parameter **vmec_input::mpol_default** = 6
- integer, parameter **vmec_input::ntor_default** = 0
- integer, parameter **vmec_input::ns_default** = 31
- integer, parameter **vmec_input::niter_default** = 100
- real(rprec), parameter **vmec_input::ftol_default** = 1.E-10_dp
- integer **vmec_input::nfp**
- integer **vmec_input::ncurr**
- integer **vmec_input::nstep**
- integer **vmec_input::nvacskip**
- integer **vmec_input::mpol**
- integer **vmec_input::ntor**
- integer **vmec_input::ntheta**
- integer **vmec_input::nzeta**
- integer **vmec_input::mfilter_fbdy**
- integer **vmec_input::nfilter_fbdy**
- integer, dimension(100) **vmec_input::ns_array**
- integer, dimension(100) **vmec_input::niter_array**
- real(rprec), dimension(100) **vmec_input::ftol_array**
- real(rprec), dimension(-ntord:ntord, 0:mpol1d) **vmec_input::rbc**
- real(rprec), dimension(-ntord:ntord, 0:mpol1d) **vmec_input::zbs**
- real(rprec), dimension(-ntord:ntord, 0:mpol1d) **vmec_input::rbs**
- real(rprec), dimension(-ntord:ntord, 0:mpol1d) **vmec_input::zbc**
- real(rprec) **vmec_input::curtor**
- real(rprec) **vmec_input::delt**
- real(rprec) **vmec_input::tcon0**
- real(rprec) **vmec_input::gamma**
- real(rprec) **vmec_input::bloat**
- real(rprec) **vmec_input::pres_scale**
- real(rprec) **vmec_input::spres_ped**
value of s beyond which pressure profile is flat (pedestal)
- real(rprec) **vmec_input::phiedge**
value of real toroidal flux at plasma edge (s=1)
- real(rprec), dimension(0:20) **vmec_input::am**
*array of coefficients in phi-series for mass (NWT/m**2)*
- real(rprec), dimension(0:20) **vmec_input::ai**
array of coefficients in phi-series for iota (ncurr=0)
- real(rprec), dimension(0:20) **vmec_input::ac**
*array of coefficients in phi-series for the quantity d(lcurv)/ds = toroidal current density * Vprime, so lcurv(s) = ltor(s) (used for ncurr=1)*
- real(rprec), dimension(1:20) **vmec_input::aphi**
- character(len=20) **vmec_input::pcurr_type**
- character(len=20) **vmec_input::piota_type**
- character(len=20) **vmec_input::pmass_type**

- real(rprec), dimension(ndatafmax) **vmec_input::am_aux_s**
- real(rprec), dimension(ndatafmax) **vmec_input::am_aux_f**
- real(rprec), dimension(ndatafmax) **vmec_input::ai_aux_s**
- real(rprec), dimension(ndatafmax) **vmec_input::ai_aux_f**
- real(rprec), dimension(ndatafmax) **vmec_input::ac_aux_s**
- real(rprec), dimension(ndatafmax) **vmec_input::ac_aux_f**
- real(rprec), dimension(0:ntord) **vmec_input::raxis_cc**
- real(rprec), dimension(0:ntord) **vmec_input::raxis_cs**
- real(rprec), dimension(0:ntord) **vmec_input::zaxis_cc**
- real(rprec), dimension(0:ntord) **vmec_input::zaxis_cs**
- real(rprec), dimension(nigroup) **vmec_input::extcur**
- logical **vmec_input::lfreeb**
- logical **vmec_input::lasym**
- logical **vmec_input::lbsubs**
- character(len=200) **vmec_input::mgrid_file**
- character(len=100) **vmec_input::input_extension**

4.19 src/data/vmec_io.f90 File Reference

Variables

- real(rprec) **vmec_io::volavgb**
- real(rprec) **vmec_io::ionlarmor**
- real(rprec) **vmec_io::aminor_p**
- real(rprec) **vmec_io::rmajor_p**
- real(rprec) **vmec_io::betatot**
- real(rprec) **vmec_io::betapol**
- real(rprec) **vmec_io::betator**
- real(rprec) **vmec_io::betaxis**
- real(rprec) **vmec_io::b0**
- real(rprec) **vmec_io::volume_p**
- real(rprec) **vmec_io::cross_area_p**
- real(rprec) **vmec_io::surf_area_p**
- real(rprec) **vmec_io::circum_p**
- real(rprec) **vmec_io::kappa_p**
- real(rprec) **vmec_io::rmax_surf**
- real(rprec) **vmec_io::rmin_surf**
- real(rprec) **vmec_io::zmax_surf**

4.20 src/data/vmec_main.f90 File Reference

Variables

- real(rprec), dimension(:,:), allocatable **vmec_main::ard**
- real(rprec), dimension(:,:), allocatable **vmec_main::arm**
- real(rprec), dimension(:,:), allocatable **vmec_main::brd**
- real(rprec), dimension(:,:), allocatable **vmec_main::brm**
- real(rprec), dimension(:,:), allocatable **vmec_main::azd**
- real(rprec), dimension(:,:), allocatable **vmec_main::azm**
- real(rprec), dimension(:,:), allocatable **vmec_main::bzd**

- `real(rprec), dimension(:, :), allocatable vmec_main::bzm`
- `real(rprec), dimension(:, :), allocatable vmec_main::bmin`
- `real(rprec), dimension(:, :), allocatable vmec_main::bmax`
- `real(rprec), dimension(:), allocatable vmec_main::crd`
- `real(rprec), dimension(:), allocatable vmec_main::iotaf`
- `real(rprec), dimension(:), allocatable vmec_main::phipf`
- `real(rprec), dimension(:), allocatable vmec_main::chipf`
- `real(rprec), dimension(:), allocatable vmec_main::phi`
- `real(rprec), dimension(:), allocatable vmec_main::beta_vol`
- `real(rprec), dimension(:), allocatable vmec_main::jcuru`
- `real(rprec), dimension(:), allocatable vmec_main::jcurv`
- `real(rprec), dimension(:), allocatable vmec_main::jdotb`
- `real(rprec), dimension(:), allocatable vmec_main::buco`
- `real(rprec), dimension(:), allocatable vmec_main::bvco`
- `real(rprec), dimension(:), allocatable vmec_main::bdotgradv`
- `real(rprec), dimension(:), allocatable vmec_main::equif`
- `real(rprec), dimension(:), allocatable vmec_main::specw`
- `real(rprec), dimension(:), allocatable vmec_main::tcon`
- `real(rprec), dimension(:), allocatable vmec_main::psi`
- `real(rprec), dimension(:), allocatable vmec_main::yellip`
- `real(rprec), dimension(:), allocatable vmec_main::yinden`
- `real(rprec), dimension(:), allocatable vmec_main::ytrian`
- `real(rprec), dimension(:), allocatable vmec_main::yshift`
- `real(rprec), dimension(:), allocatable vmec_main::ygeo`
- `real(rprec), dimension(:), allocatable vmec_main::overr`
- `real(rprec), dimension(:), allocatable vmec_main::sm`
- `real(rprec), dimension(:), allocatable vmec_main::sp`
- `real(rprec), dimension(:), allocatable vmec_main::pres`
- `real(rprec), dimension(:), allocatable vmec_main::vp`
- `real(rprec), dimension(:), allocatable vmec_main::jpar2`
- `real(rprec), dimension(:), allocatable vmec_main::jperp2`
- `real(rprec), dimension(:), allocatable vmec_main::bdotb`
- `real(rprec), dimension(:), allocatable vmec_main::blam`
- `real(rprec), dimension(:), allocatable vmec_main::clam`
- `real(rprec), dimension(:), allocatable vmec_main::dlam`
- `real(rprec), dimension(:), allocatable vmec_main::vpphi`
- `real(rprec), dimension(:), allocatable vmec_main::presgrad`
- `real(rprec), dimension(:), allocatable vmec_main::bdamp`
- `real(rprec), dimension(:), allocatable vmec_main::bucof`
- `real(rprec), dimension(:), allocatable vmec_main::bvcof`
- `real(rprec), dimension(:), allocatable vmec_main::chi`
- `real(rprec), dimension(:), allocatable vmec_main::presf`
*pressure profile on full-grid, mass/hip**gamma*
- `real(rprec), dimension(:), allocatable vmec_main::chips`
poloidal flux (same as chip), one-dimensional array
- `real(rprec), dimension(:), allocatable vmec_main::phips`
toroidal flux (same as phip), one-dimensional array
- `real(rprec), dimension(:), allocatable vmec_main::iotas`
rotational transform , on half radial mesh
- `real(rprec), dimension(:), allocatable vmec_main::icurv`
(-)toroidal current inside flux surface (vanishes like s)
- `real(rprec), dimension(:), allocatable vmec_main::mass`
mass profile on half-grid
- `real(rprec), dimension(:, :, :), allocatable vmec_main::faclam`

- real(rprec), dimension(:,:,:), allocatable **vmec_main::faclam0**
- real(rprec), dimension(:,:), allocatable **vmec_main::bsqsav**
- real(rprec), dimension(:), allocatable **vmec_main::bledge**
- real(rprec), dimension(:), allocatable **vmec_main::bpedge**
- real(rprec), dimension(:), allocatable **vmec_main::bzedge**
- real(rprec), dimension(:), allocatable **vmec_main::xcl0**
- real(rprec), dimension(0:mpol1d, 3) **vmec_main::xmpq**
- real(rprec), dimension(0:mpol1d) **vmec_main::faccon**
- real(rprec) **vmec_main::hs**
radial mesh size increment
- real(rprec) **vmec_main::currv**
- real(rprec) **vmec_main::aspect**
- real(rprec) **vmec_main::ohs**
- real(rprec) **vmec_main::voli**
- real(rprec) **vmec_main::r00**
- real(rprec) **vmec_main::r0scale**
- real(rprec) **vmec_main::z00**
- real(rprec) **vmec_main::fsqsum0**
- real(rprec) **vmec_main::fnorm**
- real(rprec) **vmec_main::fsqr** = 1
- real(rprec) **vmec_main::fsqz** = 1
- real(rprec) **vmec_main::fsql** = 1
- real(rprec) **vmec_main::fnorm1**
- real(rprec) **vmec_main::fnorml**
- real(rprec) **vmec_main::fsqr1**
- real(rprec) **vmec_main::fsqz1**
- real(rprec) **vmec_main::fsql1**
- real(rprec) **vmec_main::fsq**
- real(rprec) **vmec_main::fedge**
- real(rprec) **vmec_main::wb**
- real(rprec) **vmec_main::wp**
- real(rprec) **vmec_main::router**
- real(rprec) **vmec_main::rinner**
- real(rprec) **vmec_main::ftolv**
- real(rprec) **vmec_main::otav**
time-step algorithm
- real(rprec), dimension(ndamp) **vmec_main::otau**
- real(rprec), dimension(:,:,:), allocatable, target **vmec_main::rmn_bdy**
- real(rprec), dimension(:,:,:), allocatable, target **vmec_main::zmn_bdy**
- real(rprec), dimension(:), allocatable **vmec_main::bsubu0**
- real(rprec), dimension(:), allocatable **vmec_main::dbsq**
- real(rprec), dimension(:), allocatable **vmec_main::rbsq**
- real(rprec) **vmec_main::rbtor**
- real(rprec) **vmec_main::rbtor0**
- real(rprec) **vmec_main::ctor**
- real(rprec) **vmec_main::delbsq**
- real(rprec) **vmec_main::res0**
- real(rprec) **vmec_main::delt0r**
- real(rprec), dimension(ndatafmax) **vmec_main::spfa**
- real(rprec), dimension(ndatafmax) **vmec_main::spfa2**
- real(rprec), dimension(ndatafmax) **vmec_main::hp**
- real(rprec), dimension(ndatafmax) **vmec_main::sifa**
- real(rprec), dimension(ndatafmax) **vmec_main::sifa2**
- real(rprec), dimension(ndatafmax) **vmec_main::hi**

- logical **vmec_main::lthreed**
- logical **vmec_main::lconm1**
- logical **vmec_main::lflip**
from init_geometry
- integer, dimension(:), allocatable **vmec_main::ireflect**
two-dimensional array for computing 2pi-v angle
- integer **vmec_main::multi_ns_grid**
- integer **vmec_main::itfsq**
- integer **vmec_main::ndatap**
- integer **vmec_main::ndatai**
- integer **vmec_main::niter**
max iterations for current multi-grid iteration
- integer **vmec_main::neqs**
total number of equations to evolve (size of xc)
- integer **vmec_main::irzloff**
offset in xc array between R,Z,L components
- integer **vmec_main::iequi**
counter used to call -EQFOR- at end of run
- integer **vmec_main::ijacob**
counter for number of times jacobian changes sign
- integer **vmec_main::irst**
"counter" monitoring sign of jacobian; resets R, Z, and Lambda when jacobian changes sign and decreases time step
- integer **vmec_main::iter1**
number of iterations at which the currently active evolution was branched off from
- integer **vmec_main::iter2**
total number of iterations
- integer **vmec_main::ivac**
counts number of free-boundary iterations
- integer **vmec_main::vacuum_calls** = 0

4.21 src/data/vmec_params.f90 File Reference

Variables

- integer, parameter **vmec_params::meven** = 0
parity selection label for even poloidal modes of R and Z
- integer, parameter **vmec_params::modd** = 1
parity selection label for odd poloidal modes of R and Z
- integer, parameter **vmec_params::ndamp** = 10
number of iterations over which damping is averaged
- integer, parameter **vmec_params::ns4** = 25
- integer, dimension(0:mpold), parameter **vmec_params::jmin1** = (/ 1,1,(2,ink=2,mpold) /)
starting js(m) values where R,Z are non-zero
- integer, dimension(0:mpold), parameter **vmec_params::jmin2** = (/ 1,2,(2,ink=2,mpold) /)
starting js(m) values for which R,Z are evolved
- integer, dimension(0:mpold), parameter **vmec_params::jlam** = (/ 2,2,(2,ink=2,mpold) /)
starting js(m) values for which Lambda is evolved
- integer, parameter **vmec_params::norm_term_flag** = 0
- integer, parameter **vmec_params::bad_jacobian_flag** = 1
- integer, parameter **vmec_params::jac75_flag** = 4

- integer, parameter **vmec_params::input_error_flag** = 5
- integer, parameter **vmec_params::phiedge_error_flag** = 7
- integer, parameter **vmec_params::ns_error_flag** = 8
- integer, parameter **vmec_params::misc_error_flag** = 9
- integer, parameter **vmec_params::successful_term_flag** = 11
- integer, parameter **vmec_params::restart_flag** = 1
- integer, parameter **vmec_params::readin_flag** = 2
- integer, parameter **vmec_params::timestep_flag** = 4
- integer, parameter **vmec_params::output_flag** = 8
- integer, parameter **vmec_params::cleanup_flag** = 16
- integer, parameter **vmec_params::reset_jacdt_flag** = 32
- real(rprec), parameter **vmec_params::pdamp** = 0.05_dp
- character(len= *), parameter **vmec_params::version_** = '8.52'
- integer **vmec_params::ntmax**
number of contributing Fourier basis function (can be 1, 2 or 4); assigned in read_indata()
- integer **vmec_params::rcc**
- integer **vmec_params::rss**
- integer **vmec_params::rsc**
- integer **vmec_params::rcs**
- integer **vmec_params::zsc**
- integer **vmec_params::zcs**
- integer **vmec_params::zcc**
- integer **vmec_params::zss**
- integer **vmec_params::mnyq**
- integer **vmec_params::nnyq**
- integer, dimension(:), allocatable **vmec_params::uminus**
- real(rprec), dimension(:), allocatable **vmec_params::mscale**
*array for norming theta-trig functions (internal use only) so that the discrete SUM[cos(mu)*cos(m'u)] = .5 delta(m,m')*
- real(rprec), dimension(:), allocatable **vmec_params::nscale**
array for norming zeta -trig functions (internal use only)
- real(rprec) **vmec_params::signgs**
sign of Jacobian : must be =1 (right-handed) or =-1 (left-handed)
- real(rprec) **vmec_params::lamscale** =1
- integer, parameter **vmec_params::m0** =0
from totzsp
- integer, parameter **vmec_params::m1** =1
from totzsp
- integer, parameter **vmec_params::n0** =0
from totzsp

4.22 src/data/vmec_persistent.f90 File Reference

Variables

- integer, dimension(:), allocatable **vmec_persistent::ixm**
- integer, dimension(:), allocatable **vmec_persistent::jmin3**
- real(rprec), dimension(:, :), allocatable **vmec_persistent::cosmu**
- real(rprec), dimension(:, :), allocatable **vmec_persistent::sinmu**
- real(rprec), dimension(:, :), allocatable **vmec_persistent::cosmum**
- real(rprec), dimension(:, :), allocatable **vmec_persistent::sinmum**
- real(rprec), dimension(:, :), allocatable **vmec_persistent::cosmumi**

- `real(rprec), dimension(:, :), allocatable vmec_persistent::sinmumi`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::cosnv`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::sinnv`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::cosnvn`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::sinnavn`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::cosmui`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::sinmui`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::cosmui3`
- `real(rprec), dimension(:, :), allocatable vmec_persistent::cosmumi3`
- `real(rprec), dimension(:), allocatable, target vmec_persistent::xm`
- `real(rprec), dimension(:), allocatable, target vmec_persistent::xn`
- `real(rprec), dimension(:), allocatable, target vmec_persistent::xm_nyq`
- `real(rprec), dimension(:), allocatable, target vmec_persistent::xn_nyq`
- `real(rprec), dimension(:), allocatable vmec_persistent::cos01`
- `real(rprec), dimension(:), allocatable vmec_persistent::sin01`

4.23 src/data/vmercier.f90 File Reference

Variables

- `real(rprec), dimension(nsd) vmmercier::dshear`
- `real(rprec), dimension(nsd) vmmercier::dwell`
- `real(rprec), dimension(nsd) vmmercier::dcurr`
- `real(rprec), dimension(nsd) vmmercier::dmerc`
- `real(rprec), dimension(nsd) vmmercier::dgeod`

4.24 src/data/vparams.f90 File Reference

Variables

- integer, parameter `vparams::nsd` = 10001
maximum number of radial nodes
- integer, parameter `vparams::mpold` = 101
maximum number of poloidal harmonics (in r,z,lam fourier series)
- integer, parameter `vparams::ntord` = 101
maximum number of toroidal harmonics
- integer, parameter `vparams::ndatafmax` = 101
- integer, parameter `vparams::nstore_seq` = 100
- integer, parameter `vparams::mpol1d` = mpold - 1
- integer, parameter `vparams::ntor1d` = ntord + 1
- integer, parameter `vparams::nthreed0` = 9
- integer, parameter `vparams::indata0` = nthreed0 + 2
- integer, parameter `vparams::nwout0` = nthreed0 + 3
- integer, parameter `vparams::jxbout0` = nthreed0 + 4
- integer, parameter `vparams::nfort18` = 18
- integer, parameter `vparams::nmercier0` = 52
- integer `vparams::nthreed`
- `real(rprec), parameter vparams::c1pm2` = 1.e-2_dp
- `real(rprec), parameter vparams::cp15` = 0.15_dp
- `real(rprec), parameter vparams::cp25` = 0.25_dp

- real(rprec), parameter **vparams::cp5** = 0.50_dp
- real(rprec), parameter **vparams::c1pm8** = 1.0e-8_dp
- real(rprec), parameter **vparams::cbig** = 0.9e30_dp
- real(rprec), parameter **vparams::c2p0** = 2
- real(rprec), parameter **vparams::c3p0** = 3
- real(rprec), parameter **vparams::cp05** = 0.05_dp
- real(rprec), parameter **vparams::c1pm13** = 1.0e-13_dp
- real(rprec), parameter **vparams::osqrt2** = 0.707106781186547462_dp

4.25 src/data/vsvd0.f90 File Reference

Variables

- integer, parameter **vsvd0::nigroup** = 100
number of external current groups

4.26 src/data/xstuff.f90 File Reference

Variables

- real(rprec), dimension(:), allocatable **xstuff::gc**
stacked array of R, Z, Lambda Spectral force coefficients (see above for stack order)
- real(rprec), dimension(:), allocatable, target **xstuff::xc**
stacked array of scaled R, Z, Lambda Fourier coefficients (see above for stack order)
- real(rprec), dimension(:), allocatable **xstuff::xcdot**
"velocity": change of Fourier coefficients per time step
- real(rprec), dimension(:), allocatable **xstuff::xsave**
- real(rprec), dimension(:), allocatable **xstuff::xstore**
backup copy of last-known-good xc
- real(rprec), dimension(:), allocatable **xstuff::scalxc**

4.27 src/elongation.f90 File Reference

Functions/Subroutines

- subroutine **elongation** (r1, z1, waist, height)

4.28 src/eqfor.f90 File Reference

Functions/Subroutines

- subroutine **eqfor** (br, bz, bsubu, bsubv, tau, rzl_array, ier_flag)

4.29 src/eqsolve.f90 File Reference

Functions/Subroutines

- subroutine **eqsolve** (ier_flag)

4.30 src/evolve.f90 File Reference

Functions/Subroutines

- subroutine **evolve** (time_step, ier_flag, liter_flag)

4.31 src/fileout.f90 File Reference

Functions/Subroutines

- subroutine **fileout** (ier_flag)

4.32 src/fixaray.f90 File Reference

Functions/Subroutines

- subroutine **fixaray**

4.33 src/flip_theta.f90 File Reference

Functions/Subroutines

- subroutine **flip_theta** (rmn, zmn, lmn)

4.33.1 Function/Subroutine Documentation

4.33.1.1 flip_theta()

```
subroutine flip_theta (
    real(rprec), dimension(0:ntor,0:mpoll,ntmax), intent(inout) rmn,
    real(rprec), dimension(0:ntor,0:mpoll,ntmax), intent(inout) zmn,
    real(rprec), dimension(0:ntor,0:mpoll,ntmax), intent(inout), optional lmn )
```

Parameters

in, out	<i>lmn</i>	never used: can also flip lambda...
---------	------------	-------------------------------------

Definition at line 2 of file flip_theta.f90.

4.34 src/forces.f90 File Reference

Functions/Subroutines

- subroutine **forces**

4.35 src/free_mem_func3d.f90 File Reference

Functions/Subroutines

- subroutine **free_mem_func3d**

4.36 src/free_mem_ns.f90 File Reference

Functions/Subroutines

- subroutine **free_mem_ns**

4.37 src/free_mem_nunv.f90 File Reference

Functions/Subroutines

- subroutine **free_mem_nunv**

4.38 src/freeb_data.f90 File Reference

Functions/Subroutines

- subroutine **freeb_data** (rmnc, zmns, rmns, zmnc, bmodmn, bmodmn1)

4.39 src/fsym_fft.f90 File Reference

Functions/Subroutines

- subroutine **fext_fft** (bout, bs_s, bs_a)
- subroutine **fsym_fft** (bs, bu, bv, bs_s, bu_s, bv_s, bs_a, bu_a, bv_a)

4.40 src/fsym_invfft.f90 File Reference

Functions/Subroutines

- subroutine **fsym_invfft** (bssu, bssv)

4.41 src/funct3d.f90 File Reference

Functions/Subroutines

- subroutine **funct3d** (ier_flag)

4.41.1 Function/Subroutine Documentation

4.41.1.1 funct3d()

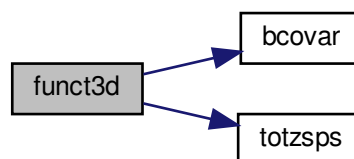
```
subroutine funct3d (
    integer, intent(inout) ier_flag )
```

use system call to stand-alone NESTOR for vacuum computation

dump reference input for and output of NESTOR when using internal NESTOR

Definition at line 2 of file funct3d.f90.

Here is the call graph for this function:



4.42 src/functions.f File Reference

Functions/Subroutines

- real(rprec) function, public **functions::two_power** (x, b)
- real(rprec) function, public **functions::two_power_gs** (x, b)
- logical function **functions::function_test** ()

4.43 src/getbsubs.f90 File Reference

Functions/Subroutines

- subroutine **getbsubs** (bsubsmn, frho, bsupu, bsupv, mmax, nmax, info)

4.44 src/getcurmid.f90 File Reference

Functions/Subroutines

- subroutine **getcurmid** (curmid, izeta, gsqrt, r12)

4.45 src/getfsq.f90 File Reference

Functions/Subroutines

- subroutine **getfsq** (gcr, gcx, gnormr, gnormz, gnorm, medge)

4.46 src/guess_axis.f90 File Reference

Functions/Subroutines

- subroutine **guess_axis** (r1, z1, ru0, zu0)

4.47 src/heading.f90 File Reference

Functions/Subroutines

- subroutine **heading** (extension)

4.48 src/initialize_radial.f90 File Reference

Functions/Subroutines

- subroutine **initialize_radial** (nsval, ns_old, delt0)

4.49 src/interp.f90 File Reference

Functions/Subroutines

- subroutine **interp** (xnew, xold, scalxc, nsnew, nsold)

4.50 src/jacobian.f90 File Reference

Functions/Subroutines

- subroutine **jacobian**

4.51 src/jxbforce.f90 File Reference

Functions/Subroutines

- subroutine **jxbforce** (bsupu, bsupv, bsubu, bsubv, bsubsh, bsubsu, bsubsv, gsqrt, bsq, itheta, izeta, brho, ier_flag)

4.52 src/lamcal.f90 File Reference

Functions/Subroutines

- subroutine **lamcal** (overg, guu, guv, gvv)

4.53 src/line_segment.f File Reference

Functions/Subroutines

- subroutine, public **line_segment::line_seg** (x, y, xx, yy, n)
- subroutine, public **line_segment::line_seg_int** (x, y, xx, yy, n)
- logical function, public **line_segment::line_seg_test** ()

4.54 src/magnetic_fluxes.f90 File Reference

Functions/Subroutines

- real(rprec) function **torflux_deriv** (x)
- real(rprec) function **polflux_deriv** (x)
- real(rprec) function **torflux** (x)
- real(rprec) function **polflux** (x)

4.54.1 Function/Subroutine Documentation

4.54.1.1 polflux()

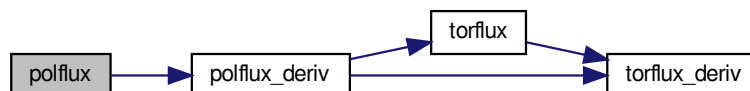
```
real(rprec) function polflux (
    real(rprec), intent(in) x )
```


Parameters

in	x	radial flux variable (=TOROIDAL FLUX ONLY IF APhi=1)
----	---	--

Definition at line 64 of file magnetic_fluxes.f90.

Here is the call graph for this function:



4.54.1.2 polflux_deriv()

```

real(rprec) function polflux_deriv (
    real(rprec), intent(in) x )

```

Parameters

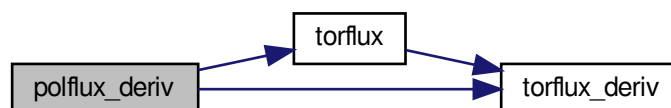
in	x	radial flux variable (=TOROIDAL FLUX ONLY IF APhi=1)
----	---	--

Returns

`polflux_deriv == d(chi)/dx = iota(TF(x)) * torflux_deriv(x)`

Definition at line 21 of file magnetic_fluxes.f90.

Here is the call graph for this function:



Here is the caller graph for this function:



4.54.1.3 torflux()

```

real(rprec) function torflux (
    real(rprec), intent(in) x )
  
```

Parameters

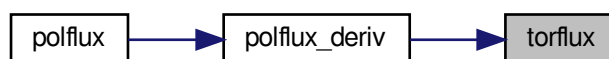
in	x	radial flux variable (=TOROIDAL FLUX ONLY IF APhi=1)
----	---	--

Definition at line 42 of file magnetic_fluxes.f90.

Here is the call graph for this function:



Here is the caller graph for this function:



4.54.1.4 torflux_deriv()

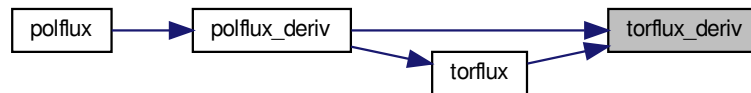
```
real(rprec) function torflux_deriv (
    real(rprec), intent(in) x )
```

Parameters

in	x	radial flux variable (=TOROIDAL FLUX ONLY IF APhi=1)
----	---	--

Definition at line 2 of file magnetic_fluxes.f90.

Here is the caller graph for this function:



4.55 src/mercier.f90 File Reference

Functions/Subroutines

- subroutine **mercier** (gsqrt, bsq, bdotj, iotas, wint, r1, rt, rz, zt, zz, bsubu, vp, phips, pres, ns, nznt)

4.56 src/mgrid_mod.f File Reference

Functions/Subroutines

- subroutine **mgrid_mod::read_mgrid** (mgrid_file, extcur, nv, nfp, lscreen, ier_flag)
- subroutine **mgrid_mod::sum_bfield** (bfield, bf_add, cur, n1)
- subroutine **mgrid_mod::assign_bptrs** (bptr)
- subroutine **mgrid_mod::free_mgrid** (istat)

Variables

- integer, parameter **mgrid_mod::nlimset** = 2
- character(len= *), parameter **mgrid_mod::vn_br0** = 'br'
- character(len= *), parameter **mgrid_mod::vn_bp0** = 'bp'
- character(len= *), parameter **mgrid_mod::vn_bz0** = 'bz'
- character(len= *), parameter **mgrid_mod::vn_ir** = 'ir'
- character(len= *), parameter **mgrid_mod::vn_jz** = 'jz'
- character(len= *), parameter **mgrid_mod::vn_kp** = 'kp'
- character(len= *), parameter **mgrid_mod::vn_nfp** = 'nfp'

- character(len= *), parameter **mgrid_mod::vn_rmin** ='rmin'
- character(len= *), parameter **mgrid_mod::vn_rmax** ='rmax'
- character(len= *), parameter **mgrid_mod::vn_zmin** ='zmin'
- character(len= *), parameter **mgrid_mod::vn_zmax** ='zmax'
- character(len= *), parameter **mgrid_mod::vn_coilgrp** ='coil_group'
- character(len= *), parameter **mgrid_mod::vn_nextcur** = 'nextcur'
- character(len= *), parameter **mgrid_mod::vn_mgmode** ='mgrid_mode'
- character(len= *), parameter **mgrid_mod::vn_coilcur** = 'raw_coil_cur'
- character(len= *), parameter **mgrid_mod::ln_next** = 'External currents'
- integer **mgrid_mod::nr0b**
- integer **mgrid_mod::np0b**
- integer **mgrid_mod::nfper0**
- integer **mgrid_mod::nz0b**
- integer **mgrid_mod::nobd**
- integer **mgrid_mod::nobser**
- integer **mgrid_mod::nextcur**
- integer **mgrid_mod::nbfldn**
- integer **mgrid_mod::nbsets**
- integer **mgrid_mod::nbcoilsn**
- integer **mgrid_mod::nbvac**
- integer **mgrid_mod::nbcoil_max**
- integer **mgrid_mod::nlim**
- integer **mgrid_mod::nlim_max**
- integer **mgrid_mod::nsets**
- integer **mgrid_mod::nrgrid**
- integer **mgrid_mod::nzgrid**
- integer, dimension(:), allocatable **mgrid_mod::needflx**
- integer, dimension(:), allocatable **mgrid_mod::nbcoils**
- integer, dimension(:), allocatable **mgrid_mod::limitr**
- integer, dimension(:), allocatable **mgrid_mod::nsetsn**
- integer, dimension(:,:), allocatable **mgrid_mod::iconnect**
- integer, dimension(:,:), allocatable **mgrid_mod::needbfld**
- real(rprec) **mgrid_mod::rminb**
- real(rprec) **mgrid_mod::zminb**
- real(rprec) **mgrid_mod::rmaxb**
- real(rprec) **mgrid_mod::zmaxb**
- real(rprec) **mgrid_mod::delrb**
- real(rprec) **mgrid_mod::delzb**
- real(rprec) **mgrid_mod::rx1**
- real(rprec) **mgrid_mod::rx2**
- real(rprec) **mgrid_mod::zy1**
- real(rprec) **mgrid_mod::zy2**
- real(rprec) **mgrid_mod::condif**
- real(rprec), dimension(:,:), allocatable, target **mgrid_mod::bvac**
- real(rprec), dimension(:,:), pointer **mgrid_mod::brvac**
- real(rprec), dimension(:,:), pointer **mgrid_mod::bvzac**
- real(rprec), dimension(:,:), pointer **mgrid_mod::bpvac**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::unpsiext**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::plbfld**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::rbcoil**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::zbcoil**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::abcoil**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::bcoil**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::rbcoilsqr**
- real(rprec), dimension(:), allocatable **mgrid_mod::raw_coil_current**

- real(rprec), dimension(:), allocatable **mgrid_mod::xobser**
- real(rprec), dimension(:), allocatable **mgrid_mod::zobser**
- real(rprec), dimension(:), allocatable **mgrid_mod::xobsqr**
- real(rprec), dimension(:), allocatable **mgrid_mod::dsiext**
- real(rprec), dimension(:), allocatable **mgrid_mod::psiext**
- real(rprec), dimension(:), allocatable **mgrid_mod::plflux**
- real(rprec), dimension(:), allocatable **mgrid_mod::b_chi**
- character(len=300) **mgrid_mod::mgrid_path**
- character(len=300) **mgrid_mod::mgrid_path_old** = " "
- character(len=30), dimension(:), allocatable **mgrid_mod::curlabel**
- character(len=15), dimension(:), allocatable **mgrid_mod::dsilabel**
- character(len=15), dimension(:), allocatable **mgrid_mod::bloopnames**
- character(len=30) **mgrid_mod::tokid**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::dbcoil**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::pfcspec**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::rlim**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::zlim**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::reslim**
- real(rprec), dimension(:,:), allocatable **mgrid_mod::seplim**
- character(len=1) **mgrid_mod::mgrid_mode**

4.57 src/NESTOR/analysum.f90 File Reference

Functions/Subroutines

- subroutine **analysum** (grpmn, bvec, sl, tl, m, n, l, ivacskip, lasym, m_map, n_map, grpmn_m_map, grpmn_n_map)

4.58 src/NESTOR/analysum2.f90 File Reference

Functions/Subroutines

- subroutine **analysum2** (grpmn, bvec, m, n, l, ivacskip, lasym, m_map, n_map, grpmn_m_map, grpmn_n_map)

4.59 src/NESTOR/analyt.f90 File Reference

Functions/Subroutines

- subroutine **analyt** (grpmn, bvec, ivacskip, lasym, m_map, n_map, grpmn_m_map, grpmn_n_map)

4.60 src/NESTOR/becoil.f90 File Reference

Functions/Subroutines

- subroutine **becoil** (rad, zee, brvac, bpvac, bzvac)

4.61 src/NESTOR/belicu.f90 File Reference

Functions/Subroutines

- subroutine **belicu** (torcur, bx, by, bz, cos1, sin1, rp, zp)

4.62 src/NESTOR/bextern.f90 File Reference

Functions/Subroutines

- subroutine **bextern** (plascur, wint)

4.63 src/NESTOR/data/vac_persistent.f90 File Reference

Variables

- integer, dimension(:), allocatable **vac_persistent::imirr**
- real(rprec), dimension(:), allocatable **vac_persistent::sinper**
- real(rprec), dimension(:), allocatable **vac_persistent::cosper**
- real(rprec), dimension(:), allocatable **vac_persistent::sinuv**
- real(rprec), dimension(:), allocatable **vac_persistent::cosuv**
- real(rprec), dimension(:), allocatable **vac_persistent::tanu**
- real(rprec), dimension(:), allocatable **vac_persistent::tanv**
- real(rprec), dimension(:), allocatable **vac_persistent::tanu_1d**
- real(rprec), dimension(:), allocatable **vac_persistent::tanv_1d**
- real(rprec), dimension(:), allocatable **vac_persistent::xmpot**
- real(rprec), dimension(:), allocatable **vac_persistent::xnpot**
- real(rprec), dimension(:), allocatable **vac_persistent::csign**
- real(rprec), dimension(:, :), allocatable **vac_persistent::sinu**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cosu**
- real(rprec), dimension(:, :), allocatable **vac_persistent::sinv**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cosv**
- real(rprec), dimension(:, :), allocatable **vac_persistent::sinui**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cosui**
- real(rprec), dimension(:, :), allocatable **vac_persistent::sinu1**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cosu1**
- real(rprec), dimension(:, :), allocatable **vac_persistent::sinv1**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cosv1**
- real(rprec), dimension(:, :), allocatable **vac_persistent::cmns**
- real(rprec), dimension(:), allocatable **vac_persistent::bsubu_sur**
- real(rprec), dimension(:), allocatable **vac_persistent::bsubv_sur**
- real(rprec), dimension(:), allocatable **vac_persistent::bsupu_sur**
- real(rprec), dimension(:), allocatable **vac_persistent::bsupv_sur**

4.64 src/NESTOR/data/vacmod.f90 File Reference

Functions/Subroutines

- subroutine **vacmod::allocate_nestor**
- subroutine **vacmod::free_mem_nestor**

Variables

- real(rprec), parameter **vacmod::p5** = cp5
- real(rprec), parameter **vacmod::two** = c2p0
- real(rprec) **vacmod::bsubvvac**
- real(rprec) **vacmod::pi2**
- real(rprec) **vacmod::pi3**
- real(rprec) **vacmod::pi4**
- real(rprec) **vacmod::alp**
- real(rprec) **vacmod::alu**
- real(rprec) **vacmod::alv**
- real(rprec) **vacmod::alvp**
- real(rprec) **vacmod::onp**
- real(rprec) **vacmod::onp2**
- logical **vacmod::precal_done**
- real(rprec), dimension(:), allocatable, target **vacmod::potvac**
- real(rprec), dimension(:), allocatable **vacmod::m_map_wrt**
- real(rprec), dimension(:), allocatable **vacmod::n_map_wrt**
- real(rprec), dimension(:), allocatable **vacmod::bvecsav**
- real(rprec), dimension(:), allocatable **vacmod::amatsav**
- real(rprec), dimension(:), allocatable **vacmod::bexni**
- real(rprec), dimension(:), allocatable **vacmod::brv**
- real(rprec), dimension(:), allocatable **vacmod::bphiv**
- real(rprec), dimension(:), allocatable **vacmod::bzv**
- real(rprec), dimension(:), allocatable **vacmod::bsqvac**
- real(rprec), dimension(:), allocatable **vacmod::r1b**
- real(rprec), dimension(:), allocatable **vacmod::rub**
- real(rprec), dimension(:), allocatable **vacmod::rvb**
- real(rprec), dimension(:), allocatable **vacmod::z1b**
- real(rprec), dimension(:), allocatable **vacmod::zub**
- real(rprec), dimension(:), allocatable **vacmod::zvb**
- real(rprec), dimension(:), allocatable **vacmod::bexu**
- real(rprec), dimension(:), allocatable **vacmod::bexv**
- real(rprec), dimension(:), allocatable **vacmod::bexn**
- real(rprec), dimension(:), allocatable **vacmod::auu**
- real(rprec), dimension(:), allocatable **vacmod::auv**
- real(rprec), dimension(:), allocatable **vacmod::avv**
- real(rprec), dimension(:), allocatable **vacmod::snr**
- real(rprec), dimension(:), allocatable **vacmod::snv**
- real(rprec), dimension(:), allocatable **vacmod::snz**
- real(rprec), dimension(:), allocatable **vacmod::drv**
- real(rprec), dimension(:), allocatable **vacmod::guu_b**
- real(rprec), dimension(:), allocatable **vacmod::guv_b**
- real(rprec), dimension(:), allocatable **vacmod::gvv_b**
- real(rprec), dimension(:), allocatable **vacmod::rzb2**
- real(rprec), dimension(:), allocatable **vacmod::rcosuv**
- real(rprec), dimension(:), allocatable **vacmod::rsinuv**
- real(rprec), dimension(:), allocatable **vacmod::raxis_nestor**
- real(rprec), dimension(:), allocatable **vacmod::zaxis_nestor**
- real(rprec), dimension(:), allocatable **vacmod::bsubu**
- real(rprec), dimension(:), allocatable **vacmod::bsubv**
- real(rprec), dimension(:), allocatable **vacmod::potu**
- real(rprec), dimension(:), allocatable **vacmod::potv**
- real(rprec), dimension(:), allocatable **vacmod::amatrix**
- real(rprec), dimension(:), allocatable **vacmod::ruu**

- `real(rprec), dimension(:), allocatable vacmod::ruv`
- `real(rprec), dimension(:), allocatable vacmod::rvv`
- `real(rprec), dimension(:), allocatable vacmod::zuu`
- `real(rprec), dimension(:), allocatable vacmod::zuv`
- `real(rprec), dimension(:), allocatable vacmod::zvv`
- `real(rprec), dimension(:), allocatable vacmod::brad`
- `real(rprec), dimension(:), allocatable vacmod::bphi`
- `real(rprec), dimension(:), allocatable vacmod::bz`
- `real(rprec), dimension(:, :), allocatable vacmod::xpts`
- `real(rprec), dimension(:), allocatable vacmod::grpmn`
- `real(rprec), dimension(:), allocatable vacmod::grpmn_m_map_wrt`
- `real(rprec), dimension(:), allocatable vacmod::grpmn_n_map_wrt`
- `real(rprec), dimension(:), allocatable vacmod::gstore`
- `real(rprec), dimension(:, :), allocatable vacmod::green`
- `real(rprec), dimension(:, :), allocatable vacmod::greenp`
- `real(rprec), dimension(:), allocatable vacmod::r0p`
- `real(rprec), dimension(:), allocatable vacmod::r1p`
- `real(rprec), dimension(:), allocatable vacmod::r0m`
- `real(rprec), dimension(:), allocatable vacmod::r1m`
- `real(rprec), dimension(:), allocatable vacmod::sqrtc`
- `real(rprec), dimension(:), allocatable vacmod::sqrta`
- `real(rprec), dimension(:), allocatable vacmod::t1p2`
- `real(rprec), dimension(:), allocatable vacmod::t1p1`
- `real(rprec), dimension(:), allocatable vacmod::t1p`
- `real(rprec), dimension(:), allocatable vacmod::t1m2`
- `real(rprec), dimension(:), allocatable vacmod::t1m1`
- `real(rprec), dimension(:), allocatable vacmod::t1m`
- `real(rprec), dimension(:), allocatable vacmod::adp`
- `real(rprec), dimension(:), allocatable vacmod::adm`
- `real(rprec), dimension(:), allocatable vacmod::cma`
- `real(rprec), dimension(:), allocatable vacmod::ra1p`
- `real(rprec), dimension(:), allocatable vacmod::ra1m`
- `real(rprec), dimension(:), allocatable vacmod::slm`
- `real(rprec), dimension(:), allocatable vacmod::slp`
- `real(rprec), dimension(:), allocatable vacmod::tlpm`
- `real(rprec), dimension(:), allocatable vacmod::slpm`
- `real(rprec), dimension(:), allocatable vacmod::delt1u`
- `real(rprec), dimension(:), allocatable vacmod::azp1u`
- `real(rprec), dimension(:), allocatable vacmod::azm1u`
- `real(rprec), dimension(:), allocatable vacmod::cma11u`
- `real(rprec), dimension(:), allocatable vacmod::sqad1u`
- `real(rprec), dimension(:), allocatable vacmod::sqad2u`
- `real(rprec), dimension(:, :), allocatable vacmod::all_t1p`
- `real(rprec), dimension(:, :), allocatable vacmod::all_t1m`
- `real(rprec), dimension(:, :), allocatable vacmod::all_slp`
- `real(rprec), dimension(:, :), allocatable vacmod::all_slm`
- `real(rprec), dimension(:), allocatable vacmod::gsave`
- `real(rprec), dimension(:), allocatable vacmod::ga1`
- `real(rprec), dimension(:), allocatable vacmod::ga2`
- `real(rprec), dimension(:), allocatable vacmod::dsave`
- `real(rprec), dimension(:, :, :), allocatable vacmod::g1`
- `real(rprec), dimension(:, :, :), allocatable vacmod::g2`
- `real(rprec), dimension(:, :, :), allocatable vacmod::bcos`
- `real(rprec), dimension(:, :, :), allocatable vacmod::bsin`
- `real(rprec), dimension(:, :, :), allocatable vacmod::source`
- `real(rprec), dimension(:, :, :, :), allocatable vacmod::actemp`
- `real(rprec), dimension(:, :, :, :), allocatable vacmod::astemp`

4.65 src/NESTOR/data/vacmod0.f90 File Reference

Functions/Subroutines

- subroutine **vacmod0::set_nestor_sizes** (nfp, ntor, mpol, nzeta, ntheta, lasym)

Variables

- integer **vacmod0::mf**
- integer **vacmod0::nf**
- integer **vacmod0::nu**
- integer **vacmod0::nv**
- integer **vacmod0::mf1**
- integer **vacmod0::nf1**
- integer **vacmod0::mnpd**
- integer **vacmod0::mnpd2**
- integer **vacmod0::nuv**
- integer **vacmod0::nu2**
- integer **vacmod0::nu3**
- integer **vacmod0::nuv2**
- integer **vacmod0::nfper**
- integer **vacmod0::nvper**
- integer **vacmod0::nuv_tan**
- integer **vacmod0::nvp**
- integer **vacmod0::ndim**

4.66 src/NESTOR/fouri.f90 File Reference

Functions/Subroutines

- subroutine **fouri** (grpmn, gsource, amatrix, amatsq, bvec, wint, lasym)

4.66.1 Function/Subroutine Documentation

4.66.1.1 fouri()

```

subroutine fouri (
    real(rprec), dimension(mnpd,nv,nu3,ndim), intent(in) grpmn,
    real(rprec), dimension(nuv), intent(in) gsource,
    real(rprec), dimension(mnpd,mnpd,ndim**2), intent(out) amatrix,
    real(rprec), dimension(mnpd2,mnpd2), intent(out) amatsq,
    real(rprec), dimension(0:mf,-nf:nf,ndim), intent(inout) bvec,
    real(rprec), dimension(nuv2), intent(in) wint,
    logical, intent(in) lasym )

```

interior (int_ext=-1), exterior (int_ext=+1) neumann problem

Definition at line 2 of file fouri.f90.

4.67 src/NESTOR/fourp.f90 File Reference

Functions/Subroutines

- subroutine **fourp** (grpmn, grp)

4.68 src/NESTOR/greenf.f90 File Reference

Functions/Subroutines

- subroutine **greenf** (delgr, delgrp, ip)

4.69 src/NESTOR/precal.f90 File Reference

Functions/Subroutines

- subroutine **precal**

4.70 src/NESTOR/scalpot.f90 File Reference

Functions/Subroutines

- subroutine **scalpot** (bvec, amatrix, wint, ivacskip, lasym, m_map, n_map)

4.71 src/NESTOR/surface.f90 File Reference

Functions/Subroutines

- subroutine **surface** (rc, rs, zs, zc, xm, xn, mnmax, lasym, signgs)

4.72 src/NESTOR/vacuum.f90 File Reference

Functions/Subroutines

- subroutine **vacuum** (rmnc, rmns, zmns, zmnc, xm, xn, plascur, rbtor, wint, ivac_skip, ivac, mnmax, ier_flag, lasym, signgs, raxis, zaxis)

4.73 src/open_output_files.f90 File Reference

Functions/Subroutines

- subroutine **open_output_files** (extension, lfirst)

4.74 src/parse_extension.f File Reference

Functions/Subroutines

- subroutine **parse_extension** (file_to_parse, file_or_extension, Inc)

4.75 src/precondn.f90 File Reference

Functions/Subroutines

- subroutine **precondn** (lu1, bsq, gsqr, r12, xs, xu12, xue, xuo, xodd, axm, axd, bxm, bxd, cx, eqfactor, trigmult)

4.76 src/printout.f90 File Reference

Functions/Subroutines

- subroutine **printout** (i0, delt0, w0)

4.77 src/profil1d.f90 File Reference

Functions/Subroutines

- subroutine **profil1d** (xc, xcdot, lreset)

4.78 src/profil3d.f90 File Reference

Functions/Subroutines

- subroutine **profil3d** (rmn, zmn, lreset)

4.79 src/profile_functions.f File Reference

Functions/Subroutines

- real(rprec) function **pcurr** (xx)
- real(rprec) function **piota** (x)
- real(rprec) function **pmass** (xx)

4.80 src/read_indata.f90 File Reference

Functions/Subroutines

- subroutine **read_indata** (in_file, iunit, ier_flag)

4.81 src/read_wout_mod.f File Reference

Data Types

- interface [read_wout_mod::read_wout_file](#)

Functions/Subroutines

- subroutine **read_wout_mod::readw_and_open** (file_or_extension, ierr, iopen)
- subroutine **read_wout_mod::compute_currents** (ierror)
- subroutine **read_wout_mod::read_wout_deallocate**
- subroutine **read_wout_mod::tosuvspace** (s_in, u_in, v_in, gsqr, bsupu, bsupv, jsupu, jsupv, lam)
- subroutine **read_wout_mod::loadrzi**

Variables

- character(len= *), parameter **read_wout_mod::vn_version** = 'version_'
- character(len= *), parameter **read_wout_mod::vn_extension** = 'input_extension'
- character(len= *), parameter **read_wout_mod::vn_mgrid** = 'mgrid_file'
- character(len= *), parameter **read_wout_mod::vn_magen** = 'wb'
- character(len= *), parameter **read_wout_mod::vn_therm** = 'wp'
- character(len= *), parameter **read_wout_mod::vn_gam** = 'gamma'
- character(len= *), parameter **read_wout_mod::vn_maxr** = 'rmax_surf'
- character(len= *), parameter **read_wout_mod::vn_minr** = 'rmin_surf'
- character(len= *), parameter **read_wout_mod::vn_maxz** = 'zmax_surf'
- character(len= *), parameter **read_wout_mod::vn_fp** = 'nfp'
- character(len= *), parameter **read_wout_mod::vn_radnod** = 'ns'
- character(len= *), parameter **read_wout_mod::vn_polmod** = 'mpol'
- character(len= *), parameter **read_wout_mod::vn_tormod** = 'ntor'
- character(len= *), parameter **read_wout_mod::vn_maxmod** = 'mnmax'
- character(len= *), parameter **read_wout_mod::vn_maxit** = 'niter'
- character(len= *), parameter **read_wout_mod::vn_actit** = 'itfsq'
- character(len= *), parameter **read_wout_mod::vn_asym** = 'lasym'
- character(len= *), parameter **read_wout_mod::vn_free** = 'lfreeb'
- character(len= *), parameter **read_wout_mod::vn_error** = 'ier_flag'
- character(len= *), parameter **read_wout_mod::vn_aspect** = 'aspect'
- character(len= *), parameter **read_wout_mod::vn_maxmod_nyq** = 'mnmax_nyq'
- character(len= *), parameter **read_wout_mod::vn_beta** = 'betatotal'
- character(len= *), parameter **read_wout_mod::vn_pbeta** = 'betapol'
- character(len= *), parameter **read_wout_mod::vn_tbeta** = 'betator'
- character(len= *), parameter **read_wout_mod::vn_abeta** = 'betaxis'
- character(len= *), parameter **read_wout_mod::vn_b0** = 'b0'
- character(len= *), parameter **read_wout_mod::vn_rbt0** = 'rbtor0'
- character(len= *), parameter **read_wout_mod::vn_rbt1** = 'rbtor'

- character(len= *), parameter **read_wout_mod::vn_sgs** = 'signs'
- character(len= *), parameter **read_wout_mod::vn_lar** = 'lonLarmor'
- character(len= *), parameter **read_wout_mod::vn_modb** = 'volavgB'
- character(len= *), parameter **read_wout_mod::vn_ctor** = 'ctor'
- character(len= *), parameter **read_wout_mod::vn_amin** = 'Aminor_p'
- character(len= *), parameter **read_wout_mod::vn_rmaj** = 'Rmajor_p'
- character(len= *), parameter **read_wout_mod::vn_vol** = 'volume_p'
- character(len= *), parameter **read_wout_mod::vn_am** = 'am'
- character(len= *), parameter **read_wout_mod::vn_ai** = 'ai'
- character(len= *), parameter **read_wout_mod::vn_ac** = 'ac'
- character(len= *), parameter **read_wout_mod::vn_ah** = 'hot particle fraction'
- character(len= *), parameter **read_wout_mod::vn_atuname** = 'T-perp/T-par'
- character(len= *), parameter **read_wout_mod::vn_pmass_type** = 'pmass_type'
- character(len= *), parameter **read_wout_mod::vn_piota_type** = 'piota_type'
- character(len= *), parameter **read_wout_mod::vn_pcurr_type** = 'pcurr_type'
- character(len= *), parameter **read_wout_mod::vn_am_aux_s** = 'am_aux_s'
- character(len= *), parameter **read_wout_mod::vn_am_aux_f** = 'am_aux_f'
- character(len= *), parameter **read_wout_mod::vn_ai_aux_s** = 'ai_aux_s'
- character(len= *), parameter **read_wout_mod::vn_ai_aux_f** = 'ai_aux_f'
- character(len= *), parameter **read_wout_mod::vn_ac_aux_s** = 'ac_aux_s'
- character(len= *), parameter **read_wout_mod::vn_ac_aux_f** = 'ac_aux_f'
- character(len= *), parameter **read_wout_mod::vn_mse** = 'imse'
- character(len= *), parameter **read_wout_mod::vn_thom** = 'itse'
- character(len= *), parameter **read_wout_mod::vn_pmod** = 'xm'
- character(len= *), parameter **read_wout_mod::vn_tmod** = 'xn'
- character(len= *), parameter **read_wout_mod::vn_pmod_nyq** = 'xm_nyq'
- character(len= *), parameter **read_wout_mod::vn_tmod_nyq** = 'xn_nyq'
- character(len= *), parameter **read_wout_mod::vn_racc** = 'raxis_cc'
- character(len= *), parameter **read_wout_mod::vn_zacs** = 'zaxis_cs'
- character(len= *), parameter **read_wout_mod::vn_racs** = 'raxis_cs'
- character(len= *), parameter **read_wout_mod::vn_zacc** = 'zaxis_cc'
- character(len= *), parameter **read_wout_mod::vn_iotaf** = 'iotaf'
- character(len= *), parameter **read_wout_mod::vn_qfact** = 'q-factor'
- character(len= *), parameter **read_wout_mod::vn_chi** = 'chi'
- character(len= *), parameter **read_wout_mod::vn_chipf** = 'chipf'
- character(len= *), parameter **read_wout_mod::vn_presf** = 'presf'
- character(len= *), parameter **read_wout_mod::vn_phi** = 'phi'
- character(len= *), parameter **read_wout_mod::vn_phipf** = 'phipf'
- character(len= *), parameter **read_wout_mod::vn_jcuru** = 'jcuru'
- character(len= *), parameter **read_wout_mod::vn_jcurv** = 'jcurv'
- character(len= *), parameter **read_wout_mod::vn_iotah** = 'iotas'
- character(len= *), parameter **read_wout_mod::vn_mass** = 'mass'
- character(len= *), parameter **read_wout_mod::vn_presh** = 'pres'
- character(len= *), parameter **read_wout_mod::vn_betah** = 'beta_vol'
- character(len= *), parameter **read_wout_mod::vn_buco** = 'buco'
- character(len= *), parameter **read_wout_mod::vn_bvco** = 'bvco'
- character(len= *), parameter **read_wout_mod::vn_vp** = 'vp'
- character(len= *), parameter **read_wout_mod::vn_specw** = 'specw'
- character(len= *), parameter **read_wout_mod::vn_phip** = 'phips'
- character(len= *), parameter **read_wout_mod::vn_jdotb** = 'jdotb'
- character(len= *), parameter **read_wout_mod::vn_overr** = 'over_r'
- character(len= *), parameter **read_wout_mod::vn_bgrv** = 'bdotgradv'
- character(len= *), parameter **read_wout_mod::vn_merc** = 'DMerc'
- character(len= *), parameter **read_wout_mod::vn_mshear** = 'DShear'
- character(len= *), parameter **read_wout_mod::vn_mwell** = 'DWell'

- character(len= *), parameter **read_wout_mod::vn_mcurr** = 'DCurr'
- character(len= *), parameter **read_wout_mod::vn_mgeo** = 'DGeod'
- character(len= *), parameter **read_wout_mod::vn_equip** = 'equip'
- character(len= *), parameter **read_wout_mod::vn_fsqt** = 'fsqt'
- character(len= *), parameter **read_wout_mod::vn_wdot** = 'wdot'
- character(len= *), parameter **read_wout_mod::vn_ftolv** = 'ftolv'
- character(len= *), parameter **read_wout_mod::vn_fsqt** = 'fsqt'
- character(len= *), parameter **read_wout_mod::vn_fsqr** = 'fsqr'
- character(len= *), parameter **read_wout_mod::vn_fsqz** = 'fsqz'
- character(len= *), parameter **read_wout_mod::vn_extcur** = 'extcur'
- character(len= *), parameter **read_wout_mod::vn_curlab** = 'curlabel'
- character(len= *), parameter **read_wout_mod::vn_rmnc** = 'rmnc'
- character(len= *), parameter **read_wout_mod::vn_zmns** = 'zmns'
- character(len= *), parameter **read_wout_mod::vn_lmns** = 'lmns'
- character(len= *), parameter **read_wout_mod::vn_gmnc** = 'gmnc'
- character(len= *), parameter **read_wout_mod::vn_bmnc** = 'bmnc'
- character(len= *), parameter **read_wout_mod::vn_bsubumnc** = 'bsubumnc'
- character(len= *), parameter **read_wout_mod::vn_bsubvmnc** = 'bsubvmnc'
- character(len= *), parameter **read_wout_mod::vn_bsubsmns** = 'bsubsmns'
- character(len= *), parameter **read_wout_mod::vn_bsupumnc** = 'bsupumnc'
- character(len= *), parameter **read_wout_mod::vn_bsupvmnc** = 'bsupvmnc'
- character(len= *), parameter **read_wout_mod::vn_rmns** = 'rmns'
- character(len= *), parameter **read_wout_mod::vn_zmnc** = 'zmnc'
- character(len= *), parameter **read_wout_mod::vn_lmnc** = 'lmnc'
- character(len= *), parameter **read_wout_mod::vn_gmns** = 'gmns'
- character(len= *), parameter **read_wout_mod::vn_bmns** = 'bmns'
- character(len= *), parameter **read_wout_mod::vn_bsubumns** = 'bsubumns'
- character(len= *), parameter **read_wout_mod::vn_bsubvmns** = 'bsubvmns'
- character(len= *), parameter **read_wout_mod::vn_bsubsmnc** = 'bsubsmnc'
- character(len= *), parameter **read_wout_mod::vn_bsupumns** = 'bsupumns'
- character(len= *), parameter **read_wout_mod::vn_bsupvmns** = 'bsupvmns'
- character(len= *), parameter **read_wout_mod::vn_bsubumnc_sur** = 'bsubumnc_sur'
- character(len= *), parameter **read_wout_mod::vn_bsubvmnc_sur** = 'bsubvmnc_sur'
- character(len= *), parameter **read_wout_mod::vn_bsupumnc_sur** = 'bsupumnc_sur'
- character(len= *), parameter **read_wout_mod::vn_bsupvmnc_sur** = 'bsupvmnc_sur'
- character(len= *), parameter **read_wout_mod::vn_bsubumns_sur** = 'bsubumns_sur'
- character(len= *), parameter **read_wout_mod::vn_bsubvmns_sur** = 'bsubvmns_sur'
- character(len= *), parameter **read_wout_mod::vn_bsupumns_sur** = 'bsupumns_sur'
- character(len= *), parameter **read_wout_mod::vn_bsupvmns_sur** = 'bsupvmns_sur'
- character(len= *), parameter **read_wout_mod::vn_rbc** = 'rbc'
- character(len= *), parameter **read_wout_mod::vn_zbs** = 'zbs'
- character(len= *), parameter **read_wout_mod::vn_rbs** = 'rbs'
- character(len= *), parameter **read_wout_mod::vn_zbc** = 'zbc'
- character(len= *), parameter **read_wout_mod::vn_potvac** = 'potvac'
- character(len= *), parameter **read_wout_mod::ln_version** = 'VMEC Version'
- character(len= *), parameter **read_wout_mod::ln_extension** = 'Input file extension'
- character(len= *), parameter **read_wout_mod::ln_mgrid** = 'MGRID file'
- character(len= *), parameter **read_wout_mod::ln_magen** = 'Magnetic Energy'
- character(len= *), parameter **read_wout_mod::ln_therm** = 'Thermal Energy'
- character(len= *), parameter **read_wout_mod::ln_gam** = 'Gamma'
- character(len= *), parameter **read_wout_mod::ln_maxr** = 'Maximum R'
- character(len= *), parameter **read_wout_mod::ln_minr** = 'Minimum R'
- character(len= *), parameter **read_wout_mod::ln_maxz** = 'Maximum Z'
- character(len= *), parameter **read_wout_mod::ln_fp** = 'Field Periods'
- character(len= *), parameter **read_wout_mod::ln_radnod** = 'Radial nodes'

- character(len= *), parameter **read_wout_mod::ln_polmod** = 'Poloidal modes'
- character(len= *), parameter **read_wout_mod::ln_tormod** = 'Toroidal modes'
- character(len= *), parameter **read_wout_mod::ln_maxmod** = 'Fourier modes'
- character(len= *), parameter **read_wout_mod::ln_maxmod_nyq** = 'Fourier modes (Nyquist)'
- character(len= *), parameter **read_wout_mod::ln_maxit** = 'Max iterations'
- character(len= *), parameter **read_wout_mod::ln_actit** = 'Actual iterations'
- character(len= *), parameter **read_wout_mod::ln_asym** = 'Asymmetry'
- character(len= *), parameter **read_wout_mod::ln_recon** = 'Reconstruction'
- character(len= *), parameter **read_wout_mod::ln_free** = 'Free boundary'
- character(len= *), parameter **read_wout_mod::ln_error** = 'Error flag'
- character(len= *), parameter **read_wout_mod::ln_aspect** = 'Aspect ratio'
- character(len= *), parameter **read_wout_mod::ln_beta** = 'Total beta'
- character(len= *), parameter **read_wout_mod::ln_pbeta** = 'Poloidal beta'
- character(len= *), parameter **read_wout_mod::ln_tbeta** = 'Toroidal beta'
- character(len= *), parameter **read_wout_mod::ln_abeta** = 'Beta axis'
- character(len= *), parameter **read_wout_mod::ln_b0** = 'RB-t over R axis'
- character(len= *), parameter **read_wout_mod::ln_rbt0** = 'RB-t axis'
- character(len= *), parameter **read_wout_mod::ln_rbt1** = 'RB-t edge'
- character(len= *), parameter **read_wout_mod::ln_sgs** = 'Sign jacobian'
- character(len= *), parameter **read_wout_mod::ln_lar** = 'Ion Larmor radius'
- character(len= *), parameter **read_wout_mod::ln_modb** = 'avg mod B'
- character(len= *), parameter **read_wout_mod::ln_ctor** = 'Toroidal current'
- character(len= *), parameter **read_wout_mod::ln_amin** = 'minor radius'
- character(len= *), parameter **read_wout_mod::ln_rmaj** = 'major radius'
- character(len= *), parameter **read_wout_mod::ln_vol** = 'Plasma volume'
- character(len= *), parameter **read_wout_mod::ln_mse** = 'Number of MSE points'
- character(len= *), parameter **read_wout_mod::ln_thom** = 'Number of Thompson scattering points'
- character(len= *), parameter **read_wout_mod::ln_am** = 'Specification parameters for mass(s)'
- character(len= *), parameter **read_wout_mod::ln_ac** = 'Specification parameters for <J>(s)'
- character(len= *), parameter **read_wout_mod::ln_ai** = 'Specification parameters for iota(s)'
- character(len= *), parameter **read_wout_mod::ln_pmass_type** = 'Profile type specifier for mass(s)'
- character(len= *), parameter **read_wout_mod::ln_pcurr_type** = 'Profile type specifier for <J>(s)'
- character(len= *), parameter **read_wout_mod::ln_piota_type** = 'Profile type specifier for iota(s)'
- character(len= *), parameter **read_wout_mod::ln_am_aux_s** = 'Auxiliary-s parameters for mass(s)'
- character(len= *), parameter **read_wout_mod::ln_am_aux_f** = 'Auxiliary-f parameters for mass(s)'
- character(len= *), parameter **read_wout_mod::ln_ac_aux_s** = 'Auxiliary-s parameters for <J>(s)'
- character(len= *), parameter **read_wout_mod::ln_ac_aux_f** = 'Auxiliary-f parameters for <J>(s)'
- character(len= *), parameter **read_wout_mod::ln_ai_aux_s** = 'Auxiliary-s parameters for iota(s)'
- character(len= *), parameter **read_wout_mod::ln_ai_aux_f** = 'Auxiliary-f parameters for iota(s)'
- character(len= *), parameter **read_wout_mod::ln_pmod** = 'Poloidal mode numbers'
- character(len= *), parameter **read_wout_mod::ln_tmod** = 'Toroidal mode numbers'
- character(len= *), parameter **read_wout_mod::ln_pmod_nyq** = 'Poloidal mode numbers (Nyquist)'
- character(len= *), parameter **read_wout_mod::ln_tmod_nyq** = 'Toroidal mode numbers (Nyquist)'
- character(len= *), parameter **read_wout_mod::ln_racc** = 'raxis (cosnv)'
- character(len= *), parameter **read_wout_mod::ln_racs** = 'raxis (sinnv)'
- character(len= *), parameter **read_wout_mod::ln_zacs** = 'zaxis (sinnv)'
- character(len= *), parameter **read_wout_mod::ln_zacc** = 'zaxis (cosnv)'
- character(len= *), parameter **read_wout_mod::ln_iotaf** = 'iota on full mesh'
- character(len= *), parameter **read_wout_mod::ln_qfact** = 'q-factor on full mesh'
- character(len= *), parameter **read_wout_mod::ln_presf** = 'pressure on full mesh'
- character(len= *), parameter **read_wout_mod::ln_phi** = 'Toroidal flux on full mesh'
- character(len= *), parameter **read_wout_mod::ln_phipf** = 'd(phi)/ds: Toroidal flux deriv on full mesh'
- character(len= *), parameter **read_wout_mod::ln_chi** = 'Poloidal flux on full mesh'
- character(len= *), parameter **read_wout_mod::ln_chipf** = 'd(chi)/ds: Poroidal flux deriv on full mesh'
- character(len= *), parameter **read_wout_mod::ln_jcuru** = 'j dot gradu full'

- character(len= *), parameter **read_wout_mod::ln_jcurv** = 'j dot gradv full'
- character(len= *), parameter **read_wout_mod::ln_iotah** = 'iota half'
- character(len= *), parameter **read_wout_mod::ln_mass** = 'mass half'
- character(len= *), parameter **read_wout_mod::ln_presh** = 'pressure half'
- character(len= *), parameter **read_wout_mod::ln_betah** = 'beta half'
- character(len= *), parameter **read_wout_mod::ln_buco** = 'bsubv half'
- character(len= *), parameter **read_wout_mod::ln_bvco** = 'bsubv half'
- character(len= *), parameter **read_wout_mod::ln_vp** = 'volume deriv half'
- character(len= *), parameter **read_wout_mod::ln_specw** = 'Spectral width half'
- character(len= *), parameter **read_wout_mod::ln_phip** = 'tor flux deriv over 2pi half'
- character(len= *), parameter **read_wout_mod::ln_jdotb** = 'J dot B'
- character(len= *), parameter **read_wout_mod::ln_bgrv** = 'B dot grad v'
- character(len= *), parameter **read_wout_mod::ln_merc** = 'Mercier criterion'
- character(len= *), parameter **read_wout_mod::ln_mshear** = 'Shear Mercier'
- character(len= *), parameter **read_wout_mod::ln_mwell** = 'Well Mercier'
- character(len= *), parameter **read_wout_mod::ln_mcurr** = 'Current Mercier'
- character(len= *), parameter **read_wout_mod::ln_mgeo** = 'Geodesic Mercier'
- character(len= *), parameter **read_wout_mod::ln_equif** = 'Average force balance'
- character(len= *), parameter **read_wout_mod::ln_fsq** = 'Residual decay'
- character(len= *), parameter **read_wout_mod::ln_wdot** = 'Wdot decay'
- character(len= *), parameter **read_wout_mod::ln_extcur** = 'External coil currents'
- character(len= *), parameter **read_wout_mod::ln_fsqr** = 'Residual decay - radial'
- character(len= *), parameter **read_wout_mod::ln_fsqz** = 'Residual decay - vertical'
- character(len= *), parameter **read_wout_mod::ln_fsql** = 'Residual decay - hoop'
- character(len= *), parameter **read_wout_mod::ln_ftolv** = 'Residual decay - requested'
- character(len= *), parameter **read_wout_mod::ln_curlab** = 'External current names'
- character(len= *), parameter **read_wout_mod::ln_rmnc** = 'cosmn component of cylindrical R, full mesh'
- character(len= *), parameter **read_wout_mod::ln_zmns** = 'sinmn component of cylindrical Z, full mesh'
- character(len= *), parameter **read_wout_mod::ln_lmns** = 'sinmn component of lambda, half mesh'
- character(len= *), parameter **read_wout_mod::ln_gmnc** = 'cosmn component of jacobian, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bmnc** = 'cosmn component of mod-B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubumnc** = 'cosmn covariant u-component of B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubvmnc** = 'cosmn covariant v-component of B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubsmns** = 'sinmn covariant s-component of B, full mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubumnc_sur** = 'cosmn bsubu of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsubvmnc_sur** = 'cosmn bsubv of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupumnc_sur** = 'cosmn bsupu of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupvmnc_sur** = 'cosmn bsupv of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupumnc** = 'BSUPUmnc half'
- character(len= *), parameter **read_wout_mod::ln_bsupvmnc** = 'BSUPVmnc half'
- character(len= *), parameter **read_wout_mod::ln_rmns** = 'sinmn component of cylindrical R, full mesh'
- character(len= *), parameter **read_wout_mod::ln_zmnc** = 'cosmn component of cylindrical Z, full mesh'
- character(len= *), parameter **read_wout_mod::ln_lmnc** = 'cosmn component of lambda, half mesh'
- character(len= *), parameter **read_wout_mod::ln_gmns** = 'sinmn component of jacobian, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bmns** = 'sinmn component of mod-B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubumns** = 'sinmn covariant u-component of B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubvmns** = 'sinmn covariant v-component of B, half mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubsmnc** = 'cosmn covariant s-component of B, full mesh'
- character(len= *), parameter **read_wout_mod::ln_bsubumns_sur** = 'sinmn bsubu of B, surface'

- character(len= *), parameter **read_wout_mod::ln_bsubvmns_sur** = 'sinmn bsubv of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupumns_sur** = 'sinmn bsupu of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupvmns_sur** = 'sinmn bsupv of B, surface'
- character(len= *), parameter **read_wout_mod::ln_bsupumns** = 'BSUPUmns half'
- character(len= *), parameter **read_wout_mod::ln_bsupvmns** = 'BSUPVmns half'
- character(len= *), parameter **read_wout_mod::ln_rbc** = 'Initial boundary R cos(mu-nv) coefficients'
- character(len= *), parameter **read_wout_mod::ln_zbs** = 'Initial boundary Z sin(mu-nv) coefficients'
- character(len= *), parameter **read_wout_mod::ln_rbs** = 'Initial boundary R sin(mu-nv) coefficients'
- character(len= *), parameter **read_wout_mod::ln_zbc** = 'Initial boundary Z cos(mu-nv) coefficients'
- character(len= *), parameter **read_wout_mod::ln_potvac** = 'Vacuum Potential on Boundary'
- integer **read_wout_mod::nfp**
- integer **read_wout_mod::ns**
- integer **read_wout_mod::mpol**
- integer **read_wout_mod::ntor**
- integer **read_wout_mod::mnmax**
- integer **read_wout_mod::mnmax_nyq**
- integer **read_wout_mod::itfsq**
- integer **read_wout_mod::niter**
- integer **read_wout_mod::iasym**
- integer **read_wout_mod::ierr_vmec**
- integer **read_wout_mod::imse**
- integer **read_wout_mod::itse**
- integer **read_wout_mod::nstore_seq**
- integer **read_wout_mod::isnodes**
- integer **read_wout_mod::ipnodes**
- integer **read_wout_mod::imatch_phiedge**
- integer **read_wout_mod::isigng**
- integer **read_wout_mod::mnyq**
- integer **read_wout_mod::nnyq**
- integer **read_wout_mod::ntmax**
- real(rprec) **read_wout_mod::wb**
- real(rprec) **read_wout_mod::wp**
- real(rprec) **read_wout_mod::gamma**
- real(rprec) **read_wout_mod::pfac**
- real(rprec) **read_wout_mod::rmax_surf**
- real(rprec) **read_wout_mod::rmin_surf**
- real(rprec) **read_wout_mod::zmax_surf**
- real(rprec) **read_wout_mod::aspect**
- real(rprec) **read_wout_mod::betatot**
- real(rprec) **read_wout_mod::betapol**
- real(rprec) **read_wout_mod::betator**
- real(rprec) **read_wout_mod::betaxis**
- real(rprec) **read_wout_mod::b0**
- real(rprec) **read_wout_mod::tswgt**
- real(rprec) **read_wout_mod::msewgt**
- real(rprec) **read_wout_mod::flmwgt**
- real(rprec) **read_wout_mod::bcwgt**
- real(rprec) **read_wout_mod::phidiam**
- real(rprec) **read_wout_mod::version_**
- real(rprec) **read_wout_mod::delphid**
- real(rprec) **read_wout_mod::ionlarmor**
- real(rprec) **read_wout_mod::volavgb**
- real(rprec) **read_wout_mod::fsql**
- real(rprec) **read_wout_mod::fsqr**
- real(rprec) **read_wout_mod::fsqz**

- `real(rprec) read_wout_mod::ftolv`
- `real(rprec) read_wout_mod::aminor`
- `real(rprec) read_wout_mod::rmajor`
- `real(rprec) read_wout_mod::volume`
- `real(rprec) read_wout_mod::rbtor`
- `real(rprec) read_wout_mod::rbtor0`
- `real(rprec) read_wout_mod::itor`
- `real(rprec) read_wout_mod::machsq`
- `real(rprec), dimension(:, :, :), allocatable read_wout_mod::rzi_local`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::rmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::zmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::lmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::rmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::zmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::lmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::gmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubumnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubvmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubsmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsupumnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsupvmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::curvmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::currumnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bbc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::raxis`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::zaxis`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::gmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubumns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubvmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsubsmnc`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsupumns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::bsupvmns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::currumns`
- `real(rprec), dimension(:, :), allocatable read_wout_mod::curvmns`
- `real(rprec), dimension(:), allocatable read_wout_mod::iotas`
- `real(rprec), dimension(:), allocatable read_wout_mod::iotaf`
- `real(rprec), dimension(:), allocatable read_wout_mod::presf`
- `real(rprec), dimension(:), allocatable read_wout_mod::phipf`
- `real(rprec), dimension(:), allocatable read_wout_mod::mass`
- `real(rprec), dimension(:), allocatable read_wout_mod::pres`
- `real(rprec), dimension(:), allocatable read_wout_mod::beta_vol`
- `real(rprec), dimension(:), allocatable read_wout_mod::xm`
- `real(rprec), dimension(:), allocatable read_wout_mod::xn`
- `real(rprec), dimension(:), allocatable read_wout_mod::qfact`
- `real(rprec), dimension(:), allocatable read_wout_mod::chipf`
- `real(rprec), dimension(:), allocatable read_wout_mod::phi`
- `real(rprec), dimension(:), allocatable read_wout_mod::chi`
- `real(rprec), dimension(:), allocatable read_wout_mod::xm_nyq`
- `real(rprec), dimension(:), allocatable read_wout_mod::xn_nyq`
- `real(rprec), dimension(:), allocatable read_wout_mod::phip`
- `real(rprec), dimension(:), allocatable read_wout_mod::buco`
- `real(rprec), dimension(:), allocatable read_wout_mod::bvco`
- `real(rprec), dimension(:), allocatable read_wout_mod::vp`

- real(rprec), dimension(:), allocatable **read_wout_mod::overr**
- real(rprec), dimension(:), allocatable **read_wout_mod::jcuru**
- real(rprec), dimension(:), allocatable **read_wout_mod::jcurv**
- real(rprec), dimension(:), allocatable **read_wout_mod::specw**
- real(rprec), dimension(:), allocatable **read_wout_mod::jdotb**
- real(rprec), dimension(:), allocatable **read_wout_mod::bdotgradv**
- real(rprec), dimension(:), allocatable **read_wout_mod::fsqt**
- real(rprec), dimension(:), allocatable **read_wout_mod::wdot**
- real(rprec), dimension(:), allocatable **read_wout_mod::am**
- real(rprec), dimension(:), allocatable **read_wout_mod::ac**
- real(rprec), dimension(:), allocatable **read_wout_mod::ai**
- real(rprec), dimension(:), allocatable **read_wout_mod::am_aux_s**
- real(rprec), dimension(:), allocatable **read_wout_mod::am_aux_f**
- real(rprec), dimension(:), allocatable **read_wout_mod::ac_aux_s**
- real(rprec), dimension(:), allocatable **read_wout_mod::ac_aux_f**
- real(rprec), dimension(:), allocatable **read_wout_mod::ai_aux_s**
- real(rprec), dimension(:), allocatable **read_wout_mod::ai_aux_f**
- real(rprec), dimension(:), allocatable **read_wout_mod::dmerc**
- real(rprec), dimension(:), allocatable **read_wout_mod::dshear**
- real(rprec), dimension(:), allocatable **read_wout_mod::dwell**
- real(rprec), dimension(:), allocatable **read_wout_mod::dcurr**
- real(rprec), dimension(:), allocatable **read_wout_mod::dgeod**
- real(rprec), dimension(:), allocatable **read_wout_mod::equif**
- real(rprec), dimension(:), allocatable **read_wout_mod::extcur**
- real(rprec), dimension(:), allocatable **read_wout_mod::sknots**
- real(rprec), dimension(:), allocatable **read_wout_mod::ystark**
- real(rprec), dimension(:), allocatable **read_wout_mod::y2stark**
- real(rprec), dimension(:), allocatable **read_wout_mod::pknots**
- real(rprec), dimension(:), allocatable **read_wout_mod::ythom**
- real(rprec), dimension(:), allocatable **read_wout_mod::y2thom**
- real(rprec), dimension(:), allocatable **read_wout_mod::anglemse**
- real(rprec), dimension(:), allocatable **read_wout_mod::rmid**
- real(rprec), dimension(:), allocatable **read_wout_mod::qmid**
- real(rprec), dimension(:), allocatable **read_wout_mod::shear**
- real(rprec), dimension(:), allocatable **read_wout_mod::presmid**
- real(rprec), dimension(:), allocatable **read_wout_mod::alfa**
- real(rprec), dimension(:), allocatable **read_wout_mod::curmid**
- real(rprec), dimension(:), allocatable **read_wout_mod::rstark**
- real(rprec), dimension(:), allocatable **read_wout_mod::qmeas**
- real(rprec), dimension(:), allocatable **read_wout_mod::datastark**
- real(rprec), dimension(:), allocatable **read_wout_mod::rthom**
- real(rprec), dimension(:), allocatable **read_wout_mod::datathom**
- real(rprec), dimension(:), allocatable **read_wout_mod::dsiobt**
- real(rprec), dimension(:), allocatable **read_wout_mod::potvac**
- logical **read_wout_mod::lasym**
- logical **read_wout_mod::lthreed**
- logical **read_wout_mod::lwout_opened** = .false.
- character **read_wout_mod::mgrid_file**
- character **read_wout_mod::input_extension**
- character **read_wout_mod::pmass_type**
- character **read_wout_mod::pcurr_type**
- character **read_wout_mod::piota_type**

4.82 src/readin.f90 File Reference

Functions/Subroutines

- subroutine **readin** (input_file, ier_flag)

4.83 src/reset_params.f90 File Reference

Functions/Subroutines

- subroutine **reset_params**

4.83.1 Function/Subroutine Documentation

4.83.1.1 reset_params()

```
subroutine reset_params
```

m=1 constraint (=t: apply correct, polar constraint; =f, apply approx. constraint)

Assume scaled mode; read in from mgrid in free-bdy mode

Definition at line 2 of file reset_params.f90.

4.84 src/residue.f90 File Reference

Functions/Subroutines

- subroutine **residue** (gcr, gcx, gcl)
- subroutine **constrain_m1** (gcr, gcx)
- subroutine **scale_m1** (gcr, gcx)

4.85 src/restart_iter.f90 File Reference

Functions/Subroutines

- subroutine **restart_iter** (time_step)

4.86 src/safe_open_mod.f File Reference

Functions/Subroutines

- subroutine **safe_open_mod::safe_open** (iunit, istat, filename, filestat, fileform, record_in, access_in, delim_in)

4.87 src/scalfor.f90 File Reference

Functions/Subroutines

- subroutine **scalfor** (gcx, axm, bxm, axd, bxd, cx, iflag)

4.88 src/solver.f90 File Reference

Functions/Subroutines

- subroutine **solver** (amat, b, m, nrhs, info)

4.89 src/spectrum.f90 File Reference

Functions/Subroutines

- subroutine **spectrum** (rmn, zmn)

4.90 src/spline_akima.f File Reference

Functions/Subroutines

- subroutine **spline_akima** (x, y, xx, yy, npts, iflag)

4.91 src/spline_akima_int.f File Reference

Functions/Subroutines

- subroutine **spline_akima_int** (x, y, xx, yy, npts, iflag)

4.92 src/spline_cubic.f File Reference

Functions/Subroutines

- subroutine **spline_cubic** (x, y, xx, yy, n, iflag)
- subroutine **spline_nr** (x, y, n, yp1, ypn, y2)
- subroutine **splint_nr** (xa, ya, y2a, n, x, y)

4.93 src/spline_cubic_int.f File Reference

Functions/Subroutines

- subroutine **spline_cubic_int** (x, y, xx, yy, n, iflag)
- subroutine **spline_int** (x, y, n, yp1, ypn, y2)
- subroutine **splint_int** (xa, ya, y2a, n, x, y)

4.94 src/symforce.f90 File Reference

Functions/Subroutines

- subroutine **symforce** (ars, brs, crs, azs, bzs, czs, bls, cls, rcs, zcs, ara, bra, cra, aza, bza, cza, bla, cla, rca, zca)
- subroutine **symoutput** (bsq, gsqr, bsubu, bsubv, bsupu, bsupv, bsubs, bsqa, gsqrta, bsubua, bsubva, bsupua, bsupva, bsubsa)

4.95 src/symrzl.f90 File Reference

Functions/Subroutines

- subroutine **symrzl** (r1s, rus, rvs, z1s, zus, zvs, lus, lvs, rcons, zcons, r1a, rua, rva, z1a, zua, zva, lua, lva, rcona, zcona)

4.96 src/tolower.f90 File Reference

Functions/Subroutines

- subroutine **tolower** (string)

4.97 src/tomnsp.f90 File Reference

Functions/Subroutines

- subroutine **tomnsp** (frzl_array, armn, brmn, crmn, azmn, bzm, czmn, blmn, clmn, arcn, azcn)
- subroutine **tomnsa** (frzl_array, armn, brmn, crmn, azmn, bzm, czmn, blmn, clmn, arcn, azcn)

4.98 src/totzsp.f90 File Reference

Functions/Subroutines

- subroutine **totzsp** (rzl_array, r11, ru1, rv1, z11, zu1, zv1, lu1, lv1, rcn1, zcn1)
- subroutine **convert_sym** (rmnss, zmncs)
- subroutine **totzspa** (rzl_array, r11, ru1, rv1, z11, zu1, zv1, lu1, lv1, rcn1, zcn1)
- subroutine **convert_asym** (rmnsc, zmnc)

4.98.1 Function/Subroutine Documentation

4.98.1.1 totzsps()

```

subroutine totzsps (
    real(rprec), dimension(ns,0:ntor,0:mpoll,3*ntmax), intent(inout), target rzl_←
array,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) r11,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) ru1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) rv1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) z11,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) zu1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) zv1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) lu1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) lv1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) rcn1,
    real(rprec), dimension(ns*nzeta*ntheta3,0:1), intent(out) zcn1 )

```

Parameters

out	<i>r11</i>	R
out	<i>ru1</i>	dR/dTheta
out	<i>rv1</i>	dR/dZeta
out	<i>z11</i>	Z
out	<i>zu1</i>	dZ/dTheta
out	<i>zv1</i>	dZ/dZeta
out	<i>lu1</i>	dLambda/dTheta
out	<i>lv1</i>	-dLambda/dZeta
out	<i>rcn1</i>	TODO: what is this?
out	<i>zcn1</i>	TODO: what is this?

Definition at line 2 of file totzsp.f90.

Here is the caller graph for this function:



4.99 src/tridslv.f90 File Reference

Functions/Subroutines

- subroutine **tridslv** (a, d, b, c, jmin, jmax, mnd1, ns, nrhs)

4.100 `src/vmec.f90` File Reference

Functions/Subroutines

- program `vmec`

4.101 `src/wrout.f90` File Reference

Functions/Subroutines

- subroutine `wrout` (`bsq`, `gsqrt`, `bsubu`, `bsubv`, `bsubs`, `bsupv`, `bsupu`, `rzl_array`, `gc_array`, `ier_flag`)

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