

MFIX-CDM

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Chapter 4

Module Documentation

4.1 DES_BC Module Reference

Data Types

- type [dmi](#)

Variables

- LOGICAL [DES_MI](#)
- LOGICAL [DES_MO_X](#)
- LOGICAL [DES_MO_Y](#)
- LOGICAL [DES_MO_Z](#)
- DOUBLE PRECISION [DES_BC_X_w](#)
- DOUBLE PRECISION [DES_BC_X_e](#)
- DOUBLE PRECISION [DES_BC_Y_s](#)
- DOUBLE PRECISION [DES_BC_Y_n](#)
- DOUBLE PRECISION [DES_BC_Z_b](#)
- DOUBLE PRECISION [DES_BC_Z_t](#)
- DOUBLE PRECISION [DES_BC_VOLFLOW_s](#)
- DOUBLE PRECISION [DES_BC_MASSFLOW_s](#)
- CHARACTER *16 [DES_BC_TYPE](#)
- DOUBLE PRECISION [DES_BC_U_s](#)
- DOUBLE PRECISION [DES_BC_V_s](#)
- DOUBLE PRECISION [DES_BC_W_s](#)
- DOUBLE PRECISION [DES_BC_Uw_s](#)
- DOUBLE PRECISION [DES_BC_Vw_s](#)
- DOUBLE PRECISION [DES_BC_Ww_s](#)
- INTEGER, dimension(:), allocatable [DES_BC_MI_ID](#)
- INTEGER, dimension(:), allocatable [DES_BC_MO_ID](#)
- CHARACTER *4, dimension(:), allocatable [DES_MI_CLASS](#)
- CHARACTER *3, dimension(:), allocatable [DES_MO_CLASS](#)
- CHARACTER *4, dimension(:), allocatable [PARTICLE_PLCMNT](#)
- INTEGER, dimension(:), allocatable [PI_FACTOR](#)
- INTEGER, dimension(:), allocatable [PI_COUNT](#)

- DOUBLE PRECISION, dimension(:), allocatable [DES_MI_TIME](#)
- INTEGER, dimension(:), allocatable [MI_FACTOR](#)
- DOUBLE PRECISION, dimension(:), allocatable [MI_WINDOW](#)
- TYPE([dmi](#)), dimension(:), allocatable [I_OF_MI](#)
- TYPE([dmi](#)), dimension(:), allocatable [J_OF_MI](#)
- TYPE([dmi](#)), dimension(:), allocatable [MI_ORDER](#)
- INTEGER, dimension(:, :), allocatable [GS_ARRAY](#)

4.1.1 Variable Documentation

4.1.1.1 DOUBLE PRECISION DES_BC::DES_BC_MASSFLOW_s

Definition at line 32 of file `des_bc_mod.f`.

Referenced by `DES_INIT_NAMELIST()`.

4.1.1.2 INTEGER,dimension(:),allocatable DES_BC::DES_BC_MI_ID

Definition at line 48 of file `des_bc_mod.f`.

Referenced by `DES_MASS_INLET()`, `DES_PLACE_NEW_PARTICLE()`, and `DES_TIME_MARCH()`.

4.1.1.3 INTEGER,dimension(:),allocatable DES_BC::DES_BC_MO_ID

Definition at line 49 of file `des_bc_mod.f`.

4.1.1.4 CHARACTER*16 DES_BC::DES_BC_TYPE

Definition at line 33 of file `des_bc_mod.f`.

Referenced by `DES_INIT_NAMELIST()`.

4.1.1.5 DOUBLE PRECISION DES_BC::DES_BC_U_s

Definition at line 36 of file `des_bc_mod.f`.

Referenced by `DES_INIT_NAMELIST()`, and `DES_MASS_INLET()`.

4.1.1.6 DOUBLE PRECISION DES_BC::DES_BC_Uw_s

Definition at line 42 of file `des_bc_mod.f`.

Referenced by `DES_INIT_NAMELIST()`.

4.1.1.7 DOUBLE PRECISION DES_BC::DES_BC_V_s

Definition at line 37 of file `des_bc_mod.f`.

Referenced by `DES_INIT_NAMELIST()`, and `DES_MASS_INLET()`.

4.1.1.8 DOUBLE PRECISION DES_BC::DES_BC_VOLFLOW_s

Definition at line 31 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST().

4.1.1.9 DOUBLE PRECISION DES_BC::DES_BC_Vw_s

Definition at line 43 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST().

4.1.1.10 DOUBLE PRECISION DES_BC::DES_BC_W_s

Definition at line 38 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_MASS_INLET().

4.1.1.11 DOUBLE PRECISION DES_BC::DES_BC_Ww_s

Definition at line 44 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST().

4.1.1.12 DOUBLE PRECISION DES_BC::DES_BC_X_e

Definition at line 24 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.13 DOUBLE PRECISION DES_BC::DES_BC_X_w

Definition at line 23 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.14 DOUBLE PRECISION DES_BC::DES_BC_Y_n

Definition at line 26 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.15 DOUBLE PRECISION DES_BC::DES_BC_Y_s

Definition at line 25 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.16 DOUBLE PRECISION DES_BC::DES_BC_Z_b

Definition at line 27 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.17 DOUBLE PRECISION DES_BC::DES_BC_Z_t

Definition at line 28 of file des_bc_mod.f.

Referenced by DES_INIT_NAMELIST(), and DES_PLACE_NEW_PARTICLE().

4.1.1.18 LOGICAL DES_BC::DES_MI

Definition at line 19 of file des_bc_mod.f.

Referenced by DES_TIME_MARCH().

4.1.1.19 CHARACTER*4,dimension(:),allocatable DES_BC::DES_MI_CLASS

Definition at line 56 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.20 DOUBLE PRECISION,dimension(:),allocatable DES_BC::DES_MI_TIME

Definition at line 81 of file des_bc_mod.f.

Referenced by DES_TIME_MARCH().

4.1.1.21 CHARACTER*3,dimension(:),allocatable DES_BC::DES_MO_CLASS

Definition at line 61 of file des_bc_mod.f.

4.1.1.22 LOGICAL DES_BC::DES_MO_X

Definition at line 20 of file des_bc_mod.f.

4.1.1.23 LOGICAL DES_BC::DES_MO_Y

Definition at line 20 of file des_bc_mod.f.

4.1.1.24 LOGICAL DES_BC::DES_MO_Z

Definition at line 20 of file des_bc_mod.f.

4.1.1.25 INTEGER,dimension(:,:),allocatable DES_BC::GS_ARRAY

Definition at line 108 of file des_bc_mod.f.

Referenced by DES_MASS_INLET(), and DES_NEW_PARTICLE_TEST().

4.1.1.26 TYPE(dmi),dimension(:),allocatable DES_BC::I_OF_MI

Definition at line 100 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.27 TYPE(dmi),dimension(:),allocatable DES_BC::J_OF_MI

Definition at line 101 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.28 INTEGER,dimension(:),allocatable DES_BC::MI_FACTOR

Definition at line 91 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.29 TYPE(dmi),dimension(:),allocatable DES_BC::MI_ORDER

Definition at line 104 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.30 DOUBLE PRECISION,dimension(:),allocatable DES_BC::MI_WINDOW

Definition at line 94 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.31 CHARACTER*4,dimension(:),allocatable DES_BC::PARTICLE_PLCMNT

Definition at line 65 of file des_bc_mod.f.

Referenced by DES_PLACE_NEW_PARTICLE().

4.1.1.32 INTEGER,dimension(:),allocatable DES_BC::PI_COUNT

Definition at line 76 of file des_bc_mod.f.

Referenced by DES_MASS_INLET().

4.1.1.33 INTEGER,dimension(:),allocatable DES_BC::PI_FACTOR

Definition at line 71 of file des_bc_mod.f.

Referenced by DES_TIME_MARCH().

4.2 DISCRETELEMENT Module Reference

Data Types

- type [iap1](#)

Variables

- LOGICAL [PRINT_DES_DATA](#)
- DOUBLE PRECISION [DES_SPX_DT](#)
- DOUBLE PRECISION [DES_RES_DT](#)
- LOGICAL [DEM_OUTPUT_DATA_TECPLOT](#)
- LOGICAL [DEBUG_DES](#)
- INTEGER [FOCUS_PARTICLE](#)
- INTEGER [IFI](#)
- INTEGER, parameter [DES_EXTRA_UNIT](#) = 2000
- INTEGER, parameter [DES_VOLFRAC_UNIT](#) = 2001
- INTEGER [PARTICLES](#)
- DOUBLE PRECISION [PARTICLES_FACTOR](#)
- LOGICAL [DISCRETE_ELEMENT](#)
- LOGICAL [DES_CONTINUUM_COUPLED](#)
- INTEGER [NFACTOR](#)
- LOGICAL [DES_INTERP_ON](#)
- LOGICAL [TSUJI_DRAG](#)
- CHARACTER(64) [DES_INTG_METHOD](#)
- DOUBLE PRECISION [KN](#)
- DOUBLE PRECISION [KN_W](#)
- DOUBLE PRECISION [KT](#)
- DOUBLE PRECISION [KT_W](#)
- DOUBLE PRECISION [KT_FAC](#)
- DOUBLE PRECISION [KT_W_FAC](#)
- DOUBLE PRECISION [ETA_DES_N](#)
- DOUBLE PRECISION [ETA_N_W](#)
- DOUBLE PRECISION [ETA_DES_T](#)
- DOUBLE PRECISION [ETA_T_W](#)
- DOUBLE PRECISION [DES_ETAT_FAC](#)
- DOUBLE PRECISION [DES_ETAT_W_FAC](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_ETAN](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_ETAT](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_ETAN_WALL](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_ETAT_WALL](#)
- DOUBLE PRECISION [MEW](#)
- DOUBLE PRECISION [MEW_W](#)
- DOUBLE PRECISION [DES_EN_INPUT](#)
- DOUBLE PRECISION [DES_ET_INPUT](#)
- DOUBLE PRECISION [DES_EN_WALL_INPUT](#)
- DOUBLE PRECISION [DES_ET_WALL_INPUT](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [REAL_EN](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [REAL_ET](#)
- DOUBLE PRECISION, dimension(:), allocatable [REAL_EN_WALL](#)

- DOUBLE PRECISION, dimension(:), allocatable [REAL_ET_WALL](#)
- CHARACTER(64) [DES_COLL_MODEL](#)
- double precision [ew_young](#)
- double precision [vw_poisson](#)
- double precision, dimension(dim_m) [e_young](#)
- double precision, dimension(dim_m) [v_poisson](#)
- double precision, dimension(:, :), allocatable [hert_kn](#)
- double precision, dimension(:, :), allocatable [hert_kt](#)
- double precision, dimension(:), allocatable [hert_kwn](#)
- double precision, dimension(:), allocatable [hert_kwt](#)
- double precision, dimension(:), allocatable [g_mod](#)
- LOGICAL [PARTICLE_SLIDE](#)
- DOUBLE PRECISION [DTSOLID](#)
- DOUBLE PRECISION [DTSOLID_FACTOR](#)
- DOUBLE PRECISION [S_TIME](#)
- INTEGER [DES_NEIGHBOR_SEARCH](#)
- INTEGER [NEIGH_MAX](#)
- DOUBLE PRECISION [OVERLAP_MAX](#)
- INTEGER [QLM](#)
- INTEGER [QLN](#)
- INTEGER [INIT_QUAD_COUNT](#)
- INTEGER [INQC](#)
- INTEGER [NQUAD](#)
- INTEGER [MAXQUADS](#)
- INTEGER [NMQD](#)
- DOUBLE PRECISION [N2CT](#)
- DOUBLE PRECISION [QUADCT](#)
- DOUBLE PRECISION [OCTCT](#)
- DOUBLE PRECISION [MQUAD_FACTOR](#)
- DOUBLE PRECISION [RADIUS_EQ](#)
- INTEGER [NEIGHBOR_SEARCH_N](#)
- DOUBLE PRECISION [NEIGHBOR_SEARCH_RAD_RATIO](#)
- LOGICAL [DO_NSEARCH](#)
- DOUBLE PRECISION [FACTOR_RLM](#)
- INTEGER [MN](#)
- INTEGER [MAXNEIGHBORS](#)
- INTEGER [DIMN](#)
- INTEGER [NWALLS](#)
- DOUBLE PRECISION [WX1](#)
- DOUBLE PRECISION [EX2](#)
- DOUBLE PRECISION [BY1](#)
- DOUBLE PRECISION [TY2](#)
- DOUBLE PRECISION [SZ1](#)
- DOUBLE PRECISION [NZ2](#)
- LOGICAL [GENER_PART_CONFIG](#)
- DOUBLE PRECISION [VOL_FRAC](#)
- DOUBLE PRECISION [DES_EPS_XSTART](#)
- DOUBLE PRECISION [DES_EPS_YSTART](#)
- DOUBLE PRECISION [DES_EPS_ZSTART](#)
- INTEGER [PART_MPHASE](#)

- DOUBLE PRECISION [pvel_mean](#)
- DOUBLE PRECISION [PVEL_StDev](#)
- DOUBLE PRECISION [DES_GAMMA](#)
- DOUBLE PRECISION [DES_F](#)
- DOUBLE PRECISION [LID_VEL](#)
- LOGICAL [WALLDTSPLIT](#)
- LOGICAL [WALLREFLECT](#)
- INTEGER, dimension(:, :), allocatable [c_near_w](#)
- LOGICAL [NON_RECT_BC](#)
- LOGICAL [DES_PERIODIC_WALLS](#)
- LOGICAL [DES_PERIODIC_WALLS_X](#)
- LOGICAL [DES_PERIODIC_WALLS_Y](#)
- LOGICAL [DES_PERIODIC_WALLS_Z](#)
- DOUBLE PRECISION, dimension(3) [pgrad](#)
- DOUBLE PRECISION [MIN_RADIUS](#)
- DOUBLE PRECISION [MAX_RADIUS](#)
- INTEGER, dimension(:), allocatable [MARK_PART](#)
- DOUBLE PRECISION, dimension(:), allocatable [bed_height](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_RADIUS](#)
- DOUBLE PRECISION, dimension(:), allocatable [RO_Sol](#)
- DOUBLE PRECISION, dimension(:), allocatable [PVOL](#)
- DOUBLE PRECISION, dimension(:), allocatable [PMASS](#)
- DOUBLE PRECISION, dimension(:), allocatable [OMOI](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_POS_OLD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_POS_NEW](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_VEL_OLD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_VEL_NEW](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [OMEGA_OLD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [OMEGA_NEW](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [PPOS](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_VEL_OOLD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DES_ACC_OLD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [ROT_ACC_OLD](#)
- LOGICAL [CALC_FC](#)
- LOGICAL [CALLFROMDES](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [FC](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [FN](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [FT](#)
- DOUBLE PRECISION, dimension(:), allocatable [GRAV](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [TOW](#)
- DOUBLE PRECISION, dimension(:, :, :), allocatable [PFT](#)
- INTEGER, dimension(:, :), allocatable [PN](#)
- INTEGER, dimension(:, :), allocatable [PV](#)
- DOUBLE PRECISION, dimension(:, :, :), allocatable [SOLID_DRAG](#)
- TYPE([iap1](#)), dimension(:, :, :), allocatable [pic](#)
- INTEGER, dimension(:), allocatable [PINC](#)
- INTEGER, dimension(:, :), allocatable [PIJK](#)
- INTEGER, dimension(:, :), allocatable [NEIGHBOURS](#)
- INTEGER, dimension(:, :), allocatable [LQUAD](#)
- INTEGER, dimension(:), allocatable [PQUAD](#)

- DOUBLE PRECISION, dimension(:,:), allocatable [CQUAD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_U_s](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_V_s](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_W_s](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_VEL_AVG](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_THETA](#)
- DOUBLE PRECISION, dimension(:), allocatable [GLOBAL_GRAN_ENERGY](#)
- DOUBLE PRECISION, dimension(:), allocatable [GLOBAL_GRAN_TEMP](#)
- DOUBLE PRECISION [DES_KE](#)
- DOUBLE PRECISION [DES_PE](#)
- DOUBLE PRECISION, dimension(:), allocatable [XE](#)
- DOUBLE PRECISION, dimension(:), allocatable [YN](#)
- DOUBLE PRECISION, dimension(:), allocatable [ZT](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_WALL_POS](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DES_WALL_VEL](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [WALL_NORMAL](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [drag_am](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [drag_bm](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [vel_fp](#)
- DOUBLE PRECISION, dimension(:,:), pointer [weightp](#)
- DOUBLE PRECISION, dimension(:), allocatable [f_gp](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [wtderivp](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [wtbar](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [sstencil](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [gstencil](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [vstencil](#)
- DOUBLE PRECISION, dimension(:,:,:), allocatable [pgradstencil](#)
- CHARACTER(LEN=7) [scheme](#)
- CHARACTER(LEN=7) [interp_scheme](#)
- INTEGER [order](#)
- INTEGER [ob2l](#)
- INTEGER [ob2r](#)
- LOGICAL, dimension(:,:), allocatable [PEA](#)
- INTEGER [PIS](#)
- INTEGER [MAX_PIS](#)
- DOUBLE PRECISION, dimension(:), allocatable [WELL_WIDTH](#)
- DOUBLE PRECISION, dimension(:), allocatable [WELL_DEPTH](#)
- DOUBLE PRECISION [MASTER_WELL_DEPTH](#)
- DOUBLE PRECISION [MASTER_WALL_WELL_DEPTH](#)
- DOUBLE PRECISION [RADIUS_RATIO](#)
- DOUBLE PRECISION [WALL_RADIUS_RATIO](#)
- INTEGER, dimension(:,:), allocatable [LINKS](#)
- INTEGER, dimension(:,:), allocatable [AGGS](#)
- INTEGER, dimension(:), allocatable [IS_LINKED](#)
- LOGICAL [USE_COHESION](#)
- LOGICAL [SQUARE_WELL](#)
- INTEGER [COHESION_DEBUG](#)
- INTEGER [COHESION_DEBUG_START](#)
- INTEGER [COH_DEBUG_PARTICLE](#)
- INTEGER [COH_DEBUG_STEP](#)

- INTEGER [LAST_COLLISION](#)
- INTEGER [ANIMATION_WRITE_INTERVAL](#)
- INTEGER [ANIMATION_WRITE_COUNTER](#)
- DOUBLE PRECISION [TIME_FACTOR](#)
- INTEGER [MAX_ANIMATOR_STEP](#)
- INTEGER [MIN_ANIMATOR_STEP](#)
- INTEGER [MAX_LOG_STEP](#)
- INTEGER [MIN_LOG_STEP](#)
- INTEGER, dimension(:), allocatable [IS_AGGLOMERATED](#)
- INTEGER [SEARCH_GRIDS](#)
- INTEGER [PART_IN_GRID](#)
- INTEGER, dimension(:, :), allocatable [PART_GRID](#)
- INTEGER [MAX_PART_IN_GRID](#)
- DOUBLE PRECISION [SEARCH_GRID_SIZE](#)
- LOGICAL [USE_COL_MW](#)
- LOGICAL [VAN_DER_WAALS](#)
- DOUBLE PRECISION [HAMAKER_CONSTANT](#)
- DOUBLE PRECISION [VDW_INNER_CUTOFF](#)
- DOUBLE PRECISION [VDW_OUTER_CUTOFF](#)
- DOUBLE PRECISION [WALL_HAMAKER_CONSTANT](#)
- DOUBLE PRECISION [WALL_VDW_INNER_CUTOFF](#)
- DOUBLE PRECISION [WALL_VDW_OUTER_CUTOFF](#)
- DOUBLE PRECISION [SURFACE_ENERGY](#)
- DOUBLE PRECISION [WALL_SURFACE_ENERGY](#)
- LOGICAL [RHODES_COHESION](#)
- DOUBLE PRECISION [RHODES_COHESION_FACTOR](#)
- DOUBLE PRECISION [RHODES_COHESION_FACTOR_WALL](#)
- DOUBLE PRECISION [RHODES_COHESION_LENGTH_SCALE](#)
- DOUBLE PRECISION [RHODES_COHESION_LENGTH_SCALE_WALL](#)
- LOGICAL [RECORD_NET_FORCES](#)
- INTEGER [VERTICAL_NET_FORCE_BINS](#)
- DOUBLE PRECISION [NET_FORCE_COUNTER](#)
- DOUBLE PRECISION [VERTICAL_NET_FORCE_INCREMENT](#)
- DOUBLE PRECISION [NET_FORCE_TIME_INCREMENT](#)
- DOUBLE PRECISION [TIME_AT_PREVIOUS_NET_FORCE](#)
- DOUBLE PRECISION [NET_PART_TAN_FORCE](#)
- DOUBLE PRECISION [NET_WALL_TAN_FORCE](#)
- DOUBLE PRECISION [NET_PART_NORM_FORCE](#)
- DOUBLE PRECISION [NET_WALL_NORM_FORCE](#)
- DOUBLE PRECISION [NET_GRAVITY_FORCE](#)
- DOUBLE PRECISION [NET_PART_COH_FORCE](#)
- DOUBLE PRECISION [NET_WALL_COH_FORCE](#)
- DOUBLE PRECISION [NET_FLUID_DRAG_FORCE](#)
- DOUBLE PRECISION [NET_PRESSURE_FORCE](#)
- INTEGER [APP_COH_DIST_INT](#)
- INTEGER [CAP_COH_DIST_INT](#)
- INTEGER [ESC_COH_DIST_INT](#)

4.2.1 Variable Documentation

4.2.1.1 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::AGGS

Definition at line 393 of file discretelement_mod.f.

4.2.1.2 INTEGER DISCRETELEMENT::ANIMATION_WRITE_COUNTER

Definition at line 419 of file discretelement_mod.f.

4.2.1.3 INTEGER DISCRETELEMENT::ANIMATION_WRITE_INTERVAL

Definition at line 418 of file discretelement_mod.f.

4.2.1.4 INTEGER DISCRETELEMENT::APP_COH_DIST_INT

Definition at line 484 of file discretelement_mod.f.

4.2.1.5 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::bed_height

Definition at line 210 of file discretelement_mod.f.

4.2.1.6 DOUBLE PRECISION DISCRETELEMENT::BY1

Definition at line 160 of file discretelement_mod.f.

4.2.1.7 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::c_near_w

Definition at line 191 of file discretelement_mod.f.

4.2.1.8 LOGICAL DISCRETELEMENT::CALC_FC

Definition at line 235 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.9 LOGICAL DISCRETELEMENT::CALLFROMDES

Definition at line 242 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.10 INTEGER DISCRETELEMENT::CAP_COH_DIST_INT

Definition at line 485 of file discretelement_mod.f.

4.2.1.11 INTEGER DISCRETELEMENT::COH_DEBUG_PARTICLE

Definition at line 409 of file discretelement_mod.f.

4.2.1.12 INTEGER DISCRETELEMENT::COH_DEBUG_STEP

Definition at line 412 of file discretelement_mod.f.

4.2.1.13 INTEGER DISCRETELEMENT::COHESION_DEBUG

Definition at line 405 of file discretelement_mod.f.

4.2.1.14 INTEGER DISCRETELEMENT::COHESION_DEBUG_START

Definition at line 406 of file discretelement_mod.f.

4.2.1.15 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::CQUAD

Definition at line 282 of file discretelement_mod.f.

4.2.1.16 LOGICAL DISCRETELEMENT::DEBUG_DES

Definition at line 33 of file discretelement_mod.f.

4.2.1.17 LOGICAL DISCRETELEMENT::DEM_OUTPUT_DATA_TECPLOT

Definition at line 30 of file discretelement_mod.f.

4.2.1.18 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_ACC_OLD

Definition at line 229 of file discretelement_mod.f.

4.2.1.19 CHARACTER(64) DISCRETELEMENT::DES_COLL_MODEL

Definition at line 101 of file discretelement_mod.f.

4.2.1.20 LOGICAL DISCRETELEMENT::DES_CONTINUUM_COUPLED

Definition at line 54 of file discretelement_mod.f.

4.2.1.21 DOUBLE PRECISION DISCRETELEMENT::DES_EN_INPUT

Definition at line 89 of file discretelement_mod.f.

4.2.1.22 DOUBLE PRECISION DISCRETELEMENT::DES_EN_WALL_INPUT

Definition at line 92 of file discretelement_mod.f.

4.2.1.23 DOUBLE PRECISION DISCRETELEMENT::DES_EPS_XSTART

Definition at line 167 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.24 DOUBLE PRECISION DISCRETELEMENT::DES_EPS_YSTART

Definition at line 167 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.25 DOUBLE PRECISION DISCRETELEMENT::DES_EPS_ZSTART

Definition at line 167 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.26 DOUBLE PRECISION DISCRETELEMENT::DES_ET_INPUT

Definition at line 90 of file discretelement_mod.f.

4.2.1.27 DOUBLE PRECISION DISCRETELEMENT::DES_ET_WALL_INPUT

Definition at line 93 of file discretelement_mod.f.

4.2.1.28 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_ETAN

Definition at line 83 of file discretelement_mod.f.

4.2.1.29 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::DES_ETAN_WALL

Definition at line 84 of file discretelement_mod.f.

4.2.1.30 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_ETAT

Definition at line 83 of file discretelement_mod.f.

4.2.1.31 DOUBLE PRECISION DISCRETELEMENT::DES_ETAT_FAC

Definition at line 81 of file discretelement_mod.f.

4.2.1.32 DOUBLE PRECISION DISCRETELEMENT::DES_ETAT_W_FAC

Definition at line 81 of file discretelement_mod.f.

4.2.1.33 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::DES_ETAT_WALL

Definition at line 84 of file discretelement_mod.f.

4.2.1.34 INTEGER,parameter DISCRETELEMENT::DES_EXTRA_UNIT = 2000

Definition at line 42 of file discretelement_mod.f.

4.2.1.35 DOUBLE PRECISION DISCRETELEMENT::DES_F

Definition at line 180 of file discretelement_mod.f.

4.2.1.36 DOUBLE PRECISION DISCRETELEMENT::DES_GAMMA

Definition at line 180 of file discretelement_mod.f.

4.2.1.37 LOGICAL DISCRETELEMENT::DES_INTERP_ON

Definition at line 63 of file discretelement_mod.f.

Referenced by DRAG_FGS(), and GAS_DRAG().

4.2.1.38 CHARACTER(64) DISCRETELEMENT::DES_INTG_METHOD

Definition at line 71 of file discretelement_mod.f.

4.2.1.39 DOUBLE PRECISION DISCRETELEMENT::DES_KE

Definition at line 301 of file discretelement_mod.f.

4.2.1.40 INTEGER DISCRETELEMENT::DES_NEIGHBOR_SEARCH

Definition at line 122 of file discretelement_mod.f.

4.2.1.41 DOUBLE PRECISION DISCRETELEMENT::DES_PE

Definition at line 301 of file discretelement_mod.f.

4.2.1.42 LOGICAL DISCRETELEMENT::DES_PERIODIC_WALLS

Definition at line 197 of file discretelement_mod.f.

Referenced by DRAG_FGS(), INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.43 LOGICAL DISCRETELEMENT::DES_PERIODIC_WALLS_X

Definition at line 198 of file discretelement_mod.f.

Referenced by DRAG_FGS(), GRID_BASED_NEIGHBOR_SEARCH(), INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.44 LOGICAL DISCRETELEMENT::DES_PERIODIC_WALLS_Y

Definition at line 199 of file discretelement_mod.f.

Referenced by DRAG_FGS(), GRID_BASED_NEIGHBOR_SEARCH(), INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.45 LOGICAL DISCRETELEMENT::DES_PERIODIC_WALLS_Z

Definition at line 200 of file discretelement_mod.f.

Referenced by DRAG_FGS(), GRID_BASED_NEIGHBOR_SEARCH(), INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.46 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_POS_-NEW

Definition at line 222 of file discretelement_mod.f.

Referenced by DRAG_FGS(), GENERATE_PARTICLE_CONFIG(), GRID_BASED_NEIGHBOR_SEARCH(), SET_INITIAL_VELOCITY(), and writeic().

4.2.1.47 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_POS_-OLD

Definition at line 221 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG(), and init_particles_jn().

4.2.1.48 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::DES_RADIUS

Definition at line 213 of file discretelement_mod.f.

Referenced by DES_DRAG_GS(), GENERATE_PARTICLE_CONFIG(), GRID_BASED_NEIGHBOR_SEARCH(), and init_particles_jn().

4.2.1.49 DOUBLE PRECISION DISCRETELEMENT::DES_RES_DT

Definition at line 27 of file discretelement_mod.f.

4.2.1.50 DOUBLE PRECISION DISCRETELEMENT::DES_SPX_DT

Definition at line 27 of file discretelement_mod.f.

4.2.1.51 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_THETA

Definition at line 293 of file discretelement_mod.f.

4.2.1.52 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_U_s

Definition at line 285 of file discretelement_mod.f.

4.2.1.53 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_V_s

Definition at line 286 of file discretelement_mod.f.

4.2.1.54 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_VEL_AVG

Definition at line 290 of file discretelement_mod.f.

4.2.1.55 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_VEL_NEW

Definition at line 224 of file discretelement_mod.f.

Referenced by DRAG_FGS(), GENERATE_PARTICLE_CONFIG(), init_particles_jn(), SET_INITIAL_VELOCITY(), and writeic().

4.2.1.56 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_VEL_OLD

Definition at line 223 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG(), init_particles_jn(), and SET_INITIAL_VELOCITY().

4.2.1.57 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_VEL_OOLD

Definition at line 228 of file discretelement_mod.f.

4.2.1.58 INTEGER,parameter DISCRETELEMENT::DES_VOLFRAC_UNIT = 2001

Definition at line 42 of file discretelement_mod.f.

4.2.1.59 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_W_s

Definition at line 287 of file discretelement_mod.f.

4.2.1.60 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_WALL_POS

Definition at line 310 of file discretelement_mod.f.

4.2.1.61 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::DES_WALL_VEL

Definition at line 311 of file discretelement_mod.f.

4.2.1.62 INTEGER DISCRETELEMENT::DIMN

Definition at line 153 of file discretelement_mod.f.

Referenced by DES_DRAG_GS(), GAS_DRAG(), INTERPOLATE_QUANTS(), SET_INITIAL_VELOCITY(), and writeic().

4.2.1.63 LOGICAL DISCRETELEMENT::DISCRETE_ELEMENT

Definition at line 53 of file discretelement_mod.f.

4.2.1.64 LOGICAL DISCRETELEMENT::DO_NSEARCH

Definition at line 137 of file discretelement_mod.f.

4.2.1.65 DOUBLE PRECISION,dimension(:,,:,:),allocatable DISCRETELEMENT::drag_am

Definition at line 319 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.66 DOUBLE PRECISION,dimension(:,,:,:),allocatable DISCRETELEMENT::drag_bm

Definition at line 322 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.67 DOUBLE PRECISION DISCRETELEMENT::DTSOLID

Definition at line 114 of file discretelement_mod.f.

4.2.1.68 DOUBLE PRECISION DISCRETELEMENT::DTSOLID_FACTOR

Definition at line 116 of file discretelement_mod.f.

4.2.1.69 double precision,dimension(dim_m) DISCRETELEMENT::e_young

Definition at line 105 of file discretelement_mod.f.

4.2.1.70 INTEGER DISCRETELEMENT::ESC_COH_DIST_INT

Definition at line 486 of file discretelement_mod.f.

4.2.1.71 DOUBLE PRECISION DISCRETELEMENT::ETA_DES_N

Definition at line 78 of file discretelement_mod.f.

4.2.1.72 DOUBLE PRECISION DISCRETELEMENT::ETA_DES_T

Definition at line 79 of file discretelement_mod.f.

4.2.1.73 DOUBLE PRECISION DISCRETELEMENT::ETA_N_W

Definition at line 78 of file discretelement_mod.f.

4.2.1.74 DOUBLE PRECISION DISCRETELEMENT::ETA_T_W

Definition at line 79 of file discretelement_mod.f.

4.2.1.75 double precision DISCRETELEMENT::ew_young

Definition at line 104 of file discretelement_mod.f.

4.2.1.76 DOUBLE PRECISION DISCRETELEMENT::EX2

Definition at line 160 of file discretelement_mod.f.

4.2.1.77 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::f_gp

Definition at line 328 of file discretelement_mod.f.

4.2.1.78 DOUBLE PRECISION DISCRETELEMENT::FACTOR_RLM

Definition at line 142 of file discretelement_mod.f.

Referenced by GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.79 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::FC

Definition at line 245 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.80 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::FN

Definition at line 246 of file discretelement_mod.f.

4.2.1.81 INTEGER DISCRETELEMENT::FOCUS_PARTICLE

Definition at line 36 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.82 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::FT

Definition at line 247 of file discretelement_mod.f.

4.2.1.83 double precision,dimension(:),allocatable DISCRETELEMENT::g_mod

Definition at line 108 of file discretelement_mod.f.

4.2.1.84 LOGICAL DISCRETELEMENT::GENER_PART_CONFIG

Definition at line 166 of file discretelement_mod.f.

Referenced by init_particles_jn().

**4.2.1.85 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::GLOBAL_
GRAN_ENERGY**

Definition at line 296 of file discretelement_mod.f.

**4.2.1.86 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::GLOBAL_
GRAN_TEMP**

Definition at line 297 of file discretelement_mod.f.

4.2.1.87 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::GRAV

Definition at line 248 of file discretelement_mod.f.

4.2.1.88 DOUBLE PRECISION,dimension(:,:,:),allocatable DISCRETELEMENT::gstencil

Definition at line 331 of file discretelement_mod.f.

Referenced by SET_INITIAL_VELOCITY().

4.2.1.89 DOUBLE PRECISION DISCRETELEMENT::HAMAKER_CONSTANT

Definition at line 452 of file discretelement_mod.f.

4.2.1.90 double precision,dimension(:,:),allocatable DISCRETELEMENT::hert_kn

Definition at line 106 of file discretelement_mod.f.

4.2.1.91 double precision,dimension(:,:),allocatable DISCRETELEMENT::hert_kt

Definition at line 106 of file discretelement_mod.f.

4.2.1.92 double precision,dimension(:,:),allocatable DISCRETELEMENT::hert_kwn

Definition at line 107 of file discretelement_mod.f.

4.2.1.93 double precision,dimension(:,:),allocatable DISCRETELEMENT::hert_kwt

Definition at line 107 of file discretelement_mod.f.

4.2.1.94 INTEGER DISCRETELEMENT::IFI

Definition at line 39 of file discretelement_mod.f.

4.2.1.95 INTEGER DISCRETELEMENT::INIT_QUAD_COUNT

Definition at line 128 of file discretelement_mod.f.

4.2.1.96 INTEGER DISCRETELEMENT::INQC

Definition at line 128 of file discretelement_mod.f.

4.2.1.97 CHARACTER(LEN=7) DISCRETELEMENT::interp_scheme

Definition at line 336 of file discretelement_mod.f.

Referenced by SET_INITIAL_VELOCITY().

4.2.1.98 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::IS_AGGLOMERATED

Definition at line 429 of file discretelement_mod.f.

4.2.1.99 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::IS_LINKED

Definition at line 396 of file discretelement_mod.f.

4.2.1.100 DOUBLE PRECISION DISCRETELEMENT::KN

Definition at line 75 of file discretelement_mod.f.

4.2.1.101 DOUBLE PRECISION DISCRETELEMENT::KN_W

Definition at line 75 of file discretelement_mod.f.

4.2.1.102 DOUBLE PRECISION DISCRETELEMENT::KT

Definition at line 76 of file discretelement_mod.f.

4.2.1.103 DOUBLE PRECISION DISCRETELEMENT::KT_FAC

Definition at line 76 of file discretelement_mod.f.

4.2.1.104 DOUBLE PRECISION DISCRETELEMENT::KT_W

Definition at line 76 of file discretelement_mod.f.

4.2.1.105 DOUBLE PRECISION DISCRETELEMENT::KT_W_FAC

Definition at line 76 of file discretelement_mod.f.

4.2.1.106 INTEGER DISCRETELEMENT::LAST_COLLISION

Definition at line 415 of file discretelement_mod.f.

4.2.1.107 DOUBLE PRECISION DISCRETELEMENT::LID_VEL

Definition at line 183 of file discretelement_mod.f.

4.2.1.108 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::LINKS

Definition at line 390 of file discretelement_mod.f.

4.2.1.109 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::LQUAD

Definition at line 280 of file discretelement_mod.f.

4.2.1.110 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::MARK_PART

Definition at line 207 of file discretelement_mod.f.

4.2.1.111 DOUBLE PRECISION DISCRETELEMENT::MASTER_WALL_WELL_DEPTH

Definition at line 383 of file discretelement_mod.f.

4.2.1.112 DOUBLE PRECISION DISCRETELEMENT::MASTER_WELL_DEPTH

Definition at line 382 of file discretelement_mod.f.

4.2.1.113 INTEGER DISCRETELEMENT::MAX_ANIMATOR_STEP

Definition at line 421 of file discretelement_mod.f.

4.2.1.114 INTEGER DISCRETELEMENT::MAX_LOG_STEP

Definition at line 425 of file discretelement_mod.f.

4.2.1.115 INTEGER DISCRETELEMENT::MAX_PART_IN_GRID

Definition at line 442 of file discretelement_mod.f.

4.2.1.116 INTEGER DISCRETELEMENT::MAX_PIS

Definition at line 367 of file discretelement_mod.f.

Referenced by DRAG_FGS(), and GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.117 DOUBLE PRECISION DISCRETELEMENT::MAX_RADIUS

Definition at line 206 of file discretelement_mod.f.

4.2.1.118 INTEGER DISCRETELEMENT::MAXNEIGHBORS

Definition at line 149 of file discretelement_mod.f.

4.2.1.119 INTEGER DISCRETELEMENT::MAXQUADS

Definition at line 129 of file discretelement_mod.f.

4.2.1.120 DOUBLE PRECISION DISCRETELEMENT::MEW

Definition at line 86 of file discretelement_mod.f.

4.2.1.121 DOUBLE PRECISION DISCRETELEMENT::MEW_W

Definition at line 86 of file discretelement_mod.f.

4.2.1.122 INTEGER DISCRETELEMENT::MIN_ANIMATOR_STEP

Definition at line 422 of file discretelement_mod.f.

4.2.1.123 INTEGER DISCRETELEMENT::MIN_LOG_STEP

Definition at line 426 of file discretelement_mod.f.

4.2.1.124 DOUBLE PRECISION DISCRETELEMENT::MIN_RADIUS

Definition at line 206 of file discretelement_mod.f.

4.2.1.125 INTEGER DISCRETELEMENT::MN

Definition at line 145 of file discretelement_mod.f.

Referenced by GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.126 DOUBLE PRECISION DISCRETELEMENT::MQUAD_FACTOR

Definition at line 130 of file discretelement_mod.f.

4.2.1.127 DOUBLE PRECISION DISCRETELEMENT::N2CT

Definition at line 130 of file discretelement_mod.f.

4.2.1.128 INTEGER DISCRETELEMENT::NEIGH_MAX

Definition at line 125 of file discretelement_mod.f.

4.2.1.129 INTEGER DISCRETELEMENT::NEIGHBOR_SEARCH_N

Definition at line 135 of file discretelement_mod.f.

4.2.1.130 DOUBLE PRECISION DISCRETELEMENT::NEIGHBOR_SEARCH_RAD_RATIO

Definition at line 136 of file discretelement_mod.f.

4.2.1.131 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::NEIGHBOURS

Definition at line 277 of file discretelement_mod.f.

Referenced by GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.132 DOUBLE PRECISION DISCRETELEMENT::NET_FLUID_DRAG_FORCE

Definition at line 482 of file discretelement_mod.f.

4.2.1.133 DOUBLE PRECISION DISCRETELEMENT::NET_FORCE_COUNTER

Definition at line 471 of file discretelement_mod.f.

4.2.1.134 DOUBLE PRECISION DISCRETELEMENT::NET_FORCE_TIME_INCREMENT

Definition at line 473 of file discretelement_mod.f.

4.2.1.135 DOUBLE PRECISION DISCRETELEMENT::NET_GRAVITY_FORCE

Definition at line 479 of file discretelement_mod.f.

4.2.1.136 DOUBLE PRECISION DISCRETELEMENT::NET_PART_COH_FORCE

Definition at line 480 of file discretelement_mod.f.

4.2.1.137 DOUBLE PRECISION DISCRETELEMENT::NET_PART_NORM_FORCE

Definition at line 477 of file discretelement_mod.f.

4.2.1.138 DOUBLE PRECISION DISCRETELEMENT::NET_PART_TAN_FORCE

Definition at line 475 of file discretelement_mod.f.

4.2.1.139 DOUBLE PRECISION DISCRETELEMENT::NET_PRESSURE_FORCE

Definition at line 483 of file discretelement_mod.f.

4.2.1.140 DOUBLE PRECISION DISCRETELEMENT::NET_WALL_COH_FORCE

Definition at line 481 of file discretelement_mod.f.

4.2.1.141 DOUBLE PRECISION DISCRETELEMENT::NET_WALL_NORM_FORCE

Definition at line 478 of file discretelement_mod.f.

4.2.1.142 DOUBLE PRECISION DISCRETELEMENT::NET_WALL_TAN_FORCE

Definition at line 476 of file discretelement_mod.f.

4.2.1.143 INTEGER DISCRETELEMENT::NFACTOR

Definition at line 58 of file discretelement_mod.f.

4.2.1.144 INTEGER DISCRETELEMENT::NMQD

Definition at line 129 of file discretelement_mod.f.

4.2.1.145 LOGICAL DISCRETELEMENT::NON_RECT_BC

Definition at line 194 of file discretelement_mod.f.

4.2.1.146 INTEGER DISCRETELEMENT::NQUAD

Definition at line 129 of file discretelement_mod.f.

4.2.1.147 INTEGER DISCRETELEMENT::NWALLS

Definition at line 156 of file discretelement_mod.f.

4.2.1.148 DOUBLE PRECISION DISCRETELEMENT::NZ2

Definition at line 160 of file discretelement_mod.f.

4.2.1.149 INTEGER DISCRETELEMENT::ob2l

Definition at line 337 of file discretelement_mod.f.

4.2.1.150 INTEGER DISCRETELEMENT::ob2r

Definition at line 337 of file discretelement_mod.f.

4.2.1.151 DOUBLE PRECISION DISCRETELEMENT::OCTCT

Definition at line 130 of file discretelement_mod.f.

4.2.1.152 DOUBLE PRECISION,dimension(:,),allocatable DISCRETELEMENT::OMEGA_NEW

Definition at line 226 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.153 DOUBLE PRECISION,dimension(:,),allocatable DISCRETELEMENT::OMEGA_OLD

Definition at line 225 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.154 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::OMOI

Definition at line 217 of file discretelement_mod.f.

4.2.1.155 INTEGER DISCRETELEMENT::order

Definition at line 337 of file discretelement_mod.f.

4.2.1.156 DOUBLE PRECISION DISCRETELEMENT::OVERLAP_MAX

Definition at line 126 of file discretelement_mod.f.

4.2.1.157 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::PART_GRID

Definition at line 439 of file discretelement_mod.f.

4.2.1.158 INTEGER DISCRETELEMENT::PART_IN_GRID

Definition at line 436 of file discretelement_mod.f.

4.2.1.159 INTEGER DISCRETELEMENT::PART_MPHASE

Definition at line 172 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG().

4.2.1.160 LOGICAL DISCRETELEMENT::PARTICLE_SLIDE

Definition at line 111 of file discretelement_mod.f.

4.2.1.161 INTEGER DISCRETELEMENT::PARTICLES

Definition at line 47 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG(), init_particles_jn(), and SET_INITIAL_VELOCITY().

4.2.1.162 DOUBLE PRECISION DISCRETELEMENT::PARTICLES_FACTOR

Definition at line 50 of file discretelement_mod.f.

4.2.1.163 LOGICAL,dimension(:,:),allocatable DISCRETELEMENT::PEA

Definition at line 361 of file discretelement_mod.f.

Referenced by DRAG_FGS(), and GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.164 DOUBLE PRECISION,dimension(:,:,:),allocatable DISCRETELEMENT::PFT

Definition at line 254 of file discretelement_mod.f.

4.2.1.165 DOUBLE PRECISION,dimension(3) DISCRETELEMENT::pgrad

Definition at line 203 of file discretelement_mod.f.

4.2.1.166 DOUBLE PRECISION,dimension(:, :, :),allocatable DISCRETELEMENT::pgradstencil

Definition at line 331 of file discretelement_mod.f.

4.2.1.167 TYPE(iap1),dimension(:, :, :),allocatable DISCRETELEMENT::pic

Definition at line 268 of file discretelement_mod.f.

4.2.1.168 INTEGER,dimension(:, :),allocatable DISCRETELEMENT::PIJK

Definition at line 274 of file discretelement_mod.f.

Referenced by DES_DRAG_GS(), DRAG_FGS(), GRID_BASED_NEIGHBOR_SEARCH(), and SET_INITIAL_VELOCITY().

4.2.1.169 INTEGER,dimension(:),allocatable DISCRETELEMENT::PINC

Definition at line 271 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.170 INTEGER DISCRETELEMENT::PIS

Definition at line 364 of file discretelement_mod.f.

Referenced by DRAG_FGS(), and GRID_BASED_NEIGHBOR_SEARCH().

4.2.1.171 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::PMASS

Definition at line 216 of file discretelement_mod.f.

4.2.1.172 INTEGER,dimension(:, :),allocatable DISCRETELEMENT::PN

Definition at line 257 of file discretelement_mod.f.

4.2.1.173 DOUBLE PRECISION,dimension(:, :),allocatable DISCRETELEMENT::PPOS

Definition at line 227 of file discretelement_mod.f.

4.2.1.174 INTEGER,dimension(:),allocatable DISCRETELEMENT::PQUAD

Definition at line 281 of file discretelement_mod.f.

4.2.1.175 LOGICAL DISCRETELEMENT::PRINT_DES_DATA

Definition at line 21 of file discretelement_mod.f.

4.2.1.176 INTEGER,dimension(:,:),allocatable DISCRETELEMENT::PV

Definition at line 258 of file discretelement_mod.f.

4.2.1.177 DOUBLE PRECISION DISCRETELEMENT::pvel_mean

Definition at line 177 of file discretelement_mod.f.

Referenced by init_particles_jn().

4.2.1.178 DOUBLE PRECISION DISCRETELEMENT::PVEL_StDev

Definition at line 177 of file discretelement_mod.f.

Referenced by init_particles_jn().

4.2.1.179 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::PVOL

Definition at line 215 of file discretelement_mod.f.

Referenced by DES_DRAG_GS(), and DRAG_FGS().

4.2.1.180 INTEGER DISCRETELEMENT::QLM

Definition at line 128 of file discretelement_mod.f.

4.2.1.181 INTEGER DISCRETELEMENT::QLN

Definition at line 128 of file discretelement_mod.f.

4.2.1.182 DOUBLE PRECISION DISCRETELEMENT::QUADCT

Definition at line 130 of file discretelement_mod.f.

4.2.1.183 DOUBLE PRECISION DISCRETELEMENT::RADIUS_EQ

Definition at line 131 of file discretelement_mod.f.

4.2.1.184 DOUBLE PRECISION DISCRETELEMENT::RADIUS_RATIO

Definition at line 386 of file discretelement_mod.f.

4.2.1.185 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::REAL_EN

Definition at line 95 of file discretelement_mod.f.

4.2.1.186 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::REAL_EN - WALL

Definition at line 96 of file discretelement_mod.f.

4.2.1.187 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::REAL_ET

Definition at line 95 of file discretelement_mod.f.

4.2.1.188 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::REAL_ET - WALL

Definition at line 96 of file discretelement_mod.f.

4.2.1.189 LOGICAL DISCRETELEMENT::RECORD_NET_FORCES

Definition at line 469 of file discretelement_mod.f.

4.2.1.190 LOGICAL DISCRETELEMENT::RHODES_COHESION

Definition at line 462 of file discretelement_mod.f.

4.2.1.191 DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_FACTOR

Definition at line 463 of file discretelement_mod.f.

4.2.1.192 DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_FACTOR - WALL

Definition at line 464 of file discretelement_mod.f.

4.2.1.193 DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_LENGTH - SCALE

Definition at line 465 of file discretelement_mod.f.

4.2.1.194 DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_LENGTH - SCALE_WALL

Definition at line 466 of file discretelement_mod.f.

4.2.1.195 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::RO_Sol

Definition at line 214 of file discretelement_mod.f.

Referenced by GENERATE_PARTICLE_CONFIG(), and init_particles_jn().

4.2.1.196 DOUBLE PRECISION,dimension(:,,:),allocatable DISCRETELEMENT::ROT_ACC_OLD

Definition at line 230 of file discretelement_mod.f.

4.2.1.197 DOUBLE PRECISION DISCRETELEMENT::S_TIME

Definition at line 118 of file discretelement_mod.f.

4.2.1.198 CHARACTER(LEN=7) DISCRETELEMENT::scheme

Definition at line 336 of file discretelement_mod.f.

4.2.1.199 DOUBLE PRECISION DISCRETELEMENT::SEARCH_GRID_SIZE

Definition at line 445 of file discretelement_mod.f.

4.2.1.200 INTEGER DISCRETELEMENT::SEARCH_GRIDS

Definition at line 433 of file discretelement_mod.f.

4.2.1.201 DOUBLE PRECISION,dimension(:,,:),allocatable DISCRETELEMENT::SOLID_DRAG

Definition at line 261 of file discretelement_mod.f.

Referenced by DRAG_FGS().

4.2.1.202 LOGICAL DISCRETELEMENT::SQUARE_WELL

Definition at line 402 of file discretelement_mod.f.

4.2.1.203 DOUBLE PRECISION,dimension(:,,:),allocatable DISCRETELEMENT::sstencil

Definition at line 330 of file discretelement_mod.f.

4.2.1.204 DOUBLE PRECISION DISCRETELEMENT::SURFACE_ENERGY

Definition at line 458 of file discretelement_mod.f.

4.2.1.205 DOUBLE PRECISION DISCRETELEMENT::SZ1

Definition at line 160 of file discretelement_mod.f.

4.2.1.206 DOUBLE PRECISION DISCRETELEMENT::TIME_AT_PREVIOUS_NET_FORCE

Definition at line 474 of file discretelement_mod.f.

4.2.1.207 DOUBLE PRECISION DISCRETELEMENT::TIME_FACTOR

Definition at line 420 of file discretelement_mod.f.

4.2.1.208 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::TOW

Definition at line 251 of file discretelement_mod.f.

4.2.1.209 LOGICAL DISCRETELEMENT::TSUJI_DRAG

Definition at line 66 of file discretelement_mod.f.

Referenced by DES_DRAG_GS().

4.2.1.210 DOUBLE PRECISION DISCRETELEMENT::TY2

Definition at line 160 of file discretelement_mod.f.

4.2.1.211 LOGICAL DISCRETELEMENT::USE_COHESION

Definition at line 399 of file discretelement_mod.f.

4.2.1.212 LOGICAL DISCRETELEMENT::USE_COL_MW

Definition at line 448 of file discretelement_mod.f.

4.2.1.213 double precision,dimension(dim_m) DISCRETELEMENT::v_poisson

Definition at line 105 of file discretelement_mod.f.

4.2.1.214 LOGICAL DISCRETELEMENT::VAN_DER_WAALS

Definition at line 451 of file discretelement_mod.f.

4.2.1.215 DOUBLE PRECISION DISCRETELEMENT::VDW_INNER_CUTOFF

Definition at line 453 of file discretelement_mod.f.

4.2.1.216 DOUBLE PRECISION DISCRETELEMENT::VDW_OUTER_CUTOFF

Definition at line 454 of file discretelement_mod.f.

4.2.1.217 DOUBLE PRECISION,dimension(:,:),allocatable DISCRETELEMENT::vel_fp

Definition at line 325 of file discretelement_mod.f.

Referenced by SET_INITIAL_VELOCITY().

4.2.1.218 INTEGER DISCRETELEMENT::VERTICAL_NET_FORCE_BINS

Definition at line 470 of file discretelement_mod.f.

4.2.1.219 DOUBLE PRECISION DISCRETELEMENT::VERTICAL_NET_FORCE_INCREMENT

Definition at line 472 of file discretelement_mod.f.

4.2.1.220 DOUBLE PRECISION DISCRETELEMENT::VOL_FRAC

Definition at line 167 of file discretelement_mod.f.

4.2.1.221 DOUBLE PRECISION,dimension(:, :, :, :),allocatable DISCRETELEMENT::vstencil

Definition at line 331 of file discretelement_mod.f.

Referenced by DRAG_FGS(), INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.222 double precision DISCRETELEMENT::vw_poisson

Definition at line 104 of file discretelement_mod.f.

4.2.1.223 DOUBLE PRECISION DISCRETELEMENT::WALL_HAMAKER_CONSTANT

Definition at line 455 of file discretelement_mod.f.

4.2.1.224 DOUBLE PRECISION,dimension(:, :),allocatable DISCRETELEMENT::WALL_NORMAL

Definition at line 312 of file discretelement_mod.f.

4.2.1.225 DOUBLE PRECISION DISCRETELEMENT::WALL_RADIUS_RATIO

Definition at line 387 of file discretelement_mod.f.

4.2.1.226 DOUBLE PRECISION DISCRETELEMENT::WALL_SURFACE_ENERGY

Definition at line 459 of file discretelement_mod.f.

4.2.1.227 DOUBLE PRECISION DISCRETELEMENT::WALL_VDW_INNER_CUTOFF

Definition at line 456 of file discretelement_mod.f.

4.2.1.228 DOUBLE PRECISION DISCRETELEMENT::WALL_VDW_OUTER_CUTOFF

Definition at line 457 of file discretelement_mod.f.

4.2.1.229 LOGICAL DISCRETELEMENT::WALLDTSPLIT

Definition at line 187 of file discretelement_mod.f.

4.2.1.230 LOGICAL DISCRETELEMENT::WALLREFLECT

Definition at line 188 of file discretelement_mod.f.

4.2.1.231 DOUBLE PRECISION,dimension(:,,:),pointer DISCRETELEMENT::weightp

Definition at line 327 of file discretelement_mod.f.

Referenced by SET_INITIAL_VELOCITY().

4.2.1.232 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::WELL_DEPTH

Definition at line 379 of file discretelement_mod.f.

4.2.1.233 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::WELL_WIDTH

Definition at line 378 of file discretelement_mod.f.

4.2.1.234 DOUBLE PRECISION,dimension(:, :, :),allocatable DISCRETELEMENT::wtbar

Definition at line 329 of file discretelement_mod.f.

4.2.1.235 DOUBLE PRECISION,dimension(:, :, :),allocatable DISCRETELEMENT::wtderivp

Definition at line 329 of file discretelement_mod.f.

4.2.1.236 DOUBLE PRECISION DISCRETELEMENT::WX1

Definition at line 160 of file discretelement_mod.f.

4.2.1.237 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::XE

Definition at line 304 of file discretelement_mod.f.

Referenced by INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.238 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::YN

Definition at line 305 of file discretelement_mod.f.

Referenced by INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.2.1.239 DOUBLE PRECISION,dimension(:),allocatable DISCRETELEMENT::ZT

Definition at line 306 of file discretelement_mod.f.

Referenced by INTERPOLATE_QUANTS(), and SET_INITIAL_VELOCITY().

4.3 interpolation Module Reference

Data Types

- interface [interpolator](#)

Functions/Subroutines

- subroutine [set_interpolation_stencil](#) (PC, IW, IE, JS, JN, KB, KTP, isch, dimprob, ordernew)
- subroutine [interp_oned_scalar](#) (coor, scalar, ppos, interp_scl, order, isch, weight_pointer)
- subroutine [set_interpolation_scheme](#) (choice)

Variables

- INTEGER, parameter [prcn](#) = 8
- INTEGER, parameter [iprec](#) = 8
- DOUBLE PRECISION, parameter [two](#) = 2.0_iprec
- DOUBLE PRECISION, parameter [three](#) = 3.0_iprec
- DOUBLE PRECISION, parameter [four](#) = 4.0_iprec
- DOUBLE PRECISION, parameter [six](#) = 6.0_iprec
- DOUBLE PRECISION, parameter [fourth](#) = 0.25_iprec
- INTEGER, parameter [maxorder](#) = 6
- DOUBLE PRECISION, dimension([maxorder](#)), target [xval](#)
- DOUBLE PRECISION, dimension([maxorder](#)), target [yval](#)
- DOUBLE PRECISION, dimension([maxorder](#)), target [zval](#)
- DOUBLE PRECISION, dimension([maxorder](#)-1) [dx](#)
- DOUBLE PRECISION, dimension([maxorder](#)-1) [dy](#)
- DOUBLE PRECISION, dimension([maxorder](#)-1) [dz](#)
- DOUBLE PRECISION, dimension([maxorder](#), [maxorder](#), [maxorder](#)), target [weights](#)

4.3.1 Function/Subroutine Documentation

4.3.1.1 subroutine interpolation::interp_oned_scalar (REAL(prcn),dimension(:),intent(in) *coor*, REAL(prcn),dimension(:),intent(in) *scalar*, REAL(prcn),intent(in) *ppos*, REAL(prcn),intent(out) *interp_scl*, INTEGER,intent(in) *order*, CHARACTER*5,intent(in) *isch*, REAL(prcn),dimension(:),optional,pointer *weight_pointer*)

Definition at line 210 of file interpolation_mod.f.

References [dx](#), [dy](#), [dz](#), [four](#), [fourth](#), [six](#), [three](#), [two](#), [weights](#), [xval](#), [yval](#), and [zval](#).

4.3.1.2 subroutine interpolation::set_interpolation_scheme (INTEGER,intent(in) *choice*)

Definition at line 1903 of file interpolation_mod.f.

4.3.1.3 subroutine `interpolation::set_interpolation_stencil` (INTEGER,dimension(3),intent(in) *pc*, INTEGER,intent(out) *IW*, INTEGER,intent(out) *IE*, INTEGER,intent(out) *JS*, INTEGER,intent(out) *JN*, INTEGER,intent(out) *KB*, INTEGER,intent(out) *KTP*, CHARACTER*5,intent(in) *isch*, INTEGER,intent(in) *dimprob*, INTEGER,optional *ordernew*)

Definition at line 83 of file `interpolation_mod.f`.

4.3.2 Variable Documentation

4.3.2.1 DOUBLE PRECISION,dimension(maxorder-1) `interpolation::dx`

Definition at line 75 of file `interpolation_mod.f`.

Referenced by `interp_oned_scalar()`.

4.3.2.2 DOUBLE PRECISION,dimension(maxorder-1) `interpolation::dy`

Definition at line 75 of file `interpolation_mod.f`.

Referenced by `interp_oned_scalar()`.

4.3.2.3 DOUBLE PRECISION,dimension(maxorder-1) `interpolation::dz`

Definition at line 75 of file `interpolation_mod.f`.

Referenced by `interp_oned_scalar()`.

4.3.2.4 DOUBLE PRECISION,parameter `interpolation::four = 4.0_iprec`

Definition at line 67 of file `interpolation_mod.f`.

Referenced by `interp_oned_scalar()`.

4.3.2.5 DOUBLE PRECISION,parameter `interpolation::fourth = 0.25_iprec`

Definition at line 71 of file `interpolation_mod.f`.

Referenced by `interp_oned_scalar()`.

4.3.2.6 INTEGER,parameter `interpolation::iprec = 8`

Definition at line 62 of file `interpolation_mod.f`.

4.3.2.7 INTEGER,parameter `interpolation::maxorder = 6`

Definition at line 73 of file `interpolation_mod.f`.

4.3.2.8 INTEGER,parameter `interpolation::prcn = 8`

Definition at line 61 of file `interpolation_mod.f`.

4.3.2.9 DOUBLE PRECISION,parameter interpolation::six = 6.0_iprec

Definition at line 68 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.10 DOUBLE PRECISION,parameter interpolation::three = 3.0_iprec

Definition at line 66 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.11 DOUBLE PRECISION,parameter interpolation::two = 2.0_iprec

Definition at line 65 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.12 DOUBLE PRECISION,dimension(maxorder,maxorder,maxorder),target interpolation::weights

Definition at line 76 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.13 DOUBLE PRECISION,dimension(maxorder),target interpolation::xval

Definition at line 74 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.14 DOUBLE PRECISION,dimension(maxorder),target interpolation::yval

Definition at line 74 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.3.2.15 DOUBLE PRECISION,dimension(maxorder),target interpolation::zval

Definition at line 74 of file interpolation_mod.f.

Referenced by interp_oned_scalar().

4.4 randomno Module Reference

Functions/Subroutines

- subroutine [UNI_RNO](#) (Y)
- subroutine [NOR_RNO](#) (Y, mean, sigma)

4.4.1 Function/Subroutine Documentation

4.4.1.1 subroutine randomno::NOR_RNO (double precision,dimension(:),intent(out) y, double precision *mean*, double precision *sigma*)

Definition at line 65 of file randomno_mod.f.

4.4.1.2 subroutine randomno::UNI_RNO (double precision,dimension(:),intent(out) y)

Definition at line 24 of file randomno_mod.f.

Chapter 5

Data Type Documentation

5.1 DES_BC::dmi Type Reference

Public Attributes

- INTEGER, dimension(:), pointer [VALUE](#)

5.1.1 Detailed Description

Definition at line 97 of file des_bc_mod.f.

5.1.2 Member Data Documentation

5.1.2.1 INTEGER,dimension(:),pointer DES_BC::dmi::VALUE

Definition at line 98 of file des_bc_mod.f.

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

- C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/[des_bc_mod.f](#)

5.2 DISCRETELEMENT::iap1 Type Reference

Public Attributes

- INTEGER, dimension(:), pointer [p](#)

5.2.1 Detailed Description

Definition at line 265 of file discretelement_mod.f.

5.2.2 Member Data Documentation

5.2.2.1 INTEGER,dimension(:),pointer DISCRETELEMENT::iap1::p

Definition at line 266 of file discretelement_mod.f.

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

- C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/[discretelement_mod.f](#)

5.3 interpolation::interpolator Interface Reference

5.3.1 Detailed Description

Definition at line 22 of file interpolation_mod.f.

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

- C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/[interpolation_mod.f](#)

Chapter 6

File Documentation

6.1 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/calc_force_des.f File Reference

Functions/Subroutines

- subroutine [CALC_FORCE_DES](#)

6.1.1 Function Documentation

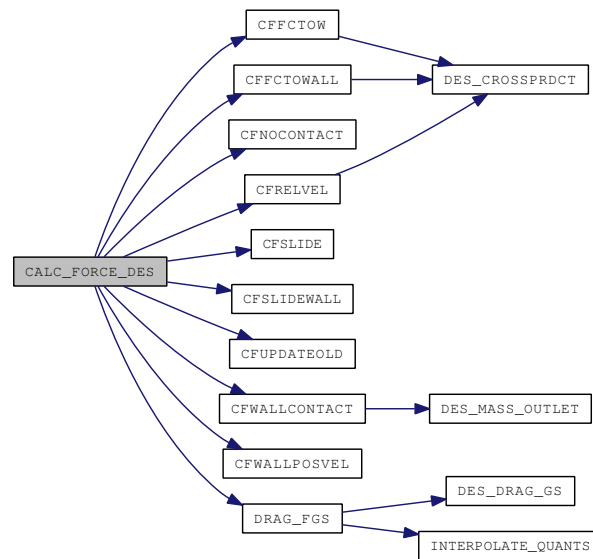
6.1.1.1 subroutine CALC_FORCE_DES ()

Definition at line 14 of file calc_force_des.f.

References CFFCTOW(), CFFCTOWALL(), CFNOCONTACT(), CFRELVEL(), CFSLIDE(), CFSLIDEWALL(), CFUPDATEOLD(), CFWALLCONTACT(), CFWALLPOSVEL(), and DRAG_FGS().

Referenced by DES_TIME_MARCH().

Here is the call graph for this function:



Here is the caller graph for this function:



6.2 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cell_near_wall.f File Reference

Functions/Subroutines

- subroutine [CELL_NEAR_WALL](#)

Purpose: FIND THE CELLS THAT IN THE NEIGHBORHOOD OF WALLS OR INTERNAL SURFACES.

6.2.1 Function Documentation

6.2.1.1 subroutine CELL_NEAR_WALL ()

Purpose: FIND THE CELLS THAT IN THE NEIGHBORHOOD OF WALLS OR INTERNAL SURFACES.

Definition at line 32 of file cell_near_wall.f.

6.3 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/cfassign.f File Reference

Functions/Subroutines

- subroutine [CFASSIGN](#)

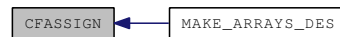
6.3.1 Function Documentation

6.3.1.1 subroutine CFASSIGN ()

Definition at line 19 of file cfassign.f.

Referenced by MAKE_ARRAYS_DES().

Here is the caller graph for this function:



6.4 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cffctow.f File Reference

Functions/Subroutines

- subroutine [CFFCTOW](#) (*L*, *II*, *NORM*, *DIST_LI*)

6.4.1 Function Documentation

6.4.1.1 subroutine **CFFCTOW** (**INTEGER** *L*, **INTEGER** *II*, **DOUBLE PRECISION**,*dimension(dimn)* *NORM*, **DOUBLE PRECISION** *DIST_LI*)

Definition at line 20 of file cffctow.f.

References [DES_CROSSPRDCT\(\)](#).

Referenced by [CALC_FORCE_DES\(\)](#).

Here is the call graph for this function:



Here is the caller graph for this function:



6.5 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/cffctowall.f File Reference

Functions/Subroutines

- subroutine [CFFCTOWALL](#) (L, NORM, DIST_LI)

6.5.1 Function Documentation

6.5.1.1 subroutine CFFCTOWALL (INTEGER L, DOUBLE PRECISION,dimension(dimn) NORM, DOUBLE PRECISION DIST_LI)

Definition at line 15 of file cffctowall.f.

References [DES_CROSSPRDCT\(\)](#).

Referenced by [CALC_FORCE_DES\(\)](#).

Here is the call graph for this function:



Here is the caller graph for this function:



6.6 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfnewvalues.f File Reference

Functions/Subroutines

- subroutine [CFNEWVALUES](#) (*L*)

6.6.1 Function Documentation

6.6.1.1 subroutine CFNEWVALUES (INTEGER *L*)

Definition at line 20 of file cfnewvalues.f.

Referenced by DES_TIME_MARCH().

Here is the caller graph for this function:



6.7 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/cfnocontact.f File Reference

Functions/Subroutines

- subroutine [CFNOCONTACT](#) (L)

Purpose: DES - Zeroing values when particles are not in contact.

6.7.1 Function Documentation

6.7.1.1 subroutine CFNOCONTACT (INTEGER L)

Purpose: DES - Zeroing values when particles are not in contact.

Definition at line 13 of file cfnocontact.f.

Referenced by [CALC_FORCE_DES\(\)](#).

Here is the caller graph for this function:



6.8 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfrelvel.f File Reference

Functions/Subroutines

- subroutine **CFRELVEL** (*L*, *II*, *VRN*, *VRT*, *TANGNT*, *NORM*, *DIST_LI*, *WALLCONTACT*)

6.8.1 Function Documentation

6.8.1.1 subroutine **CFRELVEL** (**INTEGER** *L*, **INTEGER** *II*, **DOUBLE PRECISION** *VRN*, **DOUBLE PRECISION** *VRT*, **DOUBLE PRECISION**,**dimension(dimn)** *TANGNT*, **DOUBLE PRECISION**,**dimension(dimn)** *NORM*, **DOUBLE PRECISION** *DIST_LI*, **INTEGER** *WALLCONTACT*)

Definition at line 24 of file cfrelvel.f.

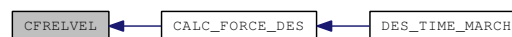
References **DES_CROSSPRDCT**().

Referenced by **CALC_FORCE_DES**().

Here is the call graph for this function:



Here is the caller graph for this function:



6.9 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/cfslide.f File Reference

Functions/Subroutines

- subroutine [CFSLIDE](#) (*L*, *TANGNT*, *TMP_FT*)

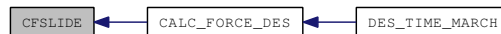
6.9.1 Function Documentation

6.9.1.1 subroutine **CFSLIDE** (**INTEGER** *L*, **DOUBLE PRECISION**,**dimension(dimn)** *TANGNT*, **DOUBLE PRECISION**,**dimension(dimn)** *TMP_FT*)

Definition at line 16 of file cfslide.f.

Referenced by **CALC_FORCE_DES**().

Here is the caller graph for this function:



6.10 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfslidewall.f File Reference

Functions/Subroutines

- subroutine [CFSLIDEWALL](#) (L, TANGNT, TMP_FT)
Purpose: DES - Calculate slide between particles and walls.

6.10.1 Function Documentation

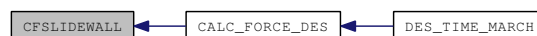
6.10.1.1 subroutine **CFSLIDEWALL** (INTEGER *L*, DOUBLE PRECISION,dimension(dimn) *TANGNT*, DOUBLE PRECISION,dimension(dimn) *TMP_FT*)

Purpose: DES - Calculate slide between particles and walls.

Definition at line 14 of file cfslidewall.f.

Referenced by CALC_FORCE_DES().

Here is the caller graph for this function:



6.11 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfupdateold.f File Reference

Functions/Subroutines

- subroutine [CFUPDATEOLD](#)

6.11.1 Function Documentation

6.11.1.1 subroutine CFUPDATEOLD ()

Definition at line 13 of file cfupdateold.f.

Referenced by [CALC_FORCE_DES\(\)](#).

Here is the caller graph for this function:



6.12 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfwallcontact.f File Reference

Functions/Subroutines

- subroutine [CFWALLCONTACT](#) (WALL, L, WALLCONTACTI)
- subroutine [DES_MASS_OUTLET](#) (NP, BCC, WC)

6.12.1 Function Documentation

6.12.1.1 subroutine CFWALLCONTACT (INTEGER WALL, INTEGER L, INTEGER WALLCONTACTI)

Definition at line 12 of file cfwallcontact.f.

References [DES_MASS_OUTLET](#)().

Referenced by [CALC_FORCE_DES](#)().

Here is the call graph for this function:



Here is the caller graph for this function:



6.12.1.2 subroutine DES_MASS_OUTLET (INTEGER NP, CHARACTER*3 BCC, INTEGER WC)

Definition at line 131 of file cfwallcontact.f.

Referenced by [CFWALLCONTACT](#)().

Here is the caller graph for this function:



6.13 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/cfwallposvel.f File Reference

Functions/Subroutines

- subroutine [CFWALLPOSVEL](#) (L, IW)

6.13.1 Function Documentation

6.13.1.1 subroutine CFWALLPOSVEL (INTEGER L, INTEGER IW)

Definition at line 12 of file cfwallposvel.f.

Referenced by [CALC_FORCE_DES\(\)](#).

Here is the caller graph for this function:



6.14 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/check_des_bc.f File Reference

Functions/Subroutines

- subroutine [CHECK_DES_BC](#)
- subroutine [DES_CHECK_MIO_LOCATION](#) (BCV)
- subroutine [ALLOCATE_DES_MIO](#) (BC_MI, BC_MO)
- subroutine [DES_MI_CLASSIFY](#) (BCV_I, BCV)
- subroutine [DES_MI_LAYOUT](#) (LEN1, LEN2, BC_VEL, BCV_I, BCV)
- subroutine [DES_MI_CELLS](#) (BCV, BCV_I)
- subroutine [DES_MO_CLASSIFY](#) (BCV_I, BCV)

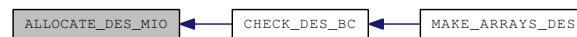
6.14.1 Function Documentation

6.14.1.1 subroutine [ALLOCATE_DES_MIO](#) (INTEGER *BC_MI*, INTEGER *BC_MO*)

Definition at line 592 of file check_des_bc.f.

Referenced by [CHECK_DES_BC](#)().

Here is the caller graph for this function:



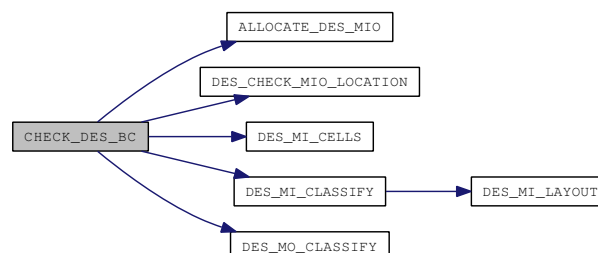
6.14.1.2 subroutine [CHECK_DES_BC](#) ()

Definition at line 17 of file check_des_bc.f.

References [ALLOCATE_DES_MIO](#)(), [DES_CHECK_MIO_LOCATION](#)(), [DES_MI_CELLS](#)(), [DES_MI_CLASSIFY](#)(), and [DES_MO_CLASSIFY](#)().

Referenced by [MAKE_ARRAYS_DES](#)().

Here is the call graph for this function:



Here is the caller graph for this function:



6.14.1.3 subroutine DES_CHECK_MIO_LOCATION (INTEGER *BCV*)

Definition at line 372 of file check_des_bc.f.

Referenced by CHECK_DES_BC().

Here is the caller graph for this function:



6.14.1.4 subroutine DES_MI_CELLS (INTEGER *BCV*, INTEGER *BCV_I*)

Definition at line 1299 of file check_des_bc.f.

Referenced by CHECK_DES_BC().

Here is the caller graph for this function:



6.14.1.5 subroutine DES_MI_CLASSIFY (INTEGER *BCV_I*, INTEGER *BCV*)

Definition at line 674 of file check_des_bc.f.

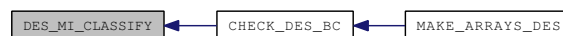
References DES_MI_LAYOUT().

Referenced by CHECK_DES_BC().

Here is the call graph for this function:



Here is the caller graph for this function:



6.14.1.6 subroutine DES_MI_LAYOUT (DOUBLE PRECISION *LEN1*, DOUBLE PRECISION *LEN2*, DOUBLE PRECISION *BC_VEL*, INTEGER *BCV_I*, INTEGER *BCV*)

Definition at line 1057 of file check_des_bc.f.

Referenced by DES_MI_CLASSIFY().

Here is the caller graph for this function:



6.14.1.7 subroutine DES_MO_CLASSIFY (INTEGER *BCV_I*, INTEGER *BCV*)

Definition at line 1399 of file check_des_bc.f.

Referenced by CHECK_DES_BC().

Here is the caller graph for this function:



6.15 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/check_des_data.f File Reference

Functions/Subroutines

- subroutine [CHECK_DES_DATA](#)

6.15.1 Function Documentation

6.15.1.1 subroutine CHECK_DES_DATA ()

Definition at line 13 of file check_des_data.f.

6.16 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_allocate_arrays.f File Reference

Functions/Subroutines

- subroutine [DES_ALLOCATE_ARRAYS](#)

6.16.1 Function Documentation

6.16.1.1 subroutine DES_ALLOCATE_ARRAYS ()

Definition at line 8 of file des_allocate_arrays.f.

6.17 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_bc_mod.f File Reference

Data Types

- type [DES_BC::dmi](#)

Modules

- module [DES_BC](#)

Variables

- LOGICAL [DES_BC::DES_MI](#)
- LOGICAL [DES_BC::DES_MO_X](#)
- LOGICAL [DES_BC::DES_MO_Y](#)
- LOGICAL [DES_BC::DES_MO_Z](#)
- DOUBLE PRECISION [DES_BC::DES_BC_X_w](#)
- DOUBLE PRECISION [DES_BC::DES_BC_X_e](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Y_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Y_n](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Z_b](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Z_t](#)
- DOUBLE PRECISION [DES_BC::DES_BC_VOLFLOW_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_MASSFLOW_s](#)
- CHARACTER *16 [DES_BC::DES_BC_TYPE](#)
- DOUBLE PRECISION [DES_BC::DES_BC_U_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_V_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_W_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Uw_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Vw_s](#)
- DOUBLE PRECISION [DES_BC::DES_BC_Ww_s](#)
- INTEGER, dimension(:), allocatable [DES_BC::DES_BC_MI_ID](#)
- INTEGER, dimension(:), allocatable [DES_BC::DES_BC_MO_ID](#)
- CHARACTER *4, dimension(:), allocatable [DES_BC::DES_MI_CLASS](#)
- CHARACTER *3, dimension(:), allocatable [DES_BC::DES_MO_CLASS](#)
- CHARACTER *4, dimension(:), allocatable [DES_BC::PARTICLE_PLCMNT](#)
- INTEGER, dimension(:), allocatable [DES_BC::PI_FACTOR](#)
- INTEGER, dimension(:), allocatable [DES_BC::PI_COUNT](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_BC::DES_MI_TIME](#)
- INTEGER, dimension(:), allocatable [DES_BC::MI_FACTOR](#)
- DOUBLE PRECISION, dimension(:), allocatable [DES_BC::MI_WINDOW](#)
- TYPE(dmi), dimension(:), allocatable [DES_BC::I_OF_MI](#)
- TYPE(dmi), dimension(:), allocatable [DES_BC::J_OF_MI](#)
- TYPE(dmi), dimension(:), allocatable [DES_BC::MI_ORDER](#)
- INTEGER, dimension(:,,:), allocatable [DES_BC::GS_ARRAY](#)

6.18 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_check_particle.f File Reference

Functions/Subroutines

- subroutine [DES_CHECK_PARTICLE](#)

6.18.1 Function Documentation

6.18.1.1 subroutine DES_CHECK_PARTICLE ()

Definition at line 17 of file des_check_particle.f.

Referenced by DES_TIME_MARCH().

Here is the caller graph for this function:



6.19 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_functions.f File Reference

Functions/Subroutines

- DOUBLE PRECISION [DES_DOTPRDCT](#) (XX, YY)
- subroutine [DES_CROSSPRDCT](#) (AA, XX, YY)

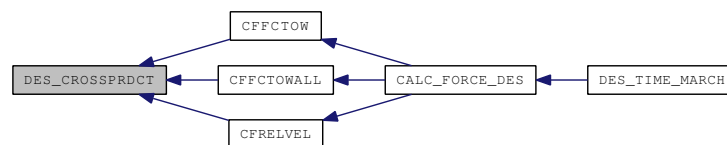
6.19.1 Function Documentation

6.19.1.1 subroutine [DES_CROSSPRDCT](#) (DOUBLE PRECISION,dimension(dimn) AA, DOUBLE PRECISION,dimension(dimn) XX, DOUBLE PRECISION,dimension(dimn) YY)

Definition at line 39 of file des_functions.f.

Referenced by [CFFCTOW\(\)](#), [CFFCTOWALL\(\)](#), and [CFRELVEL\(\)](#).

Here is the caller graph for this function:



6.19.1.2 DOUBLE PRECISION [DES_DOTPRDCT](#) (DOUBLE PRECISION,dimension(dimn) XX, DOUBLE PRECISION,dimension(dimn) YY)

Definition at line 8 of file des_functions.f.

6.20 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_granular_temperature.f File Reference

Functions/Subroutines

- subroutine [DES_GRANULAR_TEMPERATURE](#)

6.20.1 Function Documentation

6.20.1.1 subroutine DES_GRANULAR_TEMPERATURE ()

Definition at line 12 of file des_granular_temperature.f.

Referenced by DES_TIME_MARCH().

Here is the caller graph for this function:



6.21 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_init_arrays.f File Reference

Functions/Subroutines

- subroutine [DES_INIT_ARRAYS](#)
Purpose: DES - initialize the des-namelist.

6.21.1 Function Documentation

6.21.1.1 subroutine DES_INIT_ARRAYS ()

Purpose: DES - initialize the des-namelist.

Definition at line 12 of file des_init_arrays.f.

6.22 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_init_namelist.f File Reference

Functions/Subroutines

- subroutine [DES_INIT_NAMELIST](#)

6.22.1 Function Documentation

6.22.1.1 subroutine DES_INIT_NAMELIST ()

Definition at line 12 of file des_init_namelist.f.

References `DES_BC::DES_BC_MASSFLOW_s`, `DES_BC::DES_BC_TYPE`, `DES_BC::DES_BC_U_s`, `DES_BC::DES_BC_Uw_s`, `DES_BC::DES_BC_V_s`, `DES_BC::DES_BC_VOLFLOW_s`, `DES_BC::DES_BC_Vw_s`, `DES_BC::DES_BC_W_s`, `DES_BC::DES_BC_Ww_s`, `DES_BC::DES_BC_X_e`, `DES_BC::DES_BC_X_w`, `DES_BC::DES_BC_Y_n`, `DES_BC::DES_BC_Y_s`, `DES_BC::DES_BC_Z_b`, and `DES_BC::DES_BC_Z_t`.

6.23 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/des_mass_inlet.f File Reference

Functions/Subroutines

- subroutine [DES_MASS_INLET](#) (BCV_I)
- subroutine [DES_PLACE_NEW_PARTICLE](#) (NP, BCV_I)
- subroutine [DES_NEW_PARTICLE_TEST](#) (NP, TOUCHING, BCV_I)

6.23.1 Function Documentation

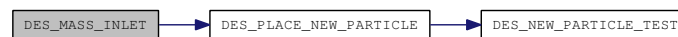
6.23.1.1 subroutine DES_MASS_INLET (INTEGER *BCV_I*)

Definition at line 15 of file des_mass_inlet.f.

References `DES_BC::DES_BC_MI_ID`, `DES_BC::DES_BC_U_s`, `DES_BC::DES_BC_V_s`, `DES_BC::DES_BC_W_s`, `DES_PLACE_NEW_PARTICLE()`, `DES_BC::GS_ARRAY`, and `DES_BC::PI_COUNT`.

Referenced by `DES_TIME_MARCH()`.

Here is the call graph for this function:



Here is the caller graph for this function:



6.23.1.2 subroutine DES_NEW_PARTICLE_TEST (INTEGER *NP*, LOGICAL *TOUCHING*, INTEGER *BCV_I*)

Definition at line 699 of file des_mass_inlet.f.

References `DES_BC::GS_ARRAY`.

Referenced by `DES_PLACE_NEW_PARTICLE()`.

Here is the caller graph for this function:



6.23.1.3 subroutine DES_PLACE_NEW_PARTICLE (INTEGER *NP*, INTEGER *BCV_I*)

Definition at line 220 of file des_mass_inlet.f.

References `DES_BC::DES_BC_MI_ID`, `DES_BC::DES_BC_X_e`, `DES_BC::DES_BC_X_w`, `DES_BC::DES_BC_Y_n`, `DES_BC::DES_BC_Y_s`, `DES_BC::DES_BC_Z_b`, `DES_BC::DES_BC_Z_t`,

DES_BC::DES_MI_CLASS, DES_NEW_PARTICLE_TEST(), DES_BC::I_OF_MI, DES_BC::J_OF_MI, DES_BC::MI_FACTOR, DES_BC::MI_ORDER, DES_BC::MI_WINDOW, and DES_BC::PARTICLE_PLCMNT.

Referenced by DES_MASS_INLET().

Here is the call graph for this function:



Here is the caller graph for this function:



6.24 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_- new/des/des_time_march.f File Reference

Functions/Subroutines

- subroutine [DES_TIME_MARCH](#)

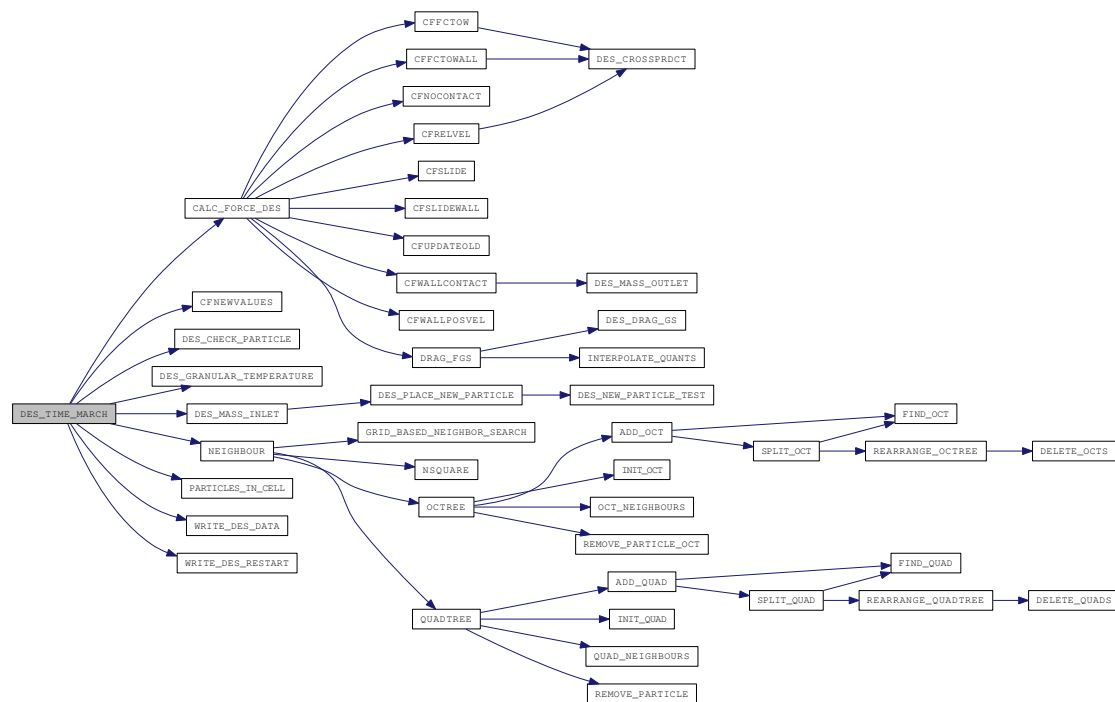
6.24.1 Function Documentation

6.24.1.1 subroutine DES_TIME_MARCH ()

Definition at line 16 of file des_time_march.f.

References [CALC_FORCE_DES\(\)](#), [CFNEWVALUES\(\)](#), [DES_BC::DES_BC_MI_ID](#), [DES_CHECK_PARTICLE\(\)](#), [DES_GRANULAR_TEMPERATURE\(\)](#), [DES_MASS_INLET\(\)](#), [DES_BC::DES_MI](#), [DES_BC::DES_MI_TIME](#), [NEIGHBOUR\(\)](#), [PARTICLES_IN_CELL\(\)](#), [DES_BC::PI_FACTOR](#), [WRITE_DES_DATA\(\)](#), and [WRITE_DES_RESTART\(\)](#).

Here is the call graph for this function:



6.25 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/desnamelist.inc File Reference

6.26 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/discretelement_mod.f File Reference

Data Types

- type [DISCRETELEMENT::iap1](#)

Modules

- module [DISCRETELEMENT](#)

Variables

- LOGICAL [DISCRETELEMENT::PRINT_DES_DATA](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_SPX_DT](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_RES_DT](#)
- LOGICAL [DISCRETELEMENT::DEM_OUTPUT_DATA_TECPLOT](#)
- LOGICAL [DISCRETELEMENT::DEBUG_DES](#)
- INTEGER [DISCRETELEMENT::FOCUS_PARTICLE](#)
- INTEGER [DISCRETELEMENT::IFI](#)
- INTEGER, parameter [DISCRETELEMENT::DES_EXTRA_UNIT](#) = 2000
- INTEGER, parameter [DISCRETELEMENT::DES_VOLFRAC_UNIT](#) = 2001
- INTEGER [DISCRETELEMENT::PARTICLES](#)
- DOUBLE PRECISION [DISCRETELEMENT::PARTICLES_FACTOR](#)
- LOGICAL [DISCRETELEMENT::DISCRETE_ELEMENT](#)
- LOGICAL [DISCRETELEMENT::DES_CONTINUUM_COUPLED](#)
- INTEGER [DISCRETELEMENT::NFACTOR](#)
- LOGICAL [DISCRETELEMENT::DES_INTERP_ON](#)
- LOGICAL [DISCRETELEMENT::TSUJI_DRAG](#)
- CHARACTER(64) [DISCRETELEMENT::DES_INTG_METHOD](#)
- DOUBLE PRECISION [DISCRETELEMENT::KN](#)
- DOUBLE PRECISION [DISCRETELEMENT::KN_W](#)
- DOUBLE PRECISION [DISCRETELEMENT::KT](#)
- DOUBLE PRECISION [DISCRETELEMENT::KT_W](#)
- DOUBLE PRECISION [DISCRETELEMENT::KT_FAC](#)
- DOUBLE PRECISION [DISCRETELEMENT::KT_W_FAC](#)
- DOUBLE PRECISION [DISCRETELEMENT::ETA_DES_N](#)
- DOUBLE PRECISION [DISCRETELEMENT::ETA_N_W](#)
- DOUBLE PRECISION [DISCRETELEMENT::ETA_DES_T](#)
- DOUBLE PRECISION [DISCRETELEMENT::ETA_T_W](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_ETAT_FAC](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_ETAT_W_FAC](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_ETAN](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_ETAT](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::DES_ETAN_WALL](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::DES_ETAT_WALL](#)
- DOUBLE PRECISION [DISCRETELEMENT::MEW](#)
- DOUBLE PRECISION [DISCRETELEMENT::MEW_W](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_EN_INPUT](#)

- DOUBLE PRECISION DISCRETELEMENT::DES_ET_INPUT
- DOUBLE PRECISION DISCRETELEMENT::DES_EN_WALL_INPUT
- DOUBLE PRECISION DISCRETELEMENT::DES_ET_WALL_INPUT
- DOUBLE PRECISION, dimension(:,:), allocatable DISCRETELEMENT::REAL_EN
- DOUBLE PRECISION, dimension(:,:), allocatable DISCRETELEMENT::REAL_ET
- DOUBLE PRECISION, dimension(:), allocatable DISCRETELEMENT::REAL_EN_WALL
- DOUBLE PRECISION, dimension(:), allocatable DISCRETELEMENT::REAL_ET_WALL
- CHARACTER(64) DISCRETELEMENT::DES_COLL_MODEL
- double precision DISCRETELEMENT::ew_young
- double precision DISCRETELEMENT::vw_poisson
- double precision, dimension(dim_m) DISCRETELEMENT::e_young
- double precision, dimension(dim_m) DISCRETELEMENT::v_poisson
- double precision, dimension(:,:), allocatable DISCRETELEMENT::hert_kn
- double precision, dimension(:,:), allocatable DISCRETELEMENT::hert_kt
- double precision, dimension(:), allocatable DISCRETELEMENT::hert_kwn
- double precision, dimension(:), allocatable DISCRETELEMENT::hert_kwt
- double precision, dimension(:), allocatable DISCRETELEMENT::g_mod
- LOGICAL DISCRETELEMENT::PARTICLE_SLIDE
- DOUBLE PRECISION DISCRETELEMENT::DTSOLID
- DOUBLE PRECISION DISCRETELEMENT::DTSOLID_FACTOR
- DOUBLE PRECISION DISCRETELEMENT::S_TIME
- INTEGER DISCRETELEMENT::DES_NEIGHBOR_SEARCH
- INTEGER DISCRETELEMENT::NEIGH_MAX
- DOUBLE PRECISION DISCRETELEMENT::OVERLAP_MAX
- INTEGER DISCRETELEMENT::QLM
- INTEGER DISCRETELEMENT::QLN
- INTEGER DISCRETELEMENT::INIT_QUAD_COUNT
- INTEGER DISCRETELEMENT::INQC
- INTEGER DISCRETELEMENT::NQUAD
- INTEGER DISCRETELEMENT::MAXQUADS
- INTEGER DISCRETELEMENT::NMQD
- DOUBLE PRECISION DISCRETELEMENT::N2CT
- DOUBLE PRECISION DISCRETELEMENT::QUADCT
- DOUBLE PRECISION DISCRETELEMENT::OCTCT
- DOUBLE PRECISION DISCRETELEMENT::MQUAD_FACTOR
- DOUBLE PRECISION DISCRETELEMENT::RADIUS_EQ
- INTEGER DISCRETELEMENT::NEIGHBOR_SEARCH_N
- DOUBLE PRECISION DISCRETELEMENT::NEIGHBOR_SEARCH_RAD_RATIO
- LOGICAL DISCRETELEMENT::DO_NSEARCH
- DOUBLE PRECISION DISCRETELEMENT::FACTOR_RLM
- INTEGER DISCRETELEMENT::MN
- INTEGER DISCRETELEMENT::MAXNEIGHBORS
- INTEGER DISCRETELEMENT::DIMN
- INTEGER DISCRETELEMENT::N Walls
- DOUBLE PRECISION DISCRETELEMENT::WX1
- DOUBLE PRECISION DISCRETELEMENT::EX2
- DOUBLE PRECISION DISCRETELEMENT::BY1
- DOUBLE PRECISION DISCRETELEMENT::TY2
- DOUBLE PRECISION DISCRETELEMENT::SZ1
- DOUBLE PRECISION DISCRETELEMENT::NZ2

- LOGICAL [DISCRETELEMENT::GENER_PART_CONFIG](#)
- DOUBLE PRECISION [DISCRETELEMENT::VOL_FRAC](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_EPS_XSTART](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_EPS_YSTART](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_EPS_ZSTART](#)
- INTEGER [DISCRETELEMENT::PART_MPHASE](#)
- DOUBLE PRECISION [DISCRETELEMENT::pvel_mean](#)
- DOUBLE PRECISION [DISCRETELEMENT::PVEL_StDev](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_GAMMA](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_F](#)
- DOUBLE PRECISION [DISCRETELEMENT::LID_VEL](#)
- LOGICAL [DISCRETELEMENT::WALLDTSPLIT](#)
- LOGICAL [DISCRETELEMENT::WALLREFLECT](#)
- INTEGER, dimension(:,:), allocatable [DISCRETELEMENT::c_near_w](#)
- LOGICAL [DISCRETELEMENT::NON_RECT_BC](#)
- LOGICAL [DISCRETELEMENT::DES_PERIODIC_WALLS](#)
- LOGICAL [DISCRETELEMENT::DES_PERIODIC_WALLS_X](#)
- LOGICAL [DISCRETELEMENT::DES_PERIODIC_WALLS_Y](#)
- LOGICAL [DISCRETELEMENT::DES_PERIODIC_WALLS_Z](#)
- DOUBLE PRECISION, dimension(3) [DISCRETELEMENT::pgrad](#)
- DOUBLE PRECISION [DISCRETELEMENT::MIN_RADIUS](#)
- DOUBLE PRECISION [DISCRETELEMENT::MAX_RADIUS](#)
- INTEGER, dimension(:), allocatable [DISCRETELEMENT::MARK_PART](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::bed_height](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::DES_RADIUS](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::RO_Sol](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::PVOL](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::PMASS](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::OMOI](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_POS_OLD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_POS_NEW](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_VEL_OLD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_VEL_NEW](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::OMEGA_OLD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::OMEGA_NEW](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::PPOS](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_VEL_OOLD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::DES_ACC_OLD](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::ROT_ACC_OLD](#)
- LOGICAL [DISCRETELEMENT::CALC_FC](#)
- LOGICAL [DISCRETELEMENT::CALLFROMDES](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::FC](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::FN](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::FT](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::GRAV](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::TOW](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::PFT](#)
- INTEGER, dimension(:,:), allocatable [DISCRETELEMENT::PN](#)
- INTEGER, dimension(:,:), allocatable [DISCRETELEMENT::PV](#)
- DOUBLE PRECISION, dimension(:,:), allocatable [DISCRETELEMENT::SOLID_DRAG](#)

- TYPE(iap1), dimension(:, :, :), allocatable [DISCRETELEMENT::pic](#)
- INTEGER, dimension(:), allocatable [DISCRETELEMENT::PINC](#)
- INTEGER, dimension(:, :), allocatable [DISCRETELEMENT::PIJK](#)
- INTEGER, dimension(:, :), allocatable [DISCRETELEMENT::NEIGHBOURS](#)
- INTEGER, dimension(:, :), allocatable [DISCRETELEMENT::LQUAD](#)
- INTEGER, dimension(:), allocatable [DISCRETELEMENT::PQUAD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::CQUAD](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_U_s](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_V_s](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_W_s](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::DES_VEL_AVG](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_THETA](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::GLOBAL_GRAN_ENERGY](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::GLOBAL_GRAN_TEMP](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_KE](#)
- DOUBLE PRECISION [DISCRETELEMENT::DES_PE](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::XE](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::YN](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::ZT](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_WALL_POS](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::DES_WALL_VEL](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::WALL_NORMAL](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::drag_am](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::drag_bm](#)
- DOUBLE PRECISION, dimension(:, :), allocatable [DISCRETELEMENT::vel_fp](#)
- DOUBLE PRECISION, dimension(:, :), pointer [DISCRETELEMENT::weightp](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::f_gp](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::wtderivp](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::wtbar](#)
- DOUBLE PRECISION, dimension(:, :, :), allocatable [DISCRETELEMENT::sstencil](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::gstencil](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::vstencil](#)
- DOUBLE PRECISION, dimension(:, :, :, :), allocatable [DISCRETELEMENT::pgradstencil](#)
- CHARACTER(LEN=7) [DISCRETELEMENT::scheme](#)
- CHARACTER(LEN=7) [DISCRETELEMENT::interp_scheme](#)
- INTEGER [DISCRETELEMENT::order](#)
- INTEGER [DISCRETELEMENT::ob2l](#)
- INTEGER [DISCRETELEMENT::ob2r](#)
- LOGICAL, dimension(:, :), allocatable [DISCRETELEMENT::PEA](#)
- INTEGER [DISCRETELEMENT::PIS](#)
- INTEGER [DISCRETELEMENT::MAX_PIS](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::WELL_WIDTH](#)
- DOUBLE PRECISION, dimension(:), allocatable [DISCRETELEMENT::WELL_DEPTH](#)
- DOUBLE PRECISION [DISCRETELEMENT::MASTER_WELL_DEPTH](#)
- DOUBLE PRECISION [DISCRETELEMENT::MASTER_WALL_WELL_DEPTH](#)
- DOUBLE PRECISION [DISCRETELEMENT::RADIUS_RATIO](#)
- DOUBLE PRECISION [DISCRETELEMENT::WALL_RADIUS_RATIO](#)
- INTEGER, dimension(:, :), allocatable [DISCRETELEMENT::LINKS](#)
- INTEGER, dimension(:, :), allocatable [DISCRETELEMENT::AGGS](#)

- INTEGER, dimension(:), allocatable DISCRETELEMENT::IS_LINKED
- LOGICAL DISCRETELEMENT::USE_COHESION
- LOGICAL DISCRETELEMENT::SQUARE_WELL
- INTEGER DISCRETELEMENT::COHESION_DEBUG
- INTEGER DISCRETELEMENT::COHESION_DEBUG_START
- INTEGER DISCRETELEMENT::COH_DEBUG_PARTICLE
- INTEGER DISCRETELEMENT::COH_DEBUG_STEP
- INTEGER DISCRETELEMENT::LAST_COLLISION
- INTEGER DISCRETELEMENT::ANIMATION_WRITE_INTERVAL
- INTEGER DISCRETELEMENT::ANIMATION_WRITE_COUNTER
- DOUBLE PRECISION DISCRETELEMENT::TIME_FACTOR
- INTEGER DISCRETELEMENT::MAX_ANIMATOR_STEP
- INTEGER DISCRETELEMENT::MIN_ANIMATOR_STEP
- INTEGER DISCRETELEMENT::MAX_LOG_STEP
- INTEGER DISCRETELEMENT::MIN_LOG_STEP
- INTEGER, dimension(:), allocatable DISCRETELEMENT::IS_AGGLOMERATED
- INTEGER DISCRETELEMENT::SEARCH_GRIDS
- INTEGER DISCRETELEMENT::PART_IN_GRID
- INTEGER, dimension(:, :), allocatable DISCRETELEMENT::PART_GRID
- INTEGER DISCRETELEMENT::MAX_PART_IN_GRID
- DOUBLE PRECISION DISCRETELEMENT::SEARCH_GRID_SIZE
- LOGICAL DISCRETELEMENT::USE_COL_MW
- LOGICAL DISCRETELEMENT::VAN_DER_WAALS
- DOUBLE PRECISION DISCRETELEMENT::HAMAKER_CONSTANT
- DOUBLE PRECISION DISCRETELEMENT::VDW_INNER_CUTOFF
- DOUBLE PRECISION DISCRETELEMENT::VDW_OUTER_CUTOFF
- DOUBLE PRECISION DISCRETELEMENT::WALL_HAMAKER_CONSTANT
- DOUBLE PRECISION DISCRETELEMENT::WALL_VDW_INNER_CUTOFF
- DOUBLE PRECISION DISCRETELEMENT::WALL_VDW_OUTER_CUTOFF
- DOUBLE PRECISION DISCRETELEMENT::SURFACE_ENERGY
- DOUBLE PRECISION DISCRETELEMENT::WALL_SURFACE_ENERGY
- LOGICAL DISCRETELEMENT::RHODES_COHESION
- DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_FACTOR
- DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_FACTOR_WALL
- DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_LENGTH_SCALE
- DOUBLE PRECISION DISCRETELEMENT::RHODES_COHESION_LENGTH_SCALE_WALL
- LOGICAL DISCRETELEMENT::RECORD_NET_FORCES
- INTEGER DISCRETELEMENT::VERTICAL_NET_FORCE_BINS
- DOUBLE PRECISION DISCRETELEMENT::NET_FORCE_COUNTER
- DOUBLE PRECISION DISCRETELEMENT::VERTICAL_NET_FORCE_INCREMENT
- DOUBLE PRECISION DISCRETELEMENT::NET_FORCE_TIME_INCREMENT
- DOUBLE PRECISION DISCRETELEMENT::TIME_AT_PREVIOUS_NET_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_PART_TAN_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_WALL_TAN_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_PART_NORM_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_WALL_NORM_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_GRAVITY_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_PART_COH_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_WALL_COH_FORCE
- DOUBLE PRECISION DISCRETELEMENT::NET_FLUID_DRAG_FORCE

- DOUBLE PRECISION DISCRETELEMENT::NET_PRESSURE_FORCE
- INTEGER DISCRETELEMENT::APP_COH_DIST_INT
- INTEGER DISCRETELEMENT::CAP_COH_DIST_INT
- INTEGER DISCRETELEMENT::ESC_COH_DIST_INT

6.27 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/drag_fgs.f File Reference

Functions/Subroutines

- subroutine [DRAG_FGS](#)
- subroutine [INTERPOLATE_QUANTS](#) (IW, IE, JS, JN, KB, KTP, ONEW, POSP, FVEL, FOCUS)
- subroutine [DES_DRAG_GS](#) (KK, fvel, des_vel)

6.27.1 Function Documentation

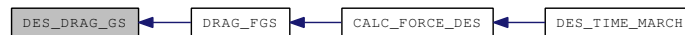
6.27.1.1 subroutine DES_DRAG_GS (INTEGER,intent(in) *KK*, DOUBLE PRECISION,dimension(dimn),intent(in) *fvel*, DOUBLE PRECISION,dimension(dimn),intent(in) *des_vel*)

Definition at line 747 of file drag_fgs.f.

References DISCRETELEMENT::DES_RADIUS, DISCRETELEMENT::DIMN, DISCRETELEMENT::PIJK, DISCRETELEMENT::PVOL, and DISCRETELEMENT::TSUJI_DRAG.

Referenced by DRAG_FGS().

Here is the caller graph for this function:



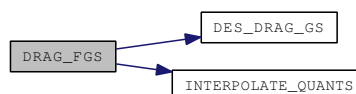
6.27.1.2 subroutine DRAG_FGS ()

Definition at line 19 of file drag_fgs.f.

References DISCRETELEMENT::CALC_FC, DISCRETELEMENT::CALLFROMDES, DES_DRAG_GS(), DISCRETELEMENT::DES_INTERP_ON, DISCRETELEMENT::DES_PERIODIC_WALLS, DISCRETELEMENT::DES_PERIODIC_WALLS_X, DISCRETELEMENT::DES_PERIODIC_WALLS_Y, DISCRETELEMENT::DES_PERIODIC_WALLS_Z, DISCRETELEMENT::DES_POS_NEW, DISCRETELEMENT::DES_VEL_NEW, DISCRETELEMENT::drag_am, DISCRETELEMENT::drag_bm, DISCRETELEMENT::FC, DISCRETELEMENT::FOCUS_PARTICLE, INTERPOLATE_QUANTS(), DISCRETELEMENT::MAX_PIS, DISCRETELEMENT::PEA, DISCRETELEMENT::PIJK, DISCRETELEMENT::PINC, DISCRETELEMENT::PIS, DISCRETELEMENT::PVOL, DISCRETELEMENT::SOLID_DRAG, and DISCRETELEMENT::vstencil.

Referenced by CALC_FORCE_DES().

Here is the call graph for this function:



Here is the caller graph for this function:



6.27.1.3 subroutine INTERPOLATE_QUANTS (INTEGER,intent(in) *IW*, INTEGER,intent(in) *IE*, INTEGER,intent(in) *JS*, INTEGER,intent(in) *JN*, INTEGER,intent(in) *KB*, INTEGER,intent(in) *KTP*, INTEGER,intent(in) *onew*, DOUBLE PRECISION,dimension(dimn),intent(in) *POSP*, DOUBLE PRECISION,dimension(dimn),intent(out) *FVEL*, LOGICAL *FOCUS*)

Definition at line 575 of file drag_fgs.f.

References DISCRETELEMENT::DES_PERIODIC_WALLS, DISCRETELEMENT::DES_PERIODIC_WALLS_X, DISCRETELEMENT::DES_PERIODIC_WALLS_Y, DISCRETELEMENT::DES_PERIODIC_WALLS_Z, DISCRETELEMENT::DIMN, DISCRETELEMENT::vstencil, DISCRETELEMENT::XE, DISCRETELEMENT::YN, and DISCRETELEMENT::ZT.

Referenced by DRAG_FGS().

Here is the caller graph for this function:



6.28 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/gas_drag.f File Reference

Functions/Subroutines

- subroutine **GAS_DRAG** (A_M, B_M, VXF_GS, IER, UV, VV, WV)

Purpose: DES - Accounting for the equal and opposite drag force on gas due to particles by introducing the drag as a source term. Face centered.

6.28.1 Function Documentation

6.28.1.1 subroutine **GAS_DRAG** (DOUBLE PRECISION,dimension(dimension_3, -3:3, 0:dimension_m) A_M, DOUBLE PRECISION,dimension(dimension_3, 0:dimension_m) B_M, DOUBLE PRECISION,dimension(dimension_3, dimension_m) VXF_GS, INTEGER IER, INTEGER UV, INTEGER VV, INTEGER WV)

Purpose: DES - Accounting for the equal and opposite drag force on gas due to particles by introducing the drag as a source term. Face centered.

Definition at line 15 of file gas_drag.f.

References DISCRETELEMENT::DES_INTERP_ON, and DISCRETELEMENT::DIMN.

6.29 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/generate_particle_config.f File Reference

Functions/Subroutines

- subroutine [GENERATE_PARTICLE_CONFIG](#)
- subroutine [GENER_LATTICE_MOD](#) (NBODY, DOMLIN, XC, DBDY)
- subroutine [SET_INITIAL_VELOCITY](#)
- subroutine [writeic](#)
- subroutine [init_particles_jn](#)

6.29.1 Function Documentation

6.29.1.1 subroutine GENER_LATTICE_MOD (INTEGER,intent(in) *NBODY*,
double precision,dimension(dimn),intent(in) *DOMLIN*, DOUBLE
PRECISION,dimension(nbody,dimn),intent(out) *xc*, double
precision,dimension(nbody),intent(inout) *DBDY*)

Definition at line 122 of file generate_particle_config.f.

Referenced by GENERATE_PARTICLE_CONFIG().

Here is the caller graph for this function:



6.29.1.2 subroutine GENERATE_PARTICLE_CONFIG ()

Definition at line 15 of file generate_particle_config.f.

References DISCRETELEMENT::DES_EPS_XSTART, DISCRETELEMENT::DES_EPS_YSTART,
DISCRETELEMENT::DES_EPS_ZSTART, DISCRETELEMENT::DES_POS_NEW,
DISCRETELEMENT::DES_POS_OLD, DISCRETELEMENT::DES_RADIUS,
DISCRETELEMENT::DES_VEL_NEW, DISCRETELEMENT::DES_VEL_OLD, GENER_LATTICE_MOD(),
DISCRETELEMENT::OMEGA_NEW, DISCRETELEMENT::OMEGA_OLD,
DISCRETELEMENT::PART_MPHASE, DISCRETELEMENT::PARTICLES, and
DISCRETELEMENT::RO_Sol.

Here is the call graph for this function:



6.29.1.3 subroutine init_particles_jn ()

Definition at line 495 of file generate_particle_config.f.

References DISCRETELEMENT::DES_POS_OLD, DISCRETELEMENT::DES_RADIUS,
DISCRETELEMENT::DES_VEL_NEW, DISCRETELEMENT::DES_VEL_OLD,
DISCRETELEMENT::GENER_PART_CONFIG, DISCRETELEMENT::PARTICLES,

DISCRETELEMENT::pvel_mean, DISCRETELEMENT::PVEL_StDev, and
DISCRETELEMENT::RO_Sol.

6.29.1.4 subroutine SET_INITIAL_VELOCITY ()

Definition at line 205 of file generate_particle_config.f.

References DISCRETELEMENT::DES_PERIODIC_WALLS, DISCRETELEMENT::DES_PERIODIC_WALLS_X, DISCRETELEMENT::DES_PERIODIC_WALLS_Y, DISCRETELEMENT::DES_PERIODIC_WALLS_Z, DISCRETELEMENT::DES_POS_NEW, DISCRETELEMENT::DES_VEL_NEW, DISCRETELEMENT::DES_VEL_OLD, DISCRETELEMENT::DIMN, DISCRETELEMENT::gstencil, DISCRETELEMENT::interp_scheme, DISCRETELEMENT::PARTICLES, DISCRETELEMENT::PIJK, DISCRETELEMENT::vel_fp, DISCRETELEMENT::vstencil, DISCRETELEMENT::weightp, DISCRETELEMENT::XE, DISCRETELEMENT::YN, and DISCRETELEMENT::ZT.

6.29.1.5 subroutine writeic ()

Definition at line 464 of file generate_particle_config.f.

References DISCRETELEMENT::DES_POS_NEW, DISCRETELEMENT::DES_VEL_NEW, and DISCRETELEMENT::DIMN.

6.30 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/grid_based_neighbor_search.f File Reference

Functions/Subroutines

- subroutine [GRID_BASED_NEIGHBOR_SEARCH](#)

Purpose: Cell linked search.

6.30.1 Function Documentation

6.30.1.1 subroutine GRID_BASED_NEIGHBOR_SEARCH ()

Purpose: Cell linked search.

Definition at line 10 of file grid_based_neighbor_search.f.

References DISCRETELEMENT::DES_PERIODIC_WALLS_X, DISCRETELEMENT::DES_PERIODIC_WALLS_Y, DISCRETELEMENT::DES_PERIODIC_WALLS_Z, DISCRETELEMENT::DES_POS_NEW, DISCRETELEMENT::DES_RADIUS, DISCRETELEMENT::FACTOR_RLM, DISCRETELEMENT::MAX_PIS, DISCRETELEMENT::MN, DISCRETELEMENT::NEIGHBOURS, DISCRETELEMENT::PEA, DISCRETELEMENT::PIJK, and DISCRETELEMENT::PIS.

Referenced by NEIGHBOUR().

Here is the caller graph for this function:



6.31 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/interpolation_mod.f File Reference

Data Types

- interface [interpolation::interpolator](#)

Modules

- module [interpolation](#)

Functions/Subroutines

- subroutine [interpolation::set_interpolation_stencil](#) (PC, IW, IE, JS, JN, KB, KTP, isch, dimprob, ordernew)
- subroutine [interpolation::interp_oned_scalar](#) (coor, scalar, ppos, interp_scl, order, isch, weight_pointer)
- subroutine [interpolation::set_interpolation_scheme](#) (choice)

Variables

- INTEGER, parameter [interpolation::prcn](#) = 8
- INTEGER, parameter [interpolation::iprec](#) = 8
- DOUBLE PRECISION, parameter [interpolation::two](#) = 2.0_iprec
- DOUBLE PRECISION, parameter [interpolation::three](#) = 3.0_iprec
- DOUBLE PRECISION, parameter [interpolation::four](#) = 4.0_iprec
- DOUBLE PRECISION, parameter [interpolation::six](#) = 6.0_iprec
- DOUBLE PRECISION, parameter [interpolation::fourth](#) = 0.25_iprec
- INTEGER, parameter [interpolation::maxorder](#) = 6
- DOUBLE PRECISION, dimension(maxorder), target [interpolation::xval](#)
- DOUBLE PRECISION, dimension(maxorder), target [interpolation::yval](#)
- DOUBLE PRECISION, dimension(maxorder), target [interpolation::zval](#)
- DOUBLE PRECISION, dimension(maxorder-1) [interpolation::dx](#)
- DOUBLE PRECISION, dimension(maxorder-1) [interpolation::dy](#)
- DOUBLE PRECISION, dimension(maxorder-1) [interpolation::dz](#)
- DOUBLE PRECISION, dimension(maxorder, maxorder, maxorder), target [interpolation::weights](#)

6.32 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/make_arrays_des.f File Reference

Functions/Subroutines

- subroutine [MAKE_ARRAYS_DES](#)

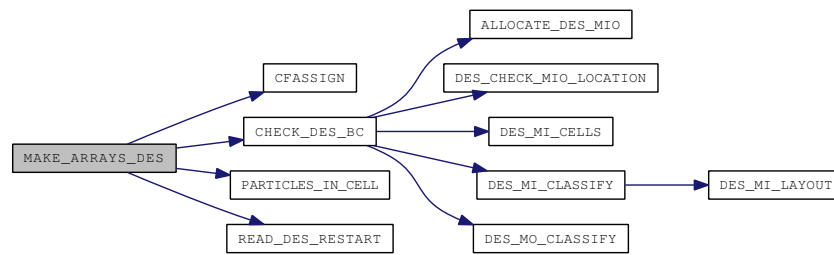
6.32.1 Function Documentation

6.32.1.1 subroutine MAKE_ARRAYS_DES ()

Definition at line 13 of file make_arrays_des.f.

References [CFASSIGN\(\)](#), [CHECK_DES_BC\(\)](#), [PARTICLES_IN_CELL\(\)](#), and [READ_DES_RESTART\(\)](#).

Here is the call graph for this function:



6.33 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/neighbour.f File Reference

Functions/Subroutines

- subroutine [NEIGHBOUR](#)

Purpose: DES - Neighbors search; N-Square, Quadtree(2D)/Octree(3D) Now also Cell linked search Aug 07.

6.33.1 Function Documentation

6.33.1.1 subroutine NEIGHBOUR ()

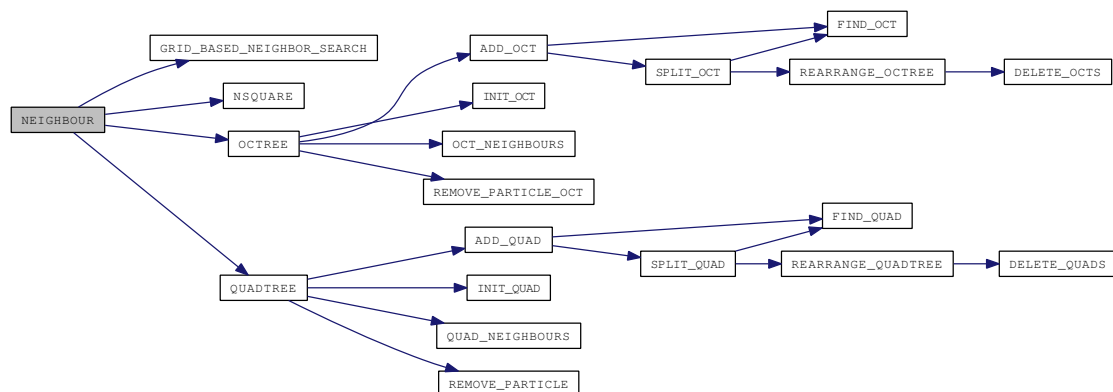
Purpose: DES - Neighbors search; N-Square, Quadtree(2D)/Octree(3D) Now also Cell linked search Aug 07.

Definition at line 14 of file neighbour.f.

References [GRID_BASED_NEIGHBOR_SEARCH\(\)](#), [NSQUARE\(\)](#), [OCTREE\(\)](#), and [QUADTREE\(\)](#).

Referenced by [DES_TIME_MARCH\(\)](#).

Here is the call graph for this function:



Here is the caller graph for this function:



6.34 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/nsquare.f File Reference

Functions/Subroutines

- subroutine [NSQUARE](#)

Purpose: DES - N-Square neighbor search.

6.34.1 Function Documentation

6.34.1.1 subroutine NSQUARE ()

Purpose: DES - N-Square neighbor search.

Definition at line 12 of file nsquare.f.

Referenced by NEIGHBOUR().

Here is the caller graph for this function:



6.35 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/octree.f File Reference

Functions/Subroutines

- subroutine [OCTREE](#)
Purpose: To find neighbors in 3D using octree search method.
- subroutine [INIT_OCT](#)
- subroutine [REMOVE_PARTICLE_OCT](#) (II, PQD)
- subroutine [ADD_OCT](#) (II, IQS)
- subroutine [FIND_OCT](#) (I, Q)
- subroutine [SPLIT_OCT](#) (Q)
- subroutine [DELETE_OCTS](#) (II)
- subroutine [REARRANGE_OCTREE](#) (MNQD)
- subroutine [OCT_NEIGHBOURS](#) (II, NQ)

6.35.1 Function Documentation

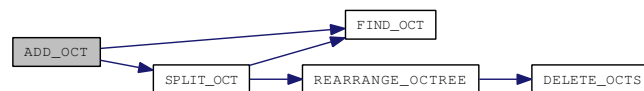
6.35.1.1 subroutine ADD_OCT (INTEGER II, INTEGER IQS)

Definition at line 263 of file octree.f.

References [FIND_OCT](#)(), and [SPLIT_OCT](#)().

Referenced by [OCTREE](#)().

Here is the call graph for this function:



Here is the caller graph for this function:

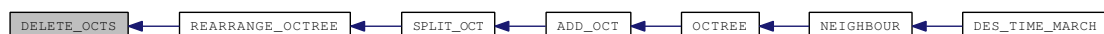


6.35.1.2 subroutine DELETE_OCTS (INTEGER II)

Definition at line 467 of file octree.f.

Referenced by [REARRANGE_OCTREE](#)().

Here is the caller graph for this function:

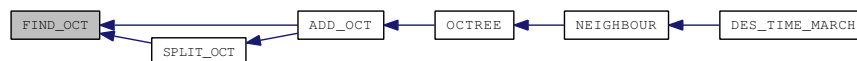


6.35.1.3 subroutine FIND_OCT (INTEGER I, INTEGER Q)

Definition at line 297 of file octree.f.

Referenced by ADD_OCT(), and SPLIT_OCT().

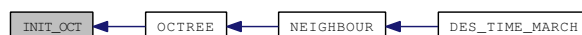
Here is the caller graph for this function:

**6.35.1.4 subroutine INIT_OCT ()**

Definition at line 156 of file octree.f.

Referenced by OCTREE().

Here is the caller graph for this function:

**6.35.1.5 subroutine OCT_NEIGHBOURS (INTEGER II, INTEGER NQ)**

Definition at line 560 of file octree.f.

Referenced by OCTREE().

Here is the caller graph for this function:

**6.35.1.6 subroutine OCTREE ()**

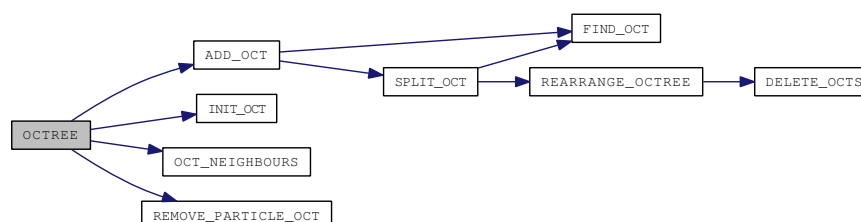
Purpose: To find neighbors in 3D using octree search method.

Definition at line 11 of file octree.f.

References ADD_OCT(), INIT_OCT(), OCT_NEIGHBOURS(), and REMOVE_PARTICLE_OCT().

Referenced by NEIGHBOUR().

Here is the call graph for this function:



Here is the caller graph for this function:



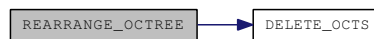
6.35.1.7 subroutine REARRANGE_OCTREE (INTEGER *MNQD*)

Definition at line 510 of file octree.f.

References `DELETE_OCTS()`.

Referenced by `SPLIT_OCT()`.

Here is the call graph for this function:



Here is the caller graph for this function:



6.35.1.8 subroutine REMOVE_PARTICLE_OCT (INTEGER *II*, INTEGER *PQD*)

Definition at line 223 of file octree.f.

Referenced by `OCTREE()`.

Here is the caller graph for this function:



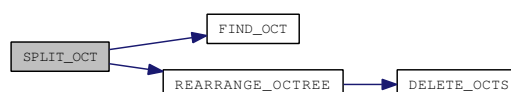
6.35.1.9 subroutine SPLIT_OCT (INTEGER *Q*)

Definition at line 344 of file octree.f.

References `FIND_OCT()`, and `REARRANGE_OCTREE()`.

Referenced by `ADD_OCT()`.

Here is the call graph for this function:



Here is the caller graph for this function:



6.36 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/particles_in_cell.f File Reference

Functions/Subroutines

- subroutine [PARTICLES_IN_CELL](#)

Purpose: DES - Finding the fluid computational cell in which a particle lies, to calculate void fraction and also the volume averaged solids velocity of the cell.

6.36.1 Function Documentation

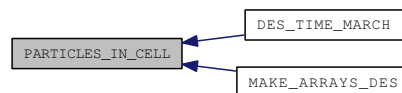
6.36.1.1 subroutine `PARTICLES_IN_CELL` ()

Purpose: DES - Finding the fluid computational cell in which a particle lies, to calculate void fraction and also the volume averaged solids velocity of the cell.

Definition at line 20 of file `particles_in_cell.f`.

Referenced by `DES_TIME_MARCH()`, and `MAKE_ARRAYS_DES()`.

Here is the caller graph for this function:



6.37 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/quadtree.f File Reference

Functions/Subroutines

- subroutine [QUADTREE](#)

Purpose: To find particle neighbors in 2D using quadtree method.

- subroutine [INIT_QUAD](#)
- subroutine [REMOVE_PARTICLE](#) (II, PQD)
- subroutine [ADD_QUAD](#) (II, IQS)
- subroutine [FIND_QUAD](#) (I, Q)
- subroutine [SPLIT_QUAD](#) (Q)
- subroutine [DELETE_QUADS](#) (II)
- subroutine [REARRANGE_QUADTREE](#) (MNQD)
- subroutine [QUAD_NEIGHBOURS](#) (II, NQ)

6.37.1 Function Documentation

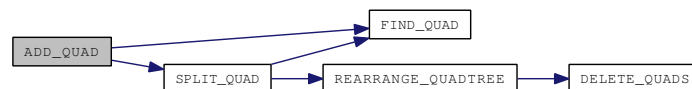
6.37.1.1 subroutine [ADD_QUAD](#) (INTEGER II, INTEGER IQS)

Definition at line 249 of file quadtree.f.

References [FIND_QUAD](#)(), and [SPLIT_QUAD](#)().

Referenced by [QUADTREE](#)().

Here is the call graph for this function:



Here is the caller graph for this function:

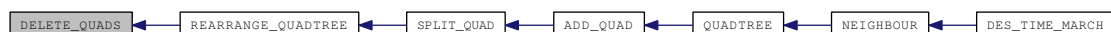


6.37.1.2 subroutine [DELETE_QUADS](#) (INTEGER II)

Definition at line 402 of file quadtree.f.

Referenced by [REARRANGE_QUADTREE](#)().

Here is the caller graph for this function:

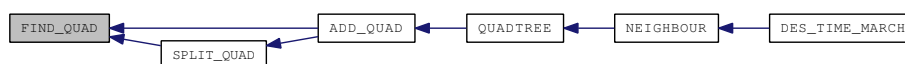


6.37.1.3 subroutine FIND_QUAD (INTEGER I, INTEGER Q)

Definition at line 282 of file quadtree.f.

Referenced by ADD_QUAD(), and SPLIT_QUAD().

Here is the caller graph for this function:

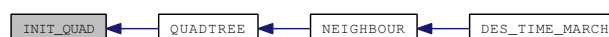


6.37.1.4 subroutine INIT_QUAD ()

Definition at line 147 of file quadtree.f.

Referenced by QUADTREE().

Here is the caller graph for this function:



6.37.1.5 subroutine QUAD_NEIGHBOURS (INTEGER II, INTEGER NQ)

Definition at line 492 of file quadtree.f.

Referenced by QUADTREE().

Here is the caller graph for this function:



6.37.1.6 subroutine QUADTREE ()

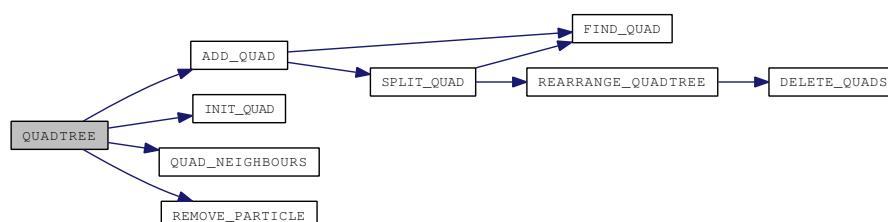
Purpose: To find particle neighbors in 2D using quadtree method.

Definition at line 11 of file quadtree.f.

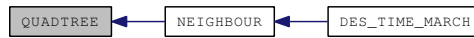
References ADD_QUAD(), INIT_QUAD(), QUAD_NEIGHBOURS(), and REMOVE_PARTICLE().

Referenced by NEIGHBOUR().

Here is the call graph for this function:



Here is the caller graph for this function:



6.37.1.7 subroutine REARRANGE_QUADTREE (INTEGER *MNQD*)

Definition at line 441 of file quadtree.f.

References DELETE_QUADS().

Referenced by SPLIT_QUAD().

Here is the call graph for this function:



Here is the caller graph for this function:



6.37.1.8 subroutine REMOVE_PARTICLE (INTEGER *II*, INTEGER *PQD*)

Definition at line 210 of file quadtree.f.

Referenced by QUADTREE().

Here is the caller graph for this function:



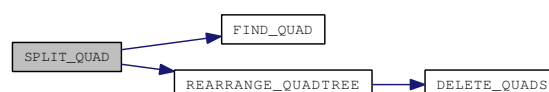
6.37.1.9 subroutine SPLIT_QUAD (INTEGER *Q*)

Definition at line 321 of file quadtree.f.

References FIND_QUAD(), and REARRANGE_QUADTREE().

Referenced by ADD_QUAD().

Here is the call graph for this function:



Here is the caller graph for this function:



6.38 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/randomno_mod.f File Reference

Modules

- module [randomno](#)

Functions/Subroutines

- subroutine [randomno::UNI_RNO](#) (Y)
- subroutine [randomno::NOR_RNO](#) (Y, mean, sigma)

6.39 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/read_des_restart.f File Reference

Functions/Subroutines

- subroutine [READ_DES_RESTART](#)
Purpose: Reading DES data for restart.

6.39.1 Function Documentation

6.39.1.1 subroutine READ_DES_RESTART ()

Purpose: Reading DES data for restart.

Definition at line 11 of file read_des_restart.f.

Referenced by MAKE_ARRAYS_DES().

Here is the caller graph for this function:



6.40 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/walledgecontact.f File Reference

Functions/Subroutines

- subroutine [WALLEDGECONTACT](#) (cijk, l, wallcontacti)

Purposes: Check if particle contacts with the edge of wall cell, if it does, generate the wall particle.

6.40.1 Function Documentation

6.40.1.1 subroutine WALLEDGECONTACT (INTEGER *cijk*, INTEGER *L*, INTEGER *WALLCONTACTI*)

Purposes: Check if particle contacts with the edge of wall cell, if it does, generate the wall particle.

Definition at line 11 of file walledgecontact.f.

6.41 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_-new/des/wallfacecontact.f File Reference

Functions/Subroutines

- subroutine [WALLFACECONTACT](#) (WALL, L, WALLCONTACTI)

Purposes: Check if particle contacts with the face of wall cell, if it does, generate the wall particle.

6.41.1 Function Documentation

6.41.1.1 subroutine WALLFACECONTACT (INTEGER WALL, INTEGER L, INTEGER WALLCONTACTI)

Purposes: Check if particle contacts with the face of wall cell, if it does, generate the wall particle.

Definition at line 11 of file wallfacecontact.f.

6.42 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/wallnodecontact.f File Reference

Functions/Subroutines

- subroutine [WALLNODECONTACT](#) (CIJK, L, WALLCONTACTI)

Purposes: Check if particle contacts with the node of wall cell, if it does, generate the wall particle.

6.42.1 Function Documentation

6.42.1.1 subroutine WALLNODECONTACT (INTEGER *cijk*, INTEGER *L*, INTEGER *WALLCONTACTI*)

Purposes: Check if particle contacts with the node of wall cell, if it does, generate the wall particle.

Definition at line 11 of file wallnodecontact.f.

6.43 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/write_des_data.f File Reference

Functions/Subroutines

- subroutine [WRITE_DES_DATA](#)
Purpose: Writing DES output in Paraview format.

6.43.1 Function Documentation

6.43.1.1 subroutine WRITE_DES_DATA ()

Purpose: Writing DES output in Paraview format.

Definition at line 12 of file write_des_data.f.

Referenced by DES_TIME_MARCH().

Here is the caller graph for this function:



6.44 C:/Users/8sx/cygwin/home/8sx/dem-studies/mfix/model_new/des/write_des_restart.f File Reference

Functions/Subroutines

- subroutine [WRITE_DES_RESTART](#)
Purpose: Writing DES data for restart.

6.44.1 Function Documentation

6.44.1.1 subroutine WRITE_DES_RESTART ()

Purpose: Writing DES data for restart.

Definition at line 11 of file write_des_restart.f.

Referenced by DES_TIME_MARCH().

Here is the caller graph for this function:



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