Namelist "Cylindrcal_Immersed_Bodies"

This data setup is used to build the cylindrical solid bodies that contribute to the geometrical configuration. The form and the position of each cylinder are defined by means of its height, the axis lengths of its elliptic base and coordinates of the mid-height point.
In 2D geometrical configurations, only the part related to the base of the 3D-cylinder can be used to build an elliptic form. In this case, the height of the cylinder is zero and the coordinates of the mid-height point coincide with the center of the ellipse.

Don't forget to set the boolean data "End_of_Data_Block" at the end of the namelist. A ".true." value means the end of the data block when several namelists are used to create several cylinders.

Axis_Direction

- Type : real value
- This value defines the orientation of the axis with respect to the grid index {I,J,K}. The values 1, 2 and 3 are associated to the I,J and K-direction, respectively.

Xi_Center, Xj_Center, Xk_Center

- Type : real value
- Coordinates of the mid-height point of the cylinder (in 3D) or the center of the ellipse (in 2D).

Small_Axis_Radius

- Type : real value
- Half length of the small axis of the elliptic base of the cylinder.

Great_Axis_Radius

- Type : real value
- Half length of the great axis of the elliptic base of the cylinder.

Identifier_Value

- Type : integer value
- Identifier related to the rank number of the wall boundary condition setup that is applied to a polyhedral body. If Identifier_Value=3, the polyhedral body is linked with the 3rd wall boundary condition setup written in the data file. A wall boundary condition setup pools the wall boundary conditions applied to the velocity components, heat and species. It can be built from the namelists "Velocity_Wall_Boundary_Condition_Setup", "Heat_Wall_Boundary_Condition_Setup" and "Species_Wall_Boundary_Condition_Setup" (See Example … for details)

End_of_Data_Block

- Type : boolean value
- Specify the end of the namelist or a group of this type of namelist (if true).

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