

Mesh generator for sunfluidh

In the code Sunfluidh, the spatial discretization of equations is carried out on a cartesian staggered grid.

When the grid is regular (cell size is identical over the computational domain), the code build the mesh itself. The user can also build a non-regular grid for sunfluidh by using the in-house software [Meshgen](#).

More regular is the mesh more accurate is the simulation. Several basic rules should be respected so far as it is permitted.



- The cell-size ratio between two adjoined cells along any direction does not generally overcome 5%, especially in the strong gradient areas.
- For every cell, the aspect ratio should be :
$$0.2 \leq \frac{\Delta x_j}{\Delta x_i} \leq 5$$

This rule can be relaxed in some peculiar cases (weak gradient area, close-wall area, ...)

From:

<https://sunfluidh.lisn.upsaclay.fr/> - Documentation du code de simulation numérique SUNFLUIDH

Permanent link:

https://sunfluidh.lisn.upsaclay.fr/doku.php?id=sunfluidh:sunfluidh_meshgen&rev=1512223678

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