ZZZZ331 - Validation of the definition of the characteristics of shells/grids by functions of space.

Abstract:

This test validates the creation of the characteristics of shells and grids by functions of space. The functions are evaluated at the center of gravity of the mesh, that can concern:

- for shells : the thickness, the eccentring.
- for the grids: the section, the eccentring.

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1 Problem of reference

One reads a mesh, one creates 3 functions which define:

- for the shells
  - ◦l'epaissor : $epais = 0.001 \times Z$
  - ◦l'excentrement : $decal = 0.002 \times Z$
- for the grids
  - ◦la section : $section = 0.001 \times Z + 0.001 \times X \times Y$
  - ◦l'excentrement : $excent = 0.002 \times (Z + X + Y)$

2 Reference solution

2.1 Method of calculating used for the reference solution

the coordinates of the nodes, the functions are known. The reference solution is thus known.

2.2 Results of reference

One evaluates the functions at the center of gravity of all meshes

2.3 Uncertainties on the solution

No uncertainty.

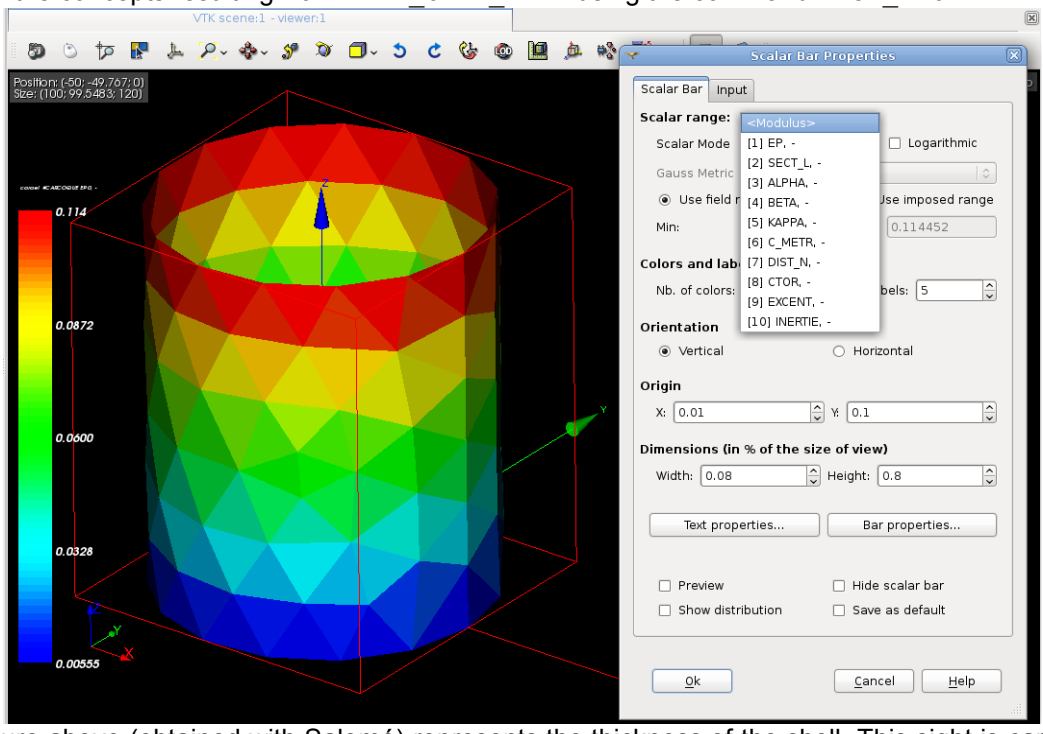
3 Modelization A

3.1 Characteristic of the modelization

Mesh of a cylinder, basic circular of radius $50\mathrm{m}$, height $120\mathrm{m}$.

3.2 Values tested

Test on the concepts resulting from AFFE_CARA_ELEM using the command TEST_FICHIER .



The figure above (obtained with Salomé) represents the thickness of the shell. This sight is carried out while post-treating med file obtained with the command IMPR_RESU/CONCEPT .

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