Operator **POST_COQUE**

1. **Goal**

To extract from the efforts or the deformations on the elements hulls at a given moment. These extractions take place on whole of points introduced by the user by their coordinates and their position into the thickness.

This order produces one table containing a line by point of postprocessing.
2 Syntax

[table] = POST_COQUE

# keyword simple
♦ RESULT = resu, / [evol_elas]
/ [evol_noli]

♦ / NUME_ORDRE = / nuor, [I]
/ INST = / inst, [R]

♦ CHAM = / 'EFFORT',
/ 'DEFORMATION',

# keyword factor
♦ COOR_POINT =
  _F ( ♦ COOR = (X, there, Z, H), [l_R]
  ),)

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3 Operands

3.1 Operand RESULT

◊ RESULT = resu,

Name of a concept result of the type evol_elas or evol_noli.

3.2 Operands NUME_ORDRE / INST

◊ / INST: moment of calculation of postprocessing

◊ / NUME_ORDRE: sequence number of the fields post-treaties

If nor INST nor NUME_ORDRE are not informed, by default one will treat the field corresponding to the first calculated moment.

3.3 Operand CHAM

◊ CHAM = /‘EFFORT’

/‘DEFORMATION’

‘EFFORT’: field EFGE_ELNO containing 8 components:

• 3 efforts of membrane \( N_{xx}, N_{yy}, N_{xy} \)

• 3 bending stresses \( M_{xx}, M_{yy}, M_{xy} \)

• the 2 efforts cutting-edges \( T_{x}, T_{y} \)

‘DEFORMATION’: field containing the 6 components of the tensor of the deformations.

The deformations in the thickness are calculated starting from the deformations generalized of average surface DEGE_ELNO \( \{ e_{xx}, e_{yy}, e_{xy}, k_{xx}, k_{yy}, k_{xy}, \gamma_{x}, \gamma_{y} \} \) where:

• \( \{ e_{xx}, e_{yy}, e_{xy} \} \) the deformations of membrane indicate,

• \( \{ k_{xx}, k_{yy}, k_{xy} \} \) the deformations of inflection indicate,

• \( \{ \gamma_{x}, \gamma_{y} \} \) the deformations associated with transverse shearings indicate.

The deformations in the thickness (tensor 3D) are obtained by the formulas:

• \( \varepsilon_{xx} = e_{xx} + h k_{xx} \)

• \( \varepsilon_{yy} = e_{yy} + h k_{yy} \)

• \( \varepsilon_{xy} = e_{xy} + h k_{xy} \)

• \( 2 \varepsilon_{xz} = \gamma_{x} \)

• \( 2 \varepsilon_{yz} = \gamma_{y} \)

3.4 Keyword factor COOR_POINT

◊ COOR_POINT = _F ( 

3.4.1 Operand COOR

◊ COOR= (X, there, Z, H,)

\( x, y, z \) : coordinates of the point, positioned on neutral fibre

\( h \) : position of the point in the thickness of the hull
If $\text{CHAM} = \text{"EFFORT"}$, $h$ is ignored, the efforts being calculated by integration of the constraints in the thickness. If the user returns one $h$ not no one one transmits a message of alarm to indicate that he is not taken into account.

### 4 Example

#### 4.1 Data

```plaintext
= POST_COQUE (RESULTAT=resu, CHAM=' EFFORT',
INST=0.5,
COOR_POINT= (_F (COOR= (.5, .5, 0. ,)),
_F (COOR= (.4, .4, 0. ,)),
_F (COOR= (.3, .3, 0. ,)),
_F (COOR= (.2, .2, 0. ,)),
_F (COOR= (.1, .1, 0. ,)),
))
IMPR_TABLE (TABLE=tab)
```

#### 4.2 Result

```plaintext
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```