Operator POST_DECOLLEMENT

Summary:

This operator of postprocessing calculates the surface of contact or taken off between the foundation raft and the ground of a calculation of interaction ground/structure (ISS), carried out with the operator DYNA_NON_LINE.

This operator produces a table of the type table_sdaster containing the percentage of separation at every moment.
1 Syntaxe

```
[table_sdaster] = POST_DECOLLEMENT (  
    ♦ RESULT = resu,                     [evol_noli]  
    ♦ NOM_CHAM = / field,                 [K8]       
        / 'DEPL',                         [DEFECT]  
    ♦ NOM_CMP = / comp,                   [K8]       
        / 'DZ',                           [DEFECT]  
    ♦ GROUP_MA = gma,                     [K8]       
    ◊ INFORMATION = / 1,                 [DEFECT]   
        / 2                              
  )
```

2 Operands

2.1 Operand RESULT

Simple keyword allowing to recover the structure of data result of the type `evol_noli` who contains inter alia the field of displacement on the surface of the foundation raft at the various moments.

2.2 Operand NOM_CHAM

Simple keyword allowing to collect the name of the field. It is by default about `DEPL`, the field of displacement.

2.3 Operand NOM_CMP

Simple keyword allowing to inform the name of the component of the field of displacement which highlights separation. By default, it acts of `DZ`.

2.4 Operand GROUP_MA

Simple keyword allowing to recover the group of surface meshes of the foundation raft.

2.5 Operand INFORMATION

```
◊ INFORMATION = /1,                    [DEFECT]  
    /2,                                 
```

Level of messages in the file `MESSAGE`.
If INFORMATION = 2, then the table produced by this operator is printed in the file `MESSAGE`.

Warning: The translation process used on this website is a "Machine Translation". It may be imprecise and inaccurate in whole or in part and is provided as a convenience.

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3 Principle of the macro-order

The operator POST\_DECOLEMENT carry out the following actions:

- calculate the entire surface of the foundation raft: she calls on the order POST\_ELEM/INTEGRALE to determine the surface of the group of meshes provided to the operand GROUP\_MA. This calculation requires the creation of a model 2D tiny room to the group of meshes GROUP\_MA and the creation of a unit field to the nodes of this group before being integrated.

- traverses the moments of the SD Résultat provided to the operand RESULT for:
  - there to extract the component NOM\_CMP field displacement NOM\_CHAM at the moment in progress,
  - to define a nodal field whose values are worth 0 with the negative values of NOM\_CMP field NOM\_CHAM, and 1 with the strictly positive values,
  - determine the surface of the foundation raft whose values of the preceding field are worth 1,
  - calculate the report of surfaces to obtain the percentage of separation foundation raft/ground.

If this operator were developed to calculate the surface of separation of a foundation raft on the ground in calculations of interaction ground-structure, it can be used at other ends, on fields other than a field of displacement.

4 Example

This example is extracted from the CAS-test zzzz200d: one is interested in the percentage of separation following axis Z of the group of mesh ‘SRADIER’ corresponding to the surface of the foundation raft.

TB=POST\_DECOLEMENT (RESULTAT=EVL, NOM\_CHAM=' DEPL', NOM\_CMP=' DZ', GROUP\_MA=' SRADIER', INFO=2)

An extract of the table below is presented TB:

<table>
<thead>
<tr>
<th>INST</th>
<th>%DECOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.120E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.125E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.130E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.135E+00</td>
<td>6.11108E-01</td>
</tr>
<tr>
<td>3.140E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.145E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.150E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.155E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.160E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.165E+00</td>
<td>6.11108E-01</td>
</tr>
<tr>
<td>3.170E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.175E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.180E+00</td>
<td>0.00000E+00</td>
</tr>
</tbody>
</table>