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,  
   ♦ NOM_CHAM = / field,  
   ♦ NOM_CMP = / comp,  
   ♦ GROUP_MA = gma,  
   ♦ INFORMATION = / 1,  
   ♦ INFORMATION = / 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,  
/ 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.
Copyright 2020 EDF R&D - Licensed under the terms of the GNU FDL (http://www.gnu.org/copyleft/fdl.html)
3 Principle of the macro-order

The operator POST_DECOLLEMENT 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_DECOLLEMENT (RESULTAT=EVOL,
  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>3.12000E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.12500E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.13000E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.13500E+00</td>
<td>6.11108E-01</td>
</tr>
<tr>
<td>3.14000E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.14500E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.15000E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.15500E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.16000E+00</td>
<td>2.40852E+00</td>
</tr>
<tr>
<td>3.16500E+00</td>
<td>6.11108E-01</td>
</tr>
<tr>
<td>3.17000E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.17500E+00</td>
<td>0.00000E+00</td>
</tr>
<tr>
<td>3.18000E+00</td>
<td>0.00000E+00</td>
</tr>
</tbody>
</table>