

Summarized operator

POST_DECOLLEMENT:

This operator of postprocessing calculates the contact surface or separated between erasing it and the soil of a computation of interaction soil/(ISS) structure, carried out with operator `DYNA_NON_LINE`.

This operator at every moment produces an array of the `table_sdaster` type containing the percentage of separation.

1 Syntax

```
[table_sdaster] = POST_DECOLLEMENT (  
  
    ♦ RESULTAT=      resu,                               [evol_noli]  
    ♦ NOM_CHAM=/      field,                             [K8]  
                    /"DEPL",                             [DEFAULT]  
    ♦ NOM_CMP=/       comp,                               [K8]  
                    /"DZ",                               [DEFAULT]  
    ♦ GROUP_MA=      gma,                                [K8]  
    ♦ INFO=/         1,                                  [DEFAULT]  
                    /2)
```

2 Operands

2.1 simple Operand

RESULTAT Key word allowing to result recover data structure of evol_noli type which contains inter alia the field of displacement on the surface of the basemat at various times.

2.2 Simple operand

NOM_CHAM Key word allowing to collect the name of the field. It acts owing to lack of "DEPL", the field of displacement.

2.3 Simple operand

NOM_CMP Key word allowing to inform the name of the component of the field of displacement which highlights separation. By default, it is about "DZ".

2.4 Simple operand

GROUP_MA Key word allowing to recover the mesh group surface of the basemat.

2.5 Operand INFO

```
♦INFO = /1, [DEFAULT]  
        /2,
```

Level of messages in the file "MESSAGE".

If INFO = 2, then the array produced by this operator is printed in the file "MESSAGE".

3 Principle of the macro-command

operator `POST_DECOLLEMENT` carries out the following actions:

calculate the entire surface of the basemat: she calls on command `POST_ELEM/INTEGRALE` to determine the surface of the mesh group provided to operand `GROUP_MA`. This computation requires the creation of a model 2D small-scale to mesh group `GROUP_MA` and the creation of a unit field to the nodes of this group before being integrated.

traverses times of the SD Result provided to operand `RESULTAT` for:

- there to extract component `NOM_CMP` from the field displacement `NOM_CHAM` at time in progress,
- to define a nodal field whose values are worth 0 with the negative values of `NOM_CMP` of the field `NOM_CHAM`, and 1 with the strictly positive values,
- determines the surface of the basemat whose values of the preceding field are worth 1,
- calculates the ratio of surfaces to obtain the percentage separation basemat/soil.

If this operator were developed to compute: the surface of separation a basemat on the soil in computations of interaction soil-structure, it can be used at other ends, on fields other than a field of displacement.

4 Example

This example is extracted from the `zzzz200d` benchmark: one is interested in the percentage of separation following the axis Z of the group of mesh "SRADIER" corresponding to surface of the basemat.

```
TB=POST_DECOLLEMENT (RESULTAT=EVOL,  
                      NOM_CHAM=' DEPL',  
                      NOM_CMP=' DZ',  
                      GROUP_MA=' SRADIER',  
                      INFO=2)
```

One presents below an extract of the array `TB` :

INST	%DECOL
3.12000E+00	0.00000E+00
3.12500E+00	0.00000E+00
3.13000E+00	0.00000E+00
3.13500E+00	6.11108E-01
3.14000E+00	2.40852E+00
3.14500E+00	2.40852E+00
3.15000E+00	2.40852E+00
3.15500E+00	2.40852E+00
3.16000E+00	2.40852E+00
3.16500E+00	6.11108E-01
3.17000E+00	0.00000E+00
3.17500E+00	0.00000E+00
3.18000E+00	0.00000E+00