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## Macro-command MACRO\_MISS\_3D

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### 1 Drank

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Throw by EXEC\_LOGICIEL the moduli of MISS3D.

The system around the computation software MISS3D (soil-structure interaction or soil-fluid-structure) consists of a modulus of generating preprocessing of data for MISS3D, the modulus of computation MISS3D itself and a modulus of postprocessing to make the results useable by *Code\_Aster*.

The call to this macro-command fits between the call to operators IMPR\_MACR\_ELEM format "MISS\_3D" [U7.04.33], IMPR\_MISS\_3D [U7.03.11] and LIRE\_MISS\_3D [U7.02.31].

## 2 Syntax

```

MACRO_MISS_3D (
    ♦OPTION      =_F      ( ♦/TOUT      = "OUI",
                          /      MODULE = "PRE_MISS",
                          /      "MISS_EVOL",
                          /      "MISS_IMPE",
                          )
    ♦ UNITE_IMPR_ASTER =/uimpast      ,      [I]
                          /25,
[DEFAULT]
    ♦ UNITE_OPTI_MISS =/uopmiss      ,      [I]
                          /26,
[DEFAULT]
    ♦ TABLE_SOL =tabsol      ,      [array]
    ♦ UNITE_MODELE_SOL =/umodsol      ,      [I]
                          /27,
[DEFAULT]
    ♦ UNITE_RESU_IMPE =/uresimp      ,      [I]
                          /30,
[DEFAULT]
    ♦ UNITE_RESU_FORC =/uresfor      ,      [I]
                          /0 ,
[DEFAULT]
    ♦PROJET      =projet      ,      [kN]
    ♦REPertoire  =repertoire ,      [kN]
    ♦ VERSION    =      "v1_4",
[DEFAULT]
    /      "v1_3",
    ♦ PARAMETRE =_F ( /♦   FREQ_MIN      =fmin ,      [R]
                      ♦   FREQ_MAX      =fmax ,      [R]
                      ♦   FREQ_PAS      =fpas ,      [R]
                      /♦   LFREQ_NB     =lfrnb ,      [I]
                      ♦   LFREQ_LISTE =lfrli ,      [I_R]
                      ♦   Z0           =z0 ,      [R]
                      ♦   SURF          = "NON"      [DEFAULT]
                      /"OUI"
                      ♦   RFIC          =rfic ,      [R]
                      ♦   DREF          =dref ,      [R]
                      ♦   ALGORITHME    = "REGU"
                      ~      "DEPL"
                      ♦   OFFSET_MAX    =offmax ,      [R]
                      ♦   OFFSET_NB     =offnb ,      [I]
                      /♦   SPEC_MAX     =spemax ,      [R]
                      ♦   SPEC_NB       =spenb ,      [I]
                      ♦   ISSF          = /"NON"      [DEFAULT]
                      /"OUI"
                      ♦   FICH_RESU_IMPE =frimpe,      [kN]
                      ♦   FICH_RESU_FORC =frforc,      [kN]

```

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.

```
◇ FICH_POST_TRAI =fpostr, [kN]
◇ /CONTR_NB =lcontnb , [I]
    CONTR_LISTE =lcontli, [l_R]
◇ DIRE_ONDE =ldirond, [l_R]
◇ TYPE=/ "BINAIRE"
    / "ASCII" [DEFAULT]
```

```
)
)
```

## 3 Operands

### 3.1 Key word **OPTION**

This key word makes it possible to indicate the moduli which one will call in the system around MISS3D.

#### 3.1.1 Operand **TOUT**

◆/TOUT = "OUI"

This operand indicates that one will call the complete sequence of system MISS3D: modulate generating preprocessing of data for MISS3D, modulus of computation MISS3D and modulus of postprocessing to make the results useable by *Code\_Aster*.

#### 3.1.2 Operand **MODULE**

```
/MODULE = "PRE_MISS"  
         / "MISS_EVOL"  
         / "MISS_IMPE"
```

modulus "PRE\_MISS" indicates that one calls only the modulus generating preprocessing of data for MISS3D.

Modulus "MISS\_EVOL" indicates that one calls only the modulus of computation MISS3D then the modulus of postprocessing to make the results useable by *Code\_Aster*. This modulus comes in complement from the precedent.

Modulus "MISS\_IMPE" indicates that one calculates only the impedances of soil per frequency.

### 3.2 Operand **UNITE\_IMPR\_ASTER**

◇UNITE\_IMPR\_ASTER = uimpast

logical Number of unit on which one recovers the file of *Code\_Aster*-MISS3D interface filled by operators IMPR\_MACR\_ELEM format "MISS\_3D" [U7.04.33] and IMPR\_MISS\_3D [U7.03.11]. The value by default is 25.

### 3.3 Operand **UNITE\_OPTI\_MISS**

◇ UNITE\_OPTI\_MISS = uopmis

logical Number of unit of the file containing of the specific data of computation for MISS3D: type of interface (ISS or ISFS), type of foundation, frequencies of computation.

The value by default is 26.

### 3.4 Operands **TABLE\_SOL/UNITE\_MODELE\_SOL**

the data of description of the stratifications of soil are provided in the form of an array produced by the command `DEFI_SOL_MISS`.

Nevertheless, for reasons of accounting, there remains possible to use a file of soil builds before. One uses key word `UNITE_MODELE_SOL` then only.

◇TABLE\_SOL = tabsol

Characteristic of the soil exits of `DEFI_SOL_MISS`. In this case, one can use key word `UNITE_MODELE_SOL` all the same to recover the file produced from this array.

◇UNITE\_MODELE\_SOL = umodsol

logical Number of unit of the file containing the data of description of the stratifications of soil and the spectral parameters of computation of the Green's functions.  
The value by default is 27.

## 3.5 Operand UNITE\_RESU\_IMPE

◇ UNITE\_RESU\_IMPE = uresimp

logical Number of unit of the file containing the impedances of soil per frequency results of MISS3D. This file is filled only if one calls on modulus "MISS\_IMPE".  
The value by default is 30.

## 3.6 Operand UNITE\_RESU\_FORC

◇ UNITE\_RESU\_FORC = uresfor

logical Number of unit of the file containing the seismic forces of soil per frequency results of MISS3D. This file is not filled, and provided that the operand is indicated, that if one calls on modulus "MISS\_IMPE".

## 3.7 Operands PROJET/REPertoire

One creates by the operand `directory` a directory entered by his complete path on the processing machine to introduce there the files given and results of MISS3D. These files will start with a radical name - given by operand `PROJET`.

## 3.8 Operand VERSION

◇ VERSION = "V1\_3"  
/ "V1\_4"

Name of the version of MISS3D. By default, one uses the version in operating, that is to say V1\_4.

## 3.9 Key word PARAMETRE

This key word makes it possible to enter the parameters of the file indicated by operand `UNITE_OPTI_MISS`, like entering the parameters of discretization spectral and spatial which supplement the data of description of the soil in MISS3D in the file indicated by operand `UNITE_MODELE_SOL`. If key word `PARAMETRE` is absent, it will imperatively be necessary to have in entry a file of options given by operand `UNITE_OPTI_MISS`. If not, if this key word is present, the file of options given by operand `UNITE_OPTI_MISS` will be filled in output.

### 3.9.1 Operands FREQ\_MIN, FREQ\_MAX, FREQ\_PAS

```
/FREQ_MIN =fmin ,  
  FREQ_MAX =fmax ,  
  FREQ_PAS =fpas ,
```

These operands provide the limits and the step of frequency of computation by MISS3D.

### 3.9.2 Operands LFREQ\_NB, LFREQ\_LISTE

```
/LFREQ_NB =lfrnb ,  
  LFREQ_LISTE =lfrli ,
```

These operands provide the number and the list of the frequencies of computation by MISS3D. These data are excluded with the preceding ones.

## 3.9.3 Operand z0

◇z0 =z0 ,  
This operand gives the dimension of the free face of the soil.

## 3.9.4 Operand SURF

◇ SURF = "OUI"  
~ "NON" [DEFAULT]  
This operand indicates if one has or not a shallow foundation.

## 3.9.5 Operand ISSF

◇ISSF = "OUI"  
"NON" [DEFAULT]  
This operand indicates if one has or not a field of fluid and thus also of the interfaces fluid-structure and soil-fluid indicated by operands GROUP\_MA\_FLU\_STR and GROUP\_MA\_FLU\_SOL in command IMPR\_MACR\_ELEM [U7.04.33].

## 3.9.6 Operand RFIC

◇RFIC =rfic ,  
This operand indicates the value of the homogeneous parameter to a characteristic distance necessary to eliminate fictitious resonances.

## 3.9.7 Operand FICH\_RESU\_IMPE

◇FICH\_RESU\_IMPE =frimpe ,  
This operand indicates the name of the file of impedances which one can thus obtain without calling the specific modulus of computation of impedances and seismic forces MISS\_IMPE , when one calls for example the modulus of complete computation: TOUT = "YES" .

## 3.9.8 Operand FICH\_RESU\_FORC

◇ FICH\_RESU\_FORC =frforc ,  
This operand indicates the name of the file of seismic forces which one can thus obtain without calling the specific modulus of computation of impedances and seismic forces MISS\_IMPE , when one calls for example the modulus of complete computation: TOUT = "YES" .

## 3.9.9 Operand FICH\_POST\_TRAI

◇FICH\_POST\_TRAI =fpostr ,  
This operand indicates the name of the file containing of the instructions of postprocessing supplementing the data file of MISS3D called by the modulus of complete computation: TOUT = "YES" .

## 3.9.10 Operands CONTR\_NB, CONTR\_LISTE

◇ /CONTR\_NB =lcontnb ,  
CONTR\_LISTE =lcontli ,  
These operands provide the number and the list of the coordinates of check-points of the soil field where one exploits results by data MISS3D of postprocessing contained in the file indicated by operand FICH\_POST\_TRAI.

## 3.9.11 Operand DREF

◇DREF =dref ,

This operand indicates the value of the homogeneous parameter to a characteristic distance which makes it possible null to eliminate the vertical slope from the impedance for a frequency.

### 3.9.12 Operand ALGORITHME

```
◇ALGORITHME=/          "REGU"  
~          "DEPL"          [DEFAULT]
```

This operand indicates for the computation of the impedances if one uses the algorithm of regularization for nonsurface foundations or another algorithm for shallow foundations.

## 3.9.13 Operands OFFSET\_MAX, OFFSET\_NB

- ◆ OFFSET\_MAX =offmax ,
- ◆ OFFSET\_NB =offnb ,

These operands provide the maximum limit and the spatial discretization division for the computation of the impedances by MISS3D starting from the data of soil.

## 3.9.14 Operands SPEC\_MAX, SPEC\_NB

- ◆ /SPEC\_MAX =spemax ,
- SPEC\_NB =spenb ,

These operands provide the maximum limit and the spectral discretization division for the computation of the impedances by MISS3D starting from the data of soil.

If they are not indicated, a spectral discretization will be calculated automatically by MISS3D.

## 3.9.15 Operand TYPE

- ◆ TYPE=/ "BINAIRE"  
   "ASCII" [DEFAULT]

This operand makes it possible to store the impedances calculated in a binary file of format. If one wants to exploit them by the command LIRE\_IMPE\_MISS [U7.02.32], this operand will have then to be informed also there.

## 3.9.16 Operand DIRE\_ONDE

- ◆ DIRE\_ONDE =ldirond ,

This operand indicates L has list of 3 real coordinates giving the direction within the space of the wave of pressure P vertical per default . This operand is associated with the presence in the model specific discrete elements corresponding to check-points where one imposes a signal on the first of them. An example is provided in the case test ZZZZ108B.