Operator MODI_MODELE

1 Drank

This operator allows to the finite elements redefine the mode of distribution of a model for parallel computation.

The partition of the finite elements is stored in the SD_MODELE (preserved on the global database). When one is in poursuite, that implies to continue with the same number of processors. What is not inevitably desirable. To circumvent this difficulty, command MODI_MODELE makes it possible to redefine the partition of the model.

Modify data structure of the model type.

2 Syntax

```
Mo   [model] = MODI_MODELE   (

    ♦MODELE          =  Mo,
    [model]

    ◊  PARTITION =  _F (

          ◊ PARALLELISME =  /"GROUP_ELEM"                    [DEFAULT]
                            /"MAIL_CONTIGU"
                                  ◊ CHARGE_PROC0_MA =/100 [DEFAULT]
                                                     /pct
                            /"MAIL_DISPERSE"
                                  ◊ CHARGE_PROC0_MA =/100 [DEFAULT]
                                                     /pct
                            /"SOUS_DOMAINE"
                                  ♦ PARTITION       =  share [sd_feti]
                                  ◊ CHARGE_PROC0_SD =/0   [DEFAULT]
                                                     /I
                            /"CENTRALISE"

           )
     )
```

3 Operands

3.1 MODEL Operand

♦MODELE = Mo

Name of the model which one seeks to modify.

3.2 Key word PARTITION

◊ PARTITION

This key word as well as operand PARALLELISME are described in the documentation of AFFE_MODELE (U4.41.01).

Notice important:

It is advised to begin the command files of the POURSUITE type with MODI_MODELE (reuse=MO, MODELE=MO) . This command will create a new partition adapted to the number of processors available.

4 Example

This example illustrates several modifications of the mode of partition of the model (extracted from mumps05a):

```
debut ()
…
# PARALLELISME CENTRALISE (only the Mumps solver will be treated in
parallel)
MODI_MODELE (reuse=MO, MODELE=MO,
             PARTITION=_F (PARALLELISME=' CENTRALIZE'))

MECAC=MECA_STATIQUE (MODELE=MO,
                     SOLVEUR=_F (METHODE=' MUMPS',
                                 …
                                 )
                     …
                     )
…
# DISTRIBUTION OF MESHES DISPERSEES, BALANCING OF CHARGE AUTOMATIQUE
MODI_MODELE (reuse=MO, MODELE=MO,
             PARTITION=_F (PARALLELISME=' MAIL_DISPERSE',
                           CHARGE_PROC0_MA=0))

MECAD1=MECA_STATIQUE (MODELE=MO,
                      SOLVEUR=_F (METHODE=' MUMPS',
                                  …
                                  )
                      …
               )
…
# DISTRIBUTION OF MESHES DISPERSEES, BALANCING OF CHARGE Forced FOR
# TO RELIEVE PROCESSOR LE 0
MODI_MODELE (reuse=MO, MODELE=MO,
             PARTITION=_F (PARALLELISME=' MAIL_DISPERSE',
                           CHARGE_PROC0_MA=70))

MECAD2=MECA_STATIQUE (MODELE=MO,
                      SOLVEUR=_F (METHODE=' MUMPS',
                                  …
                                  )
                      …
               )
…
# PARALLELISME PAR SUBDOMAINS, BALANCING OF CHARGE FORCE TO RELIEVE # PROC 0
LE

SDFETI = DEFI_PART_FETI (MODELE=MO,…)

MODI_MODELE (reuse=MO, MODELE=MO,
             PARTITION=_F (PARALLELISME=' SOUS_DOMAINE',
                           PARTITION = SDFETI,
                           CHARGE_PROC0_SD=2))

MECAD2=MECA_STATIQUE (MODELE=MO,
                      SOLVEUR=_F (METHODE=' MUMPS',
                                  …  )
                      …  )
```

```
...
FIN ()
```