Code_Aster

Version default

Titre : Opérateur LIRE_MAILLAGE (FORMAT='MED')
Responsable : Mathieu COURTOIS

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Clé : U7.01.21   Révision : 6308

Operator `LIRE_MAILLAGE (FORMAT=' MED')`

1   Drank

Lira a mesh in a file with med format. The key words are extracted of the command `LIRE_MAILLAGE` [U4.21.01]. As well as in a file with format "ASTER", the reading of a mesh in a file with med format, makes it possible to constitute a concept of mesh type .

MED (Modelization and Data exchanges) is a neutral format of data developed by EDF R & D and the French atomic energy agency for the data exchanges between computer codes. The data which one can exchange according to this format are the meshes and the fields of results: fields at nodes, fields by element. The MED files are binary and portable files (leaning on the library HDF, Hierarchical Dated Format). The reading of one med file by `LIRE_MAILLAGE`, makes it possible to recover a mesh produced by any other code able to create one med file.

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2   Syntax

```
my   [mesh] = LIRE_MAILLAGE (

                ◊UNITE=/20                         ,
[DEFAULT]
                                    /i ,                      [I]

                ◊FORMAT=/              "MED",

                ◊NOM_MED=nomamd                   ,          [TXM]

                ◊INFO_MED=/1            ,
[DEFAULT]
                                    /2 ,

                ◊RENOMME=          (_F (
                    ♦NOM_MED=nom-gr-med        ,        [TXM]
                    ♦NOM=nom-gr                ,          [TXM]
                     ),),

                ◊INFO=/1               ,
[DEFAULT]
                                    /2 ,

                     )
```

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3   Operands

3.1   Operand UNITE

◊UNITE=i

logical Number of unit of the file mesh to med format. The value by default is 20 which is used for the Aster format .

Caution:

Astk positions to 21 the number associated with mesh file a MED (mmed type). It is necessary to take care of coherence.

3.2   Operand FORMAT

◊FORMAT=/   "MED"

operand FORMAT makes it possible to specify the format of the file to reading. Format "MED" means with procedure LIRE_MAILLAGE that the mesh with reading is in a file with med format.

As well as for a file with the Aster format, the data read are:

- the list of the nodes   number, name, coordinated,
- the list of meshes   the number, name, type, name of the nodes,
- the list of the number   nodes groups, name, many nodes, names of the nodes,
- the list of the number   mesh groups, name, number of meshes, names of meshes.

Note :

In one med file, there is partition of the nodes and meshes according to the groups. A partition corresponds to a family MED. In one med file, the groups are distributed within the families: one thus finds there families of nodes and families of meshes. During the reading of one med file, the lists of the nodes groups and meshes are made up with the flight by decomposition of the families.

3.3   Operand NOM_MED

◊NOM_MED=nomamd

One med file can contain several meshes. Each mesh is located by its name. To read a mesh in particular, it is necessary to provide its name in argument of this key word NOM_MED. In the absence of key word, the first mesh found in the file will be read. It is the comfortable solution when it is known that the file contains only one mesh.

3.4   Operand INFO_MED

◊INFO_MED=/1   [DEFAULT]
           /2

Level of printing in the file "MESSAGE". This operand supplements operand INFO LIRE_MAILLAGE of the command and provides information specific to med format.

INFO_MED: 1   no printing
INFO_MED: 2   printing in the file "MESSAGE" :

correspondence enters the families of the MED file and the nodes groups and of meshes.

Note:

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Does it frequently happen that the name of the mesh printed by the med library comprises a nonASCII character what can corrupt the diagnosis displayed by the follow-up of the jobs of astk (diagnosis "? ").

3.5   Operand RENOMME

With med format , the names of groups of mesh groups or nodes can contain up to 32 characters. However, with format "ASTER", the names of the groups are restricted with 8 characters.

The factor key word RENAMED allows to avoid the potential conflicts if one notes oneself to truncate the names with 8 characters:
- NOM_MED is the name of group MED to re-elect
- NOM is the name (maximum 8 characters) which it will have in the Aster mesh .

3.6   Operand INFO

Level of printing.

If: INFO : 2 :

- titrate mesh,
- many nodes,
- number of meshes of each type,
- many nodes groups, names of the groups,
- many mesh groups, names of the groups,
- printing of all the elements of each list:

list nodes	number, name, coordinates,
list of meshes	the number, name, type, name of the nodes,
lists nodes groups	number, name, many nodes, names of the nodes,
lists mesh groups	number, name, number of meshes, names of meshes.

4   Is example

```
MAILLAGE = LIRE_MAILLAGE
    (
        FORMAT=        "MED",
        UNITE=         21,
        NOM_MED=       "MAILLAGE_COMMUN",
        INFO_MED=      2)
```

5   Which the interest of med format?

MED is a format of file for the data exchanges between codes. Any computer code having an interface MED is able to exchange information with any other code having this same interface.

The reading of one med file by LIRE_MAILLAGE makes it possible to recover a mesh produced by another code interfaced with MED. This format of data is in particular used for the exchanges of mesh files and of results between ASTER and the platform SALOME (for the pre one/postprocessing) or the tools of refinement of mesh HOMARD.

One can find documentation on the format of data MED on the site code-aster.org, page Produced.