

Operator LIRE_PLEXUS

1 Drank

Lira the results file with the format IDEAS produces by software EUROPLEXUS.

Allows to recover a transitory field of fluid pressure in a pipework calculated using a telegraphic hydrodynamic model (plane waves) of PLEXUS. The constant field of pressure definite by element in computation EUROPLEXUS is project on a mechanical mesh corresponding of *the Code_Aster* using the elements shells (DKT or COQUE_3D) and/or PIPE.

Product a concept of the evol_char type.

2 Syntax

```
presplex [evol_char] = LIRE_PLEXUS

( ◇ UNITE=/                                iunit ,                [I]
                                /19 ,
[DEFAULT]
                                ◇
                                [DEFAULT]
                                FORMAT=' IDEAS',
                                ◇ MAIL_PLEXUS=                mplexus ,                [MESH]
                                ◇ MAILLAGE=                    master ,                [MESH]
                                ◇ MODELE=                      modaster ,                [MODEL]
                                ◇ /TOUT_ORDRE = ' OUI',
                                /NUME_ORDRE = lordre ,                [L_I]
                                /LIST_ORDRE = lenti ,                [LISTIS]
                                /INST = linst ,                [L_R]
                                /LIST_INST = linst ,                [LISTR8]
                                ◇ | PRECISION=/                prec ,                [R]
                                /1.D-6 ,
[DEFAULT]
                                | CRITERE=/                "RELATIF",                [DEFAULT]
                                / "ABSOLU",
                                ◇ TITER=                      l_titre ,                [L_KN]
                                )
```

3 Operands

3.1 Operands **FORMAT / UNITE**

- ◇ `FORMAT = "IDEAS"`
Reading of the file to the format IDEAS.
- ◇ `UNITE = iunit`
logical Number of unit of the file to the universal format IDEAS, by default 19.

3.2 Operand **MAIL_PLEXUS**

- ◆ `telegraphic MAIL_PLEXUS =`
mplexus hydrodynamic Mesh of EUROPLEXUS on which one reads the field of pressure function of time.

3.3 Operand **MAILLAGE**

- ◆ `MAILLAGE = master`
Mesh for the computation of *Code_Aster* on which one projects the field of pressure read.

3.4 Operand **MODELS**

- ◆ `MODELS = modaster`
Name of the model where definite affected ones on the mesh of *Code_Aster* *the are element types finished*.

3.5 Operands **TOUT_ORDRE / NUME_ORDRE / LIST_ORDRE / INST / LIST_INST / accuracy / CRITERE**

Selection in a data structure `result` [U4.71.00].

3.6 Operand **TITER**

- ◇ `TITER = l_titre`
Title which one wants to give to result [U4.03.01].

4 Example

4.1 examples: reading of a mesh EUROPLEXUS

One reads on the universal file IDEAS (logical unit 19) the telegraphic hydrodynamic mesh of EUROPLEXUS and one transforms it with the format of *Code_Aster* written on the unit 22. The mesh EUROPLEXUS with the format of *Code_Aster* then is read again and placed in the concept of mesh type .

```
PRE_IDEAS (UNITE_IDEAS=19, UNITE_MALLAGE=22)
mplexus = LIRE_MALLAGE ( UNITE=22,)
```

4.2 Example: creation of result of type "evol_char"

One reads on the universal file IDEAS the fluid field of pressure function of time. This field, definite on the telegraphic hydrodynamic mesh of EUROPLEXUS (with the format of *Code_Aster*), is then project on the mechanical mesh of *Code_Aster* for all times of definition.

```
presplex = LIRE_PLEXUS ( UNITE=19
                        ,
                        FORMAT=' IDEAS',
                        MAIL_PLEXUS=    mplexus ,
                        MAILLAGE=      master degree ,
                        MODELE=        modaster ,
                        TOUT_ORDRE=' OUI',
                        )
```

4.3 Example: use of result of type "evol_char"

the concept "evol_char" previously definite is used under key word EVOL_CHAR to manufacture a loading.

```
tank = AFFE_CHAR_MECA ( MODELE=      modaster ,
                        ...
                        EVOL_CHAR=    presplex ,
                        )
```

Of other examples of use of operator LIRE_PLEXUS can be consulted in the command files of the benchmark ZZZZ112, modelizations A, B, C [V1.01.112].