

## Selection of one or more fields in Data format a RESULTAT

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### 1 result

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Drank Description of the key words of access to the fields of variables of a data structure of the type.

To extract a field of variables in a result concept one has two types of indicators: symbolic names and the variable of access.

This document describes all the key words giving access the fields of variables contained in a data structure `result` and used in commands `CALC_CHAMP` [U4.81.04], `CALC_G` [U4.82.03], `COMB_SISM_MODAL` [U4.84.01], `EXTR_MODE` [U4.52.12], `IMPR_GENE` [U4.91.02], `IMPR_RESU` [U4.91.01], `LIRE_RESU` [U7.02.01], `POST_ELEM` [U4.81.22], `POST_RCCM` [U4.83.11], `POST_RELEVE_T` [U4.81.21], `RECU_FONCTION` [U4.32.03], `TEST_RESU` [U4.92.01].

## 2 Syntax

```

# Extraction of a field of variables of resu

[DEFAULT]          ◇/TOUT_CHAM=/                "OUI",
                    /"NON",
                    /NOM_CHAM                =L_NOMSYMB ,                [l_K16]
                    ◇/TOUT_ORDRE=' OUI',

[DEFAULT]
                    //NUME_ORDRE              =LORDRE ,                [l_I]
                    /LIST_ORDRE              =LENTI ,

[listis]
                    /TOUT_MODE                = ' OUI',
                    //NUME_MODE              =LMODE ,

[l_I]
                    /LIST_MODE              =LENTI ,

[listis]
                    /NOEUD_CMP              =LNOECMP ,

[l_K16]
                    /NOM_CAS                =NCAS ,                [K16]
                    /ANGLE                  =LANGL ,                [l_R]
                    //FREQ                  =LFREQ ,                [l_R]
                    /LIST_FREQ              =LREEL ,

[listr8]
                    //TOUT_INST              = ' OUI',
                    /INST                    =LINST ,                [l_R]
                    /LIST_INST              =LREEL ,

[listr8]
                    ◇/CRITERE=' RELATIF'

[DEFAULT]
                    ◇PRECISION=/prec                [R]
                    /1.0E-3                or 1.0D-6, *

[DEFAULT]
                    /CRITERE                = ' ABSOLU'
                    ◆PRECISION=prec                [R]

```

\* This default value depends on data structure of the type result which is exploited.

- PREC = 10<sup>-3</sup> for the following commands: TEST\_RESU, EXTR\_MODE, COMB\_SISM\_MODAL,
- PREC = 10<sup>-6</sup> for the following commands: CALC\_CHAMP, CALC\_G, IMPR\_GENE, IMPR\_RESU, LIRE\_RESU, POST\_ELEM, POST\_RCCM, POST\_RELEVE\_T, POST\_RCCM.

The value by default of 1.0D-6 for the relative accuracy was selected very small to avoid selecting values very close obtained during for example automatic recutting to time step.

The key word accuracy becomes compulsory (not default value) if CRITERE=' ABSOLU'.

## 3 Extraction of a field of variables

### 3.1 Choice of symbolic names: Operands TOUT\_CHAM / NOM\_CHAM

```
/TOUT_CHAM = "OUI" [DEFAULT]
```

This key word indicates that one wants to reach (X) the field (S) of quantities actually calculated (S) for result concept RESU. If operand NOM\_CHAM is not used, this operand is taken by default with "OUI".

The possible fields are described in specific documentations of the result concepts .

Example: the possible fields are for result of the evol\_elas type [U4.51.01]:

```
DEPL  
SIGM_ELNO  
EPSI_ELNO  
.....
```

```
/NOM_CHAM =L_NOMSYMB [1_K16]
```

a result concept can be composed of several fields of variables of type field at nodes or field by element. This key word makes it possible to choose a list of symbolic names of field among all possible (confer TOUT\_CHAM).

**Note:**

|Key keys TOUT\_CHAM and NOM\_CHAM cannot be used simultaneously.

### 3.2 Choice of the sequence numbers: Operands TOUT\_ORDRE/NUMÉRIQUE\_ORDRE/LISTE\_ORDRE

```
/TOUT_ORDRE = ' OUI ' [DEFAULT]
```

This key word gives access (X) the field (S) for all the already calculated sequence numbers.

Example:

- all times for result of evol\_ type...
- all eigen modes for result of mode\_meca type.

```
/NUME_ORDRE : LORDRE [1_I]
```

This key word makes it possible to reach only (X) the field (S) corresponding a list of sequence numbers LORDRE (plural is employed here for the case where one chose TOUT\_CHAM = "OUI").

Example: RESU = (\_F (RESULTAT= RESU, TOUT\_CHAM = "YES", NUME\_ORDRE= (3, 6))

One will reach all the computed fields with the third and the sixth sequence number.

```
/LIST_ORDRE : LENTI [listis]
```

key word LIST\_ORDRE by the operator indicates that one wants to reach (X) the field (S) corresponding with a list of sequence numbers LENTI, definite DEFI\_LIST\_ENTI [U4.34.02] (LENTI is thus a concept of the listis type).

Example:

```
LISTE =DEFI_LISTE_ENTI ( VALE = (3, 6))
```

```
RESU = (_F (RESULTAT= RESU, TOUT_CHAM = "YES", LISTE_ORDRE=  
LISTE)
```

One will reach all the computed fields with the third and the sixth sequence number.

## 3.3 Other ways of choosing the sequence numbers: variables of access

### 3.3.1 Operands TOUT\_MODE/NUMÉRIQUE\_MODE/LISTE\_MODE/NOEUD\_CMP

```
/TOUT_MODE = ' OUI '
```

This key word indicates that one wants to reach all the fields for all the already calculated numbers of mode.

It is licit only for the types of result concept (statics mode or dynamics) having for variable of access NUME\_MODE.

```
/NUME_MODE =LMODE [l_I]
```

This key word indicates that one wants to reach (X) the field (S) corresponding with a list of numbers of mode LMODE. These numbers are those affected by the calculation algorithm.

It is licit only for the types of result concept (statics mode or dynamics) having for variable of access NUME\_MODE.

Example: RESU = (\_F (RESULTAT= RESU, TOUT\_CHAM = `OUI', NUME\_MODE=  
(3,6))

One will reach all the fields corresponding to the third and the sixth mode.

```
/LIST_MODE =LENTI [listis]
```

key word LIST\_MODE by the operator indicates that one wants to reach (X) the field (S) corresponding with a list of numbers of modes LENTI, definite DEFI\_LIST\_ENTI [U4.34.02] (LENTI is thus a concept of the listis type). It is valid only for the types of result concept having for variable of access NUME\_MODE.

Example:

```
LISTE =DEFI_LISTE_ENTI ( VALE = (3,6))  
RESU = (_F (RESULTAT= RESU, TOUT_CHAM = "YES", LISTE_MODE= LISTE)
```

One will reach all the fields corresponding to the third and the sixth mode.

```
/NOEUD_CMP =LNOECMP [l_K16]
```

the results of the base\_modale type or mode\_stat have as a variable of access NOEUD\_CMP. The value of these variables of access is obtained by concaténant the name of the node and the name of the component. To specify a value of the variable of access, the user will give two names, the name of the followed node by the name of the component. A list of  $n$  variables of access will be introduced by the data of  $n$  couples (name of the node, name of the component).

A list of values of this variable of access can be provided by the list (*couple1*, *couple2*, ...).

### 3.3.2 Operand NOM\_CAS

```
/NOM_CAS =NCAS [K16]
```

key word NOM\_CAS indicates that one wants to reach the field corresponding to a case of loading. It is licit only for the result concepts of the mult\_elas type which have as a variable of accesses NOM\_CAS and produced by MACRO\_ELAS\_MULT [U4.51.02].

### 3.3.3 Operand ANGLE

```
/ANGLE =LANGL [1_R]
```

key word `ANGLE` indicates that one wants to reach (X) the field (S) recombined (S) for a list of angles. It is licit only for the result concepts of the type `comb_fourier` which have as a variable of access `ANGLE` and produced by the operator `COMB_FOURIER` [U4.83.31].

### 3.3.4 Operands `FREQ / LIST_FREQ`

These operands are licit only for the types of result concept having for variable of access `FREQ` (`mode_meca`, `dyna_harm`,...).

```
/FREQ =LFREQ [1_R]
```

key word `FREQ` indicates that one wants to reach (X) the field (S) corresponding with a list of frequencies `LFREQ`.

Example: `RESU = (_F (RESULTAT= RESU, TOUT_CHAM = `OUI', FREQ= (3.52, 7.37))`

One will reach all the fields corresponding to the frequencies 3.52 and 7.37 .

```
/LIST_FREQ =LREEL [listr8]
```

key word `LIST_FREQ` by the operator indicates that one wants to reach (X) the field (S) corresponding with a list of frequencies `LREEL`, definite `DEFI_LIST_REEL` (`LREEL` is thus a concept of the `listr8` type).

Example:

```
LISTE =DEFI_LISTE_REEL ( VALE = (3.52, 7.37))  
RESU = (_F (RESULTAT= RESU, TOUT_CHAM = "YES", LIST_FREQ =  
LISTE)
```

One will reach all the fields corresponding to the frequencies 3.52 and 7.37 .

### 3.3.5 Operands `TOUT_INST / INSTS / LIST_INST`

These operands are licit only for the types of result concept of temporal evolution having for variables of access `INST` (`evol_noli`, `evol_ther`, `dyna_trans`,...).

```
/TOUT_INST = ' OUI'
```

This key word indicates that one wants to reach all the fields for all already calculated times.

```
/INST =LINST [1_R]
```

the key word `INST` indicates that one wants to reach (X) the field (S) corresponding with a list of times `LINST`.

Example: `RESU = (_F (RESULTAT= RESU, TOUT_CHAM = "YES", INST= (3. , 7.))`

One will reach all the fields corresponding to times 3. and 7. .

```
/LIST_INST =LREEL [listr8]
```

key word `LIST_INST` by the operator indicates that one wants to reach (X) the field (S) corresponding with a list of times `LREEL`, definite `DEFI_LIST_REEL` (`LREEL` is thus a concept of the `listr8` type).

Example:

```
LISTE =DEFI_LISTE_REEL ( VALE = (3. , 7.))  
RESU = (_F (RESULTAT= RESU, TOUT_CHAM = "YES", LISTE_INST= LISTE)
```

One will reach all the fields corresponding to times 3. and 7. .

### 3.3.6 Operands accuracy / CRITERE

These operands make it possible to refine the access by real variables of access of time or the frequency.

```
accuracy =      prec          [R]  
              /1.0D-3 or 1.0D-6 [DEFAULT]
```

This key word makes it possible to indicate that one searches all the fields of which time (respectively the frequency) is in the interval "inst ± prec" (confer CRITERE).

By default prec = 1.0D-3 or prec = 1.0D-6 (according to the commands).

If CRITERE=' ABSOLU', it does not have there a value by default.

```
CRITERE      =  "RELATIF"      [DEFAULT]  
              /"ABSOLU"
```

"RELATIF" : the interval of search is: [inst (1 - prec), inst (1 + prec)]

"ABSOLU" : the interval of search is: [inst - prec, inst + prec].