

Structure of data FORMAT_IDEAS

Summary:

One describes the structure of data here `FORMAT_IDEAS` . This SD is used during the execution of the order `LIRE_RESU` , it makes it possible to locate and extract from the universal file “ `unv ` D' IDEAS` , results desired by the user.

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1 General information

The user defined in the order LIRE_RESU information (TYPE_RESU, NOM_CHAMP, INST,...) who characterize the result which it wishes to extract from the universal file D 'IDEAS . This information is not exploitable directly, it is necessary to convert them with the format of the "universal" file.

The structure of data FORMAT_IDEAS contains all the search criteria to the "universal" format, allowing to extract the results desired by the user. If the user does not specify in the syntax of the order LIRE_RESU , the keyword factor FORMAT_IDEAS , the structure of data FORMAT_IDEAS by default [U4.26.03] is initialized. In the contrary case, the user defines his own search criteria.

2 Tree structure

```
FORMAT_IDEAS (K16) ::= record
  ♦ \.FID_NOM' : OJB S V K16 Length = nbnoch
  ♦ \.FID_NUM' : OJB S V I Length = nbnoch
  ♦ \.FID_PAR' : OJB S V I Length = nbnoch*800
  ♦ \.FID_LOC' : OJB S V I Length = nbnoch*10
  ♦ \.FID_CMP' : OJB S V K8 Length = nbnoch*1000
  ♦ \.FID_NBC' : OJB S V I Length = nbnoch
```

3 Contents of the objects

Convention : nbnoch = many fields to reading

3.1 '.FID_NOM' : S V K16

This object contains the name of the fields to reading.

For $i=1$, nbnoch

→ v (I) : name of I^{ème} field with reading

ex : 'DEPL' , 'QUICKLY' , ... , 'SIEF_ELNO '

3.2 '.FID_NUM' : S V I

This object contains for each field to reading the number of the associated dataset.

For $i=1$, nbnoch

→ v (I) : number of the dataset associated with I^{ème} field with reading

ex : 55, 57, 2414

3.3 '.FID_PAR': S V I

This object contains for each field to reading the characteristics of the heading of the required dataset. This heading is composed to the maximum of 20 "records" made up of 40 "fields" each one.

V (1)	1 ^{er} field of record 1 of field 1
...	
V (48)	8 ^{ème} field of record 2 of field 1
...	
V (800)	40 ^{ème} field of record 20 of field 1
...	
V (6401)	1 ^{er} field of record 1 of field 9
...	
V (7200)	40 ^{ème} field of record 20 of field 9
...	
v ((ich-1) *800+ (irec-1) *40+ifield)	value associated with the field ich located at the recording irec and for the field ifield

3.4 '.FID_LOC': S V I

This object contains for each field, 5 couples of whole values making it possible to locate inside the dataset, the sequence number, the moment, the frequency... the first value indicates the n° of the recording where information is stored and the second value indicates its position.

v (1)	= N° of the recording	Sequence number	
v (2)	= Position		
v (3)	= N° of the recording	Moment	Field n°1
v (4)	= Position		
v (5)	= N° of the recording	Frequency	
v (6)	= Position		
v (7)	= N° of the recording	Nume_mode	
v (8)	= Position		
v (9)	= N° of the recording	Mass_gene	
v (10)	= Position		
v (11)	= N° of the recording	Sequence number	
v (13)	= Position		
v (13)	= N° of the recording	Moment	Field n°2
v (14)	= Position		
...			

3.5 '.FID_CMP': S V K8

This object contains for each field components of the size to reading.

v (1)	DX	
v (2)	DY	
v (3)	DZ	Field n°1
v (4)	DRX	
v (5)	DRY MARTINI	
v (6)	DRZ	
v (1001)	EPXX	
v (1002)	EPYY	
v (1003)	EPZZ	Field n°2
v (1004)	EPXY	
v (1005)	EPXZ	
v (1006)	EPYZ	
...		
...		

3.6 '.FID_NBC': S V I

This object contains for each field the number of components with reading.

4 Structure of the datasets

The general structure of the datasets results 55 , 57 and 2414 exploited by the order LIRE_RESU is made up of 2 parts:

- Part a: makes dizzy containing general information,
- Part b: contains the values.

	-1	Partie A
	55 %VALEURS AUX NOEUDS	
Record 1 →	ASTER 5.01.00 CONCEPT TEMPE CALCULE - CHAMP AUX NOEUDS DE ...	
Record 2 →	CHAMP AUX NOEUDS DE NOM SYMBOLIQUE TEMP - TEMP	
Record 3 →	ASTER 5.01.00 CONCEPT TEMPE CALCULE LE 18/12/98 A 15:19:49 DE ...	
Record 4 →	CHAMP AUX NOEUDS DE NOM SYMBOLIQUE TEMP	
Record 5 →	NUMERO D'ORDRE: 0 INST: 0.00000E+00	
Record 6 →	2 4 1 5 2 1	
Record 7 →	2 1 1 0	
Record 8 →	0.00000E+00	
	1 % NOEUD N1	Partie B

	205 % NOEUD N205	
	1.00000E+02	
	-1	

Figure 4-a : Dataset 55 (example)

-1						Partie A
57 \$VALEURS AUX NOEUDS DES ELEMENTS						
Record 1 →	ASTER 3.05.30 CONCEPT 0 CALCULE LE - CHAMP PAR ELEMENT AUX ...					
Record 2 →	CHAMP PAR ELEMENT AUX NOEUDS DE NOM SYMBOLIQUE VARI_ELNO_ELGA - ...					
Record 3 →	ASTER 3.05.30 CONCEPT 0 CALCULE LE 29/12/95 A 09:56:55 DE TYPE ...					
Record 4 →	CHAMP PAR ELEMENT AUX NOEUDS DE NOM SYMBOLIQUE VARI_ELNO_ELGA					
Record 5 →						
Record 6 →	1	4	3	0	2	6
Record 7 →	2	1	1	1		
Record 8 →	0.15000E+02					
						Partie B
	1	1	0	6	\$ MAILLE MA2	
	2.07919E-05	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.

	2.07919E-05	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.
	-1					

Figure 4-b: Dataset 57 (example)

Figure 4-c: Dataset 2414 (example)

-1								Partie A
2414								
Record 1 →	1							
Record 2 →	B.C. 1, TEMPERATURE_1, LOAD SET 1							
Record 3 →	1							
Record 4 →	/users/lebonv/SGI/Code_Aster/TPLS100B/tpls100_coque.mf1							
Record 5 →	MODEL_SOLUTION_SOLVE							
Record 6 →	LOAD SET 1							
Record 7 →	Analysis time was		06-Jan-99	11:11:25				
Record 8 →	NONE							
Record 9 →	2	1	1	5	2	1		
Record 10 →	-10	0	1	1	1	0	0	
Record 11 →	2	0						
Record 12 →	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.		
Record 13 →	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.		
								Partie B
	1							
	-6.10352E-06							

	205							
	-6.10352E-06							
	-1							

5 Values by default

The values by default stored in the structure of data FORMAT_IDEAS are presented in the document of use [U2.26.03] .

6 Examples

In this paragraph, we present two examples:

- Example a: use of the search criteria by default to read the results,
- Example b: use of the search criteria user to read the results.

For each one of these examples we give the syntax of order LIRE_RESU thus that contents of the structure of data FORMAT_IDEAS.

Example a: search criteria by default

- Syntax of the order LIRE_RESU

```
INIT = LIRE_RESU (GRID = m,
                  UNIT = 19 ,
                  FORMAT = 'IDEAS',
                  TYPE_RESU = 'EVOL_NOLI',
                  NOM_CHAM = ('DEPL'),
                  INST = 15. ,
                  )
```

- Contents of SD FORMAT_IDEAS (value by default)

FORMAT_IDEAS	(1)	(2)	(3)	(4)	(5)	(6)
. 'FID_NOM '	DEPL					
. 'FID_NUM '	55					
. 'FID_PAR ' (1)	9999	9999	9999	9999	9999	9999
(2)	9999	9999	9999	9999	9999	9999
(3)	9999	9999	9999	9999	9999	9999
(4)	9999	9999	9999	9999	9999	9999
(5)	9999	9999	9999	9999	9999	9999
(6)	1	4	3	8	2	6
(7)	9999	9999	9999	9999	9999	9999
...						
(13)	9999	9999	9999	9999	9999	9999
...						
(40)						
...						
. 'FID_LOC '	7	4	8	1	9999	9999
. 'FID_CMP '	'DX'	'DY'	'DZ'	'DRX'	'DRY MARTIN I'	'DRZ'

At the time of the research of the dataset, the number 9999 is a joker allowing to be unaware of the value read in the heading.

Example B : criteria of research defined by the user.

- Syntax of the order LIRE_RESU

```

INIT = LIRE_RESU ( MODEL      = Mo ,
                  UNIT       = 19,
                  FORMAT     = 'IDEAS',
                  TYPE_RESU  = 'EVOL_NOLI',
                  NOM_CHAM   = ('15') ,
                  INST       = 15. ,
                  FORMAT_IDEAS = _F (
                                NOM_CHAM   = 'DEPL',
                                NUME_DATASET = 55,
                                RECORD_6   = (3,1,9999,4,2,3),
                                POSI_ORDRE  = (8.4),
                                POSI_INST   = (7.9999),
                                CMP        = ('DX', 'DY', 'DZ'),
                                )
                  )
    
```

- Contents of SD FORMAT_IDEAS (values by default)

FORMAT_IDEAS	(1)	(2)	(3)	(4)	(5)	(6)
. 'FID_NOM '	DEPL					
. 'FID_NUM '	55					
. 'FID_PAR ' (1)	9999	9999	9999	9999	9999	9999
(2)	9999	9999	9999	9999	9999	9999
(3)	9999	9999	9999	9999	9999	9999
(4)	9999	9999	9999	9999	9999	9999
(5)	9999	9999	9999	9999	9999	9999
(6)	3	1	9999	4	2	3
(7)	9999	9999	9999	9999	9999	9999
...						
(13)	9999	9999	9999	9999	9999	9999
...						
(40)						
...						
. 'FID_LOC '	8	4	7	1	9999	9999
. 'FID_CMP '	'DX'	'DY'	'DZ'	'XXX'	'XXX'	'XXX'