DISMOI and utilities for the Structures of Data

Summary:

One presents in this document some utilities of operative general interest on structures of data: copy, destruction, existence, impression.

The utility DISMOI is used to extract “scalar” information (1 entirety or 1 text) in a Structure of Data.

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1 Utilities for the structures of data

SUBROUTINE COPISD (TYPESD, BASES, SD1, SD2)

Goal: to duplicate a structure of data (SD1) under another name (SD2). SD2 the same contents will have as SD1.

IN	TYPESD	K*	type of the 2 structures of data SD1 and SD2. See the list of the types allowed today in the heading of routine FORTRAN
IN	BASE	K1	'G'/'V' : name of the base where will be created SD2
IN JXIN	SD1	K*	name of SD SD1
IN JXOUT	SD2	K*	name of SD SD2

LOGICAL FUNCTION IDENSD (TYPESD, SD1, SD2)

Goal: to test the identity of the contents of 2 structures of data SD1 and SD2

IN	TYPESD	K*	type of the 2 structures of data to be compared. See the list of the types allowed today in the heading of routine FORTRAN
IN JXIN	SD1	K*	name of SD SD1
IN JXIN	SD2	K*	name of the SD SD2
OUT	IDENSD	L	.TRUE. : 2 SD SD1 and SD2 are identical .FALSE. : 2 SD SD1 and SD2 are different

SUBROUTINE EXISD (TYPESD, NOMSD, IRET)

Goal: to answer the question: “there exists a structure of data of the type TYPSD and of name NOMSD ?”.

IN	TYPESD	K*	type of the structure of data to be tested. See the list of the types allowed today in the heading of routine FORTRAN
IN JXIN	NOMSD	K*	name of the SD to be tested
OUT	IRET	I	0: the structure of data does not exist 1: the structure of data exists

SUBROUTINE DETRSD (TYPESD, NOMSD)

Goal: to destroy a structure of data of the type TYPSD and of name NOMSD. I.e. to destroy all the objects JEVEUX who compose it.

IN	TYPESD	K*	Type of the structure of data to be tested. See the list of the types allowed today in the heading of routine FORTRAN
IN JXIN	NOMSD	K*	name of the SD to be destroyed

SUBROUTINE IMPRSD (TYPESD, NOMSD, IFIC, TITLE)

Goal: to print “legibly” a structure of data

IN	TYPESD	K*	Type of the structure of data to be tested. Types allowed today: FIELD, CHAMP_S
IN JXIN	NOMSD	K*	name of the SD to be printed
IN	IFIC	I	logical number of the file ASCII for the impression
IN	TITLE	K*	title given to the impression.

SUBROUTINE UTIMSD (IFIC, LEVEL, LATTR, LCONT, SCH1, IPOS, BASES)

Goal: To print a structure of data completely. I.e. to print the “rough” contents of the objects JEVEUX who composes it.

Actually, one does not treat really structures of data: all the objects are searched JEVEUX whose name contains a certain character string. But it is that in general, all the objects of a SD have names starting with the same chain.

IN	IFIC	I	logical unit of impression
IN	LEVEL	I	desired level of impression: 0: impression of the only name of the objects. 1: for the collections, one will print only the 10 1st objects. 2: all the objects of collection are printed -1: one prints a “summary” of the objects: only one line per object.
IN	LATTR	L	.TRUE. : the attributes of the objects are printed JEVEUX .FALSE. : the attributes of the objects are not printed JEVEUX
IN	LCONT	L	.TRUE. : the values of the objects are printed JEVEUX .FALSE. : the values of the objects are not printed JEVEUX
IN	SCH1	K*	character string allowing to select the objects to be printed. The declaration of this chain is very important (its length), because it conditions the number of lost property. if SCH1=' TOTO' but that SCH1 is declared K19, one will print only the objects starting with 'LOUSE' follow-up of 15 white.
IN	IPOS	I	position to which one will search the 1st character of SCH1.
IN	BASE	K1	name of the base JEVEUX on which one searches the objects. 'G', 'V',… if ‘’: one searches on all the open bases.

Exemple1:

```
CAL UTIMSD (6.2, .FALSE., .TRUE., FIELD (1:19), 1, 'V')
```

fact LE "dump" of the champ named FIELD and which is on the basis BIRD. The attributes of the objects are not printed JEVEUX. The result is printed in the file .mess.

Exemple2:

```
CAL UTIMSD (8.0, .FALSE., .FALSE. , '.DESC', 20, '')
```

writing the name of all the objects whose name contains the chain '.DESC' in position 20. The result is printed in the file .resu.

2 Routine DISMOI

Principle

This routine must avoid multiplying the sequences of programming necessary to recover information (entirety or text) in a Structure of Data (SD).

Example:
- the name of the grid associated with a field,
- the number of equations of one nume_ddl,
- …

It is to some extent a form of "JELIRA" on the SD.

To recover the name (MY) grid associated with the field (CH), one will make:

```
CAL DISMOI ('NOM_MAILLA', 'CH', 'FIELD', repk=MA)
```

Note:

One can extend this routine to "objects" which are not really SD. It is enough that one can name the object and to associate a type to him. It is for example the case of sizes, type_elem and phenomenon.
Certain SD are not really named because they are single. It is for example the case of the catalogue of finite elements ('&CATASTROPHES' cf [D4.04.01] - Structure of Data sd_cata_elem) in this case the name of the object is unutilised.

Syntax of call

CAL DISMOI (question, nom_SD, type_SD, repi, repk, stop, 1st)

question	(O)	K*	keyword specifying the request,
nom_SD	(O)	K*	name of a SD,
type_SD	(O)	K*	keyword specifying the type of the structure of data: nom_SD,
repi	(F)	I	answer (when the answer is whole),
repk	(F)	K*	answer (when the answer is a character string),
stop	(F)	K1	'F' (defect)/'It 'F' : in the event of problem, one stops in fatal error 'It : in the event of problem, one leaves the routine with

			ier=1
1st	(F)	I	code return of error if arret=' It, 1st = 0 whole is well, 1 if not

In a “standard” use, one asks a question which must have an answer. One makes then:

```
CAL DISMOI (question, nom_SD, type_SD, repk (or repi) =xxx)
```

If the request fails, the stop is brutal ('F') but that translated a programming error.

2.1 List of the types recognized by DISMOI

Name of the type	Length	Routine
'CARA_ELEM'	K8	DISMCR
'MAP'	K19	DISMCA
'CARTE_CARCRI'	K19	DISMOI_CARCRI
'CARTE_COMPOR'	K19	DISMCO
'CATALOGUE'	K0	DISMCT
'CHAM_ELEM' or 'RESUELEM'	K19	DISMCE
'CHAM_ELEM_S'	K19	DISMES
'CHAM_MATER'	K8	DISMCM
'CHAM_NO'	K19	DISMCN
'CHAM_NO_S'	K19	DISMNS
'FIELD'	K19	DISMCP
'LOAD'	K8	DISMCH
'FOND_FISS'	K8	DISMFF
'FISS_XFEM'	K8	DISMXF
'SIZE'	K8	DISMGD
'UNKNOWN'	K19	DISMIC
'INTERF_DYNA'	K14	DISMLI
'LIGREL'	K19	DISMLG
'MACR_ELEM_STAT'	K8	DISMML
'GRID'	K8	DISMMA
'MATR_ASSE'	K19	DISMMS
'MATR_ELEM' or 'VECT_ELEM'	K8	DISMME
'MODEL'	K8	DISMMO
'NUMÉRIQUE_DDL'	K14	DISMNU
'PHENOMENON'	K16	DISMPH
'RESULT'	K8	DISMRS
'RESU_DYNA'	K8	DISMDY
'TYPE_ELEM'	K16	DISMTE

'TYPE_MAILLE'	K8	DISMTM

Note:

the length of the names of the typified objects KN is indicative: the routine DISMOI (or truncates) the name provided by the user according to the associated type supplements, the name of the routines DISMXX associated with the various types is given (in 3rd column) to allow programmers to add new possibilities,
Rule: When one uses DISMOI , it is always necessary to call DISMOI and never specific routines DISMXX .

2.2 List of the possible questions

In the table below, one gives for each question:

- the heading of the question (text in capital letters between quotes: ''),
- the type of the result of the question: I, K3, K8,…,
- an explanation of the possible answers.

'AXIS'	K3	'YES'/'NOT' 'YES': ALL elements (of LIGREL) are axisymmetric.
'BASE_MODALE'	K8	name of the modal base of projection for a dynamic result on generalized basis
'BESOIN_MATER'	K3	'YES'/'NOT' If it MODEL require one CHAM_MATER
'CALC_RIGI'	K3	'YES'/'NOT' Allows to know if one type_element can calculate "rigidity" (and thus if it is a "principal" element of modeling and not an element of "edge")
'CARA_ELEM' 'CARA_ELEM_1'	K8	name of CARA_ELEM subjacent. '' : there is not CARA_ELEM subjacent. '#PLUSIEURS': there are several CARA_ELEM subjacent. If the question is 'CARA_ELEM_1'and that there exist several CARA_ELEM, one turns over one of them.
'CHAM_DISCONTINUITE'	K16	name of the discontinuous field for the method X-FEM : 'DEPL' ('SIGM' to come)
'CHAM_MATER' 'CHAM_MATER_1'	K8	name of CHAM_MATER subjacent. '' : there is not CHAM_MATER subjacent. '#PLUSIEURS': there are several CARA_ELEM subjacent. If the question is 'CHAM_MATER_1'and that there exist several CHAM_MATER, one turns over one of them.
'COEF_MULT'	I	value of the "multiplying" coefficient amongst values of CHAM_ELEM (for the internal variables)
'CONFIGURATION_INIT'	K8	Type of initial configuration of the lips of the crack: 'DECOLLEE' or 'COLLEE'
'DIM_GEOM'	I	1/ 2/3 : dimension of the problem: 1D, 2D or 3D. ***Notice*** : At the date of the 07/2012 there does not exist modeling 1d on the types: type_elem, ligrel, model, macr_elem_stat the answer can be:

		1: all them type_elem subjacent are 1D (X) 2: all them type_elem subjacent are 2D (X, Y) 3: all them type_elem subjacent are 3D (X, Y, Z) if it coexists several type_elem of different size: 120 : mixture 1D and 2D 023 (23): mixture 2D and 3D 103 : mixture 1D and 3D 123 : mixture 1D, 2D and 3D on the standard grid: the answer is: 2: the grid aster read is of type "COOR_2D" or it is "COOR_3D" but all the nodes are in the plan Z=0. 3: the grid aster read is of type "COOR_3D" and all the nodes are not in the plan Z=0.
'DIM_GEOM_B'	I	2 / 3: dimension of the problem: 2D or 3D. This value is that read in the file of grid: COOR_2D or COOR_3D. Caution: it is not because COOR_3D that the grid is really 3D.
'DIM_TOPO'	I	topological dimension of a mesh: 0 2/1/3. Example: TRIA3 → 2
'ELAS_F_HYDR'	K3	'YES'/'NOT' if it CHAM_MATER use for its behavior ELAS_XXX at least a function of the hydration
'ELAS_F_SECH'	K3	'YES'/'NOT' if it CHAM_MATER use for its behavior ELAS_XXX at least a function of drying
'ELAS_F_TEMP'	K3	'YES'/'NOT' if it CHAM_MATER use for its behavior ELAS_XXX at least a function of the temperature
'ELAS_INCR'	K8	'ELAS'/'MIXED' 'INCR'/ 'ELAS' if all the laws of behavior of the map of the behavior are elastic 'INCR' if all the laws of behavior of the map of the behavior are incremental 'MIXED' if not
'ELEM_VOLU_QUAD'	K3	'YES'/'NOT'/'MEL' : 'YES' : All elements of MODEL are mechanical, voluminal and quadratic. 'NON' : All elements of MODEL are mechanical, voluminal and linear. 'MEL' : There exist elements of MODEL mechanics, voluminal linear and the other quadratic ones.
'EXI_AMOR'	K3	'YES'/'NOT' For one model : 'YES' if it contains elements absorbents or macro_éléments with damping. For one CARA_ELEM : 'YES' if it contains discrete elements having of the characteristics of damping.
'EXI_AMOR_ALPHA'	K3	'YES'/'NOT' if it cham_mater refers has at least a material which has CMP "AMOR_ALPHA"
'EXI_AMOR_HYST'	K3	'YES'/'NOT' if it cham_mater refers has at least a material which has "CMP"

		"AMOR_HYST"
'EXIS_AXIS'	K3	'YES'/'NOT' 'YES': Certain elements are axisymmetric.
'EXI_COQ1D'	K3	'YES'/'NOT' if it MODEL contains finite elements of modelings COQU_C_PLAN or COQU_D_PLAN or COQU_AXIS
'EXI_COQ3D'	K3	'OUI'/'NOT' if it MODEL contains finite elements of modelings COQU_3D
'EXI_ELEM'	K3	'YES'/'NOT' if it MODEL contains finite elements (it can contain only static substructures)
'EXI_ELTVOL'	K3	'YES'/'NOT' if it MODEL contains "voluminal" elements
'EXI_HYDRAT'	K4	'NOT' : the mechanical load does not contain a hydration 'EVOL' : the mechanical load contains one evol_ther of hydration 'CHGD' : the mechanical load contains a field of hydration
'EXIS_LAGR'	K3	'OUI'/'NOT' if there exist multipliers of Lagrange associated with the boundary conditions in the matrix
'EXI_PLAQUE'	K3	'OUI'/'NOT' if it MODEL contains elements of plate: modelings DST/DKT or Q4G
'EXI_POUX'	K3	'YES'/'NOT' if it MODEL contains elements of beam "with LICE".
'EXI_RDM'	K3	'YES'/'NOT' if it MODEL contains elements of RDM. (beam, plate or hull)
'EXI_SECHAG'	K4	'NOT' : the mechanical load does not contain drying 'EVOL' : the mechanical load contains one evol_ther of drying 'CHGD' : the mechanical load contains a field of drying
'EXI_TEMPER'	K4	'NOT' : the mechanical load does not contain a temperature 'EVOL' : the mechanical load contains one evol_ther of temperature 'CHGD' : the mechanical load contains a field of temperature
'EXI_THM'	K5	'OUI'/'NOT' if it MODEL contains elements of modelings THM. 'OUI_P' if it MODEL is in more the permanent version
'EXI_TUYAU'	K3	'YES'/'NOT' if it MODEL contains elements "PIPE"
'EXI_SEG2', 'EXI_TRIA6', …, 'EXI_PYRAM13'	K3	'YES'/'NOT' if the GRID contains meshs of the type TRIA3, TRIA6,… There exists a question for ALL the usual types of mesh: POI1, SEG2, SEG3,…, PYRAM13
'LINE_QUAD'	K16	'LINE' if it LIGREL contains only linear meshs 'QUAD' if it LIGREL contains only quadratic meshs 'LINE_QUAD' if it LIGREL contains linear meshs and quadratic meshs
'MATR_DISTRIBUEE'	K3	'YES': the matrix is "distribuee" 'NOT' : if not
'MODELING'	K16	name of MODELING associated with one MODEL. If there exist several MODELINGS in MODEL, the answer is ''

'MXNBSP'	I	maximum number of under-point in one CHAM_ELEM
'MXVARI'	I	maximum number of variable of intern in one CHAM_ELEM
'NB_CHAMP_MAX'	I	raising amongst sequence numbers of one SD RESULT.
'NB_CHAMP_UTI'	I	number of the sequence numbers used of one SD RESULT.
'NB_CHAMPS'	I	Many fields of a dynamic result,
'NB_CMP_MAX'	I	raising amongst components of one SIZE.
'NB_DDLACT'	I	number of DDLS credits = number of DDLS physics minus the number of constraints kinematics.
'NB_DDL_NOEUD'	I	many degrees of freedom per node in the model subjacent with the matrix. Return -1 if this number is not constant.
'NB_EC'	I	many entireties necessary to code a size: nb_ec = nb_cmp_max/30
'NB_EQUA'	I	many equations of a linear system.
'NB_FISS_XFEM'	I	Many cracks X-FEM associated with one MODEL.
'NB_GREL'	I	number of "GRELS" in LIGREL.
'NB_MA_MAILLA'	I	number of MESHS GRID.
'NB_MA_SUP'	I	number of MESHS additional of LIGREL.
'NB_NL_MAILLA'	I	many nodes of LAGRANGE GRID. this number can be nonnull if the grid contains SUPER_MAILLES.
'NB_NO_MAILLA'	I	many nodes of MAILLAGE.
'NB_NO_MAX'	I	raising amongst NODES TYPE_MAILLES.
'NB_NO_SS_MAX'	I	maximum number of nodes for one SUPER_MAILLE GRID.
'NB_NO_SUP'	I	number of NODES additional of LIGREL.
'NB_SM_MAILLA'	I	number of SUPER_MAILLES GRID.
'NB_SS_ACTI'	I	many active substructures in one MODEL.
'NB_TYPE_MA'	I	number of TYPE_MAILLES in the catalogue.
'NBNO_TYPMAIL'	I	many nodes of one type_maille
'NOM_GD'	K8	name of SIZE.
'NOM_GD_SI'	K8	name of SIZE simple partner.
'NOM_LIGREL'	K19	name of LIGREL.
'NOM_MAILLA'	K8	name of GRID.
'NOM_MODE_CYCL'	K8	name of MODE_CYCL.
'NOM_MODELE' 'MODEL' 'MODELE_1'	K8	name of MODEL subjacent. ' ' : there is not MODEL subjacent. '#PLUSIEURS': there are several MODEL subjacent. If the question is 'MODEL_1'and that there exist several MODEL, one turns over one of them.
'NOM_NUMÉRIQUE_DDL'	K14	name of NUME_DDL.
'NOM_OPTION'	K16	name ofOPTION (catalogues) calculation.
'NOM_TYPMAIL'	K8	name of one type_maille

'NU_CMP_LAGR'	I	number of the component "LAGR" in one SIZE.
'NUM_GD'	I	number of SIZE.
'NUM_GD_SI'	I	number of SIZE simple partner.
'NUM_TYPMAIL'	I	number of one type_maille
'NUMÉRIQUE_CHAM_ [K8]'	K19	for a dynamic result on a made up modal basis, the nume_ddl associated with a field of nodal displacement of a given sequence number. The sequence number is given by replacing the character string [K8] of the question by the desired value. Example: 'NUMÉRIQUE_CHAM_2': classification associated with the field whose sequence number is equal to 2. This question is equivalent to 'NUMÉRIQUE_CHAM_00000002' Note: in certain cases (e.g restitution on a skeleton) the answer is of prof_chno type.
'NUMÉRIQUE_DDL'	K19 / I	This question produces two answers: 1) Name of the first concept nume_ddl of a dynamic result. 2) Number of nume_ddl **different** referred in the dynamic result.
'NUMÉRIQUE_EQUA'	K19	name of SD NUME_EQUA associated.
'PARA_INST'	K3	'YES' : if MAP is a map of FUNCTIONS depending on time '' : if not
'PHENOMENON'	K16	name of PHENOMENON associate with one MODEL. PHENOMENON is single in one MODEL)
'POST_INCR'	K3	'YES' / 'NOT' 'YES' : action of postprocessing at the end of each step of time of STAT_NON_LINE (modification of the internal variables)
'PRE_COND_XFEM'	K8	'YES' / 'WITHOUT' / 'NOT' 'YES' : pre-conditioner X-FEM is requested in MODEL X-FEM 'WITHOUT' : pre-conditioner X-FEM is not requested in MODEL 'NOT' : pre-conditioner X-FEM is absent from MODEL
'PROFESSEUR_CHNO'	K19	name of PROF_CHNO subjacent.
''	K8	Name of the concept of reference of a dynamic result. The heading of the question is built dynamically by replacing XXXX and YYYY by: 'XXXX': 'FARMHOUSE': relate to the matrix of mass 'RIGI': relate to the matrix of rigidity 'AMOR': relate to the matrix of damping 'INTD': relate to the dynamic interface 'INTS': relate to the static interface 'MESU': relate to the base of projection of the experimental results of measurement. 'YYYY':

		'PREM': first occurrence 'DERN': last occurrence '0002': second occurrence '000i': i-ème occurrence 'NOMB': full number of different concepts Examples: 'REF_RIGI_PREM': name of the matrix of rigidity located in the first 'DYNAMIC' occurrence of the objects of reference. 'REF_INTD_0003': name of the third occurrence of a dynamic interface in the objects of reference.
'SUR_OPTION'	K16	name of the option "user" who "oversees" possibly the real option (that is to say of the catalogue) associated with the object. ex: 'CHAR_MECA' for 'CHAR_MECA_PESA_R'
'SYME'	K8	'YES'/'NOT' if the crack were defined by symmetry
'THER_F_INST'	K3	'YES'/'NOT' if it cham_mater use for its behavior THER_XXX at least a function of time
'STANDARD'	K16	type of a concept of which one knows nothing ('UNKNOWN') : 'FUNCTION, 'CHAM_ELEM', 'TABLE', 'EVOL_ELAS'
'TYPE_BASE'		type of the base used for a dynamic result of type mode_meca or mode_meca_c '' : base modal simple of dynamic type 'CLASSICAL': base classical under-structuring 'CYCLIC': base cyclic under-structuring 'RITZ' : base made up of type RITZ
'TYPE_COOR'	K4	'PHYS'/'GENE' type of coordinates used for a dynamic result. 'PHYS': results expressed in physical base 'GENE': results expressed in base generalized
'TYPE_CHAMP'	K4	type of the field 'CART': MAP 'RESL': RESUELEM 'NOEU': CHAM_NO 'CNOS': CHAM_NO_S 'ELGA': CHAM_ELEM/ELGA (at the points of GAUSS) 'ELNO': CHAM_ELEM/ELNO (with the nodes) 'ELEM': CHAM_ELEM/ELEM (constant by element) 'CESN': CHAM_ELEM_S/ELNO 'CESG': CHAM_ELEM_S/ELGA 'CEASE': CHAM_ELEM_S/ELEM
'TYPE_CHARGE'	K7	type of one LOAD 'MECA_RE' : real mechanics (AFFE_CHAR_MECA) 'MECA_FO' : mechanical function (AFFE_CHAR_MECA_F) 'THER_RE' : thermics real (AFFE_CHAR_THER) 'THER_FO' : thermal function (AFFE_CHAR_THER_F) 'ACOU_RE' : real acoustics (AFFE_CHAR_ACOU)

		'ACOU_FO' : acoustic function (AFFE_CHAR_ACOU_F)
'TYPE_DISCONTINUITE'	K16	Type of discontinuity for the method X-FEM : 'CRACK' or 'INTERFACE'
'TYPE_MATRICE'	K7	type of the matrices 'SYMETRI' : all the matrices are symmetrical 'NON_SYM' : there exists at least a nonsymmetrical matrix. '' : the subjacent size is not of type "stamps"
'TYPE_RESU'	K16	type of one RESULT : 'EVOL_THER', 'EVOL_ELAS', 'EVOL_NOLI', or 'FIELD'
'TYPE_SCA'	K3	scalar type 'R': real*8 'I': integer 'It: complex*16 'K8': character*8 'K16': character*16
'TYPE_SUPERVIS'	K16	type what gives the supervisor to a SD: 'CHAM_NO_DEPL_R', 'CHAM_ELEM_EPSI_R',
'TYPE_TYPMAIL'	K4	"standard" of one type_maille : /'POIN'/'LIGN'/'SURFING' or 'VOLU'
'Z_CST'	K3	'YES'/'NOT' 'YES' : if all nodes of GRID have the same one exactly "Z" (3rd coordinate) 'NOT' : if not
'Z_ZERO'	K3	'YES'/'NOT' 'YES' : if all nodes of GRID have exactly Z=0. 'NOT' : if not
'ZERO'	K3	'YES'/'NOT' 'YES' : the structure of data contains only of the 0. 'NOT' : if not In parallel, the answer relates to only the "local" SD (that known of the process)

2.3 Cross table of the possibilities

In the table below, one gives for each type of Structure of Data:

- the theoretical length of the names of the objects of this type,
- the list of the questions which one can ask on this type.

'CARA_ELEM'	K8	'EXI_AMOR'
'MAP'	K19	'NOM_GD' 'NOM_MAILLA' 'PARA_INST' 'TYPE_CHAMP'
'CARTE_CARCRI'	K19	'POST_INCR'
'CARTE_COMPOR'	K8	'ELAS_INCR'
'CATALOGUE'	K0	'NB_NO_MAX' 'NB_TYPE_MA'
'FIELD'	K19	'NOM_GD' 'NOM_LIGREL' 'NOM_MAILLA' 'NOM_MODELE' 'NOM_OPTION' 'NUM_GD' 'TYPE_CHAMP' 'TYPE_SUPERVIS'
'CHAM_ELEM' or	K19	'COEF_MULT' 'MXNBSP' 'MXVARI' 'NOM_GD' 'NOM_LIGREL'

'RESUELEM'		'NOM_MODELE' 'NOM_OPTION' 'NOM_MAILLA' 'TYPE_MATRICE' 'TYPE_SCA' 'TYPE_CHAMP' 'TYPE_SUPERVIS'
'CHAM_ELEM_S'	K19	'MXNBSP' 'MXVARI' 'NOM_GD' 'NOM_MAILLA' 'TYPE_SCA' 'TYPE_CHAMP'
'CHAM_MATER'	K8	'ELAS_F_TEMP' 'ELAS_F_HYDR' 'ELAS_F_SECH' 'EXI_AMOR_ALPHA' 'EXI_AMOR_HYST' 'THER_F_INST'
'CHAM_NO'	K19	'NB_EQUA' 'NOM_MAILLA' 'TYPE_SCA' 'NOM_NUMÉRIQUE_DDL' 'PROFESSEUR_CHNO' 'TYPE_CHAMP' 'TYPE_SUPERVIS' 'NOM_GD' 'NUM_GD'
'CHAM_NO_S'	K19	'NOM_MAILLA' 'NOM_GD' 'NUM_GD' 'TYPE_CHAMP' 'TYPE_SCA'
'LOAD'	K8	'EXI_TEMPER' 'EXI_HYDRAT' 'EXI_SECHAG' 'NOM_LIGREL' 'NOM_MAILLA' 'NOM_MODELE' 'PHENOMENON' 'TYPE_CHARGE'
'FOND_FISS'	K8	'CONFIGURATION_INIT', 'SYME'
'FISS_XFEM'	K8	'NOM_MODELE' 'TYPE_DISCONTINUITE' 'CHAM_DISCONTINUITE'
'SIZE'	K8	'NB_CMP_MAX' 'NB_EC' 'NOM_GD_SI' 'NUM_GD' 'NUM_GD_SI' 'NU_CMP_LAGR' 'TYPE_MATRICE' 'TYPE_SCA'
'UNKNOWN'	K19	'STANDARD'
'INTERF_DYNA'	K14	'NB_CMP_MAX' 'NB_EC' 'NOM_MAILLA' 'NOM_MODE_CYCL' 'NOM_NUMÉRIQUE_DDL' 'NUM_GD'
'LIGREL'	K19	'AXIS' 'DIM_GEOM' 'EXI_AMOR' 'EXI_AXIS' 'EXI_ELEM' 'NB_GREL' 'NB_MA_SUP' 'NB_NO_MAILLA' 'NB_NO_SUP' 'NB_SS_ACTI' 'NOM_MAILLA' 'NOM_MODELE' 'PHENOMENON' 'NB_MA_MAILLA' 'LINE_QUAD'
'MACR_ELEM_STAT'	K8	'NOM_MAILLA' 'NOM_MODELE' 'NOM_NUMÉRIQUE_DDL'
'GRID'	K8	'DIM_GEOM' 'DIM_GEOM_B' 'NB_MA_MAILLA' 'NB_NL_MAILLA' 'NB_NO_MAILLA' 'NB_NO_SS_MAX' 'NB_SM_MAILLA' 'Z_CST' 'Z_ZERO' 'EXI_SEG2', 'EXI_TRIA3',…, 'EXI_PYRAM13'
'MATR_ASSE'	K19	'CARA_ELEM' 'CHAM_MATER' 'EXIS_LAGR' 'MATR_DISTRIBUEE' 'NB_DDL_NOEUD' 'NB_EQUA' 'NOM_GD_SI' 'NOM_MAILLA' 'NOM_MODELE' 'NOM_NUMÉRIQUE_DDL' 'NUM_GD_SI' 'PHENOMENON' 'SUR_OPTION' 'TYPE_MATRICE'
'MATR_ELEM' or 'VECT_ELEM'	K8	'CARA_ELEM' 'CHAM_MATER' 'NB_SS_ACTI' 'NOM_MAILLA' 'NOM_MODELE' 'PHENOMENON' 'SUR_OPTION' 'TYPE_MATRICE'
'MODEL'	K8	'AXIS' 'BESOIN_MATER' 'DIM_GEOM' 'ELEM_VOLU_QUAD' 'EXI_AMOR' 'EXI_AXIS' 'EXI_COQ1D' 'EXI_COQ3D' 'EXI_ELEM' 'EXI_PLAQUE' 'EXI_POUX' 'EXI_RDM' 'EXI_TUYAU' 'EXI_ELTVOL' 'MODELING' 'NB_FISS_XFEM' 'NB_MA_MAILLA' 'NB_NL_MAILLA' 'NB_NO_MAILLA' 'NB_NO_SS_MAX' 'NB_SM_MAILLA' 'NB_SS_ACTI' 'NOM_LIGREL'

		'NOM_MAILLA' 'PHENOMENON' 'Z_CST'
'NUMÉRIQUE_DDL'	K14	'MATR_DISTRIBUEE' 'NB_EQUA' 'NOM_GD' 'NOM_MAILLA' 'NOM_MODELE' 'NUM_GD_SI' 'PHENOMENON' 'PROFESSEUR_CHNO'
'PHENOMENON'	K8	'NOM_GD' 'NUM_GD'
'RESULT'	K8	'NB_CHAMP_MAX' 'NOM_MAILLA' 'TYPE_RESU' 'MODEL' 'MODELE_1' 'CARA_ELEM' 'CARA_ELEM_1' 'CHAM_MATER' 'CHAM_MATER_1'
'TYPE_ELEM'	K16	'DIM_GEOM' 'MODELING' 'PHENOMENON' 'TYPE_TYPMAIL' 'NBNO_TYPMAIL' 'NOM_TYPMAIL' 'NUM_TYPMAIL' 'CALC_RIGI'
'TYPE_MAILLE'	K8	'NBNO_TYPMAIL' 'NUM_TYPMAIL' 'TYPE_TYPMAIL' 'DIM_TOPO'
'RESU_DYNA'	K8	'BASE_MODALE' 'NUMÉRIQUE_CHAM_ [K8]' 'NUMÉRIQUE_DDL' '' 'TYPE_BASE' 'TYPE_COOR' 'NB_CHAMPS'

2.4 Examples

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CAL DISMOI ('NOM_MAILLA', CH, 'FIELD', repk=MA)

CAL DISMOI ('NB_EQUA', K, 'MATR_ASSE', repi=NEQ)

CAL DISMOI ('NB_NO_MAILLA', NAMED, 'GRID', repi=NBNOTO)

CAL DISMOI ('NOM_GD', CH19, 'FIELD', repk=NOMGD)

CAL DISMOI ('TYPE_CHAMP', CHEXTR, 'FIELD', repk=CTYP)

CAL DISMOI ('TYPE_COOR', NOMRES, 'RESU_DYNA', repk=typco, arret=' It,
ier=iret)
yew (iret.eq.1) typco='?? '
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