Structure of Data sd_modele_gene

Summary:

Contents

1 General information

The structure of data sd_modele_gene stores the relative data with a total structure created starting from a dynamic under-structuring.

This structure of data is currently created by only order DEFI_MODELE_GENE. This is why, one will use sometimes the language of this order to describe the structure of produced data.

2 Tree structure of the Structure of Data

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sd_modele_gene (K14)

    (O)   '.MODG.DESC'     :     OJB    S     V    I      long=3

    (O)   '.MODG.LIDF'     :     OJB    XD    V    K8     NAKED ()

    (O)   '.MODG.LIPR'     :     OJB    S     V    I

    (O)   '.MODG.LIMA'     :     OJB    XD    V    R      NAKED ()

    (O)   '.MODG.SSME'     :     OJB    XC    V    K8     NAKED ()

    (O)   '.MODG.SSNO'     :     OJB    S     NR    K8

    (O)   '.MODG.SSOR'     :     OJB    XC    V    R      NAKED ()

    (O)   '.MODG.SSTR'     :     OJB    XC    V    R      NAKED ()
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3 Contents of the objects JEVEUX

3.1 General information

A sd_modele_gene is made of under structures (keyword SOUS_STRUC). Each under structure is obtained by translation/rotation of a sd_macr_elem_dyna. Recall: to each sd_macr_elem_dyna is attached one (and only one) sd_base_modale.

These under structures “are bonded” (keyword factor CONNECTION). Each connection resticks 2 pennies structures via 2 interfaces belonging each one to under structure.

One will call nb_struc the number of under structures of the sd_modele_gene.

One will call nb_liaison the number of connections of the sd_modele_gene.

3.2 Object .MODG.DESC

'.MODG.DESC' : S V I LONG=3

V (1)	many entireties coded necessary for size DEPL_R
V (2)	component count maximum for size DEPL_R
V (3)	number of size DEPL_R

3.3 Object .MODG.LIDF

'MODG.LIDF' : XD V K8 NB_OBJ=nb_liaison

The size of each object is of 5

V (1)	name of substructure 1
V (2)	name of interface 1
V (3)	name of substructure 2
V (4)	name of interface 2
V (5)	regrouping of the nodes ('YES' or 'NOT '). 'YES' wants to say that the nodes of the 2 interfaces are not well aligned between them and that they should have been reordered.

3.4 Object .MODG.LIPR

'.MODG.LIPR' : S V I LONG=9*nb_liaison

This object is used to describe the dimension of the matrices of connection. The contents of the matrices of connection are explained in the documents [R4.06.02] and [R4.06.03]

For each connection, there are 3 matrices of connection: for each interface and one of Lagrange-Lagrange type. There is thus in all 3*nb_liaison matrices of connection.

These matrices are stored in object .MODG.LIMA. They are numbered naturally: connection after connection, 3 matrices per connection: interface 1, interface 2 and Lagrange-Lagrange.
For I varying of 1 with nb_liaison, one has

That is to say:

- nb_col1: many modes in the modal base associated with under structure 1
- nb_col2: many modes in the modal base associated with under structure 2

V (1+9* (i-1))	many lines of the first matrix of the connection
V (2+9* (i-1))	many columns of the first matrix of the connection (nb_col1)
V (3+9* (i-1))	1+3* (i-1) (number of the matrix of connection)
V (4+9* (i-1))	many lines of the second matrix of the connection
V (5+9* (i-1))	many columns of the second matrix of the connection (nb_col2)
V (6+9* (i-1))	2+3* (i-1) (number of the matrix of connection)

V (7+9* (i-1))	many lines of the matrix of Lagrange-Lagrange of the connection
V (8+9* (i-1))	many columns of the matrix of Lagrange-Lagrange of the connection
V (9+9* (i-1))	3+3* (i-1) (number of the matrix of connection)

3.5 Object .MODG.LIMA

'.MODG.LIMA' : XD V R NB_OBJ=3*nb_liaison

This object contains the values of the various matrices of connection. The size of each matrix of connection is described in object .MODG.LIPR. These matrices are rectangular "full".

That is to say V_{3i} , V_{3i+1} , V_{3i+2} respectively 3ième, (3i+1)ème, (and (3i+2))ème objects of the collection.

$V_{3i}(J)$	Jième value of the first matrix of connection I
$V_{3i+1}(J)$	Jième value of the second matrix of connection I
$V_{3i+2}(J)$	Jième value of the matrix of Lagrange of connection I

3.6 Object .MODG.SSME

'.MODG.SSME': XC V K8 NB_OBJ=nb_struc

For each under structure, the size of the object is of 1.

V (1)	name of the sd_macr_elem_dyna associated with the substructure.

3.7 Object .MODG.SSNO

'.MODG.SSNO': S NR K8 LONG=nb_struc

Pointer of names making the correspondence number of the substructure ↔ name of the substructure

3.8 Object .MODG.SSOR

'.MODG.SSOR': XC V R NB_OBJ =NB_STRUC

The size of each object is 3

V (1)	first nautical angle to pass from the orientation of the model having given birth to the macronutrient with that of the substructure.
V (2)	second nautical angle
V (3)	third nautical angle

3.9 Object .MODG.SSTR

'.MODG.SSTR': XC V R NB_OBJ =NB_STRUC

The size of each object is 3

V (1)	first component of the translation allowing to build a new substructure starting from the model which has given rise to the macronutrient, by applying an overall translation
V (2)	second component of the translation
V (3)	third component of the translation