

## Operator PROJ\_VECT\_BASE

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### 1 Goal

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To project a vector assembled on a base of mechanical clean modes or a basis of Ritz. The vector project could be used by the calculation algorithms in components generalized.

One can use PROJ\_BASE [U4.63.11] for these projections.

Product a concept of the type vect\_asse\_gene.

## 2 Syntax

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```
vecgene [vect_asse_gene] = PROJ_VECT_BASE

( ♦ BASE = Ba, / [mode_meca]
/ [mode_gene]

♦ NUME_DDL_GENE = nu_gene, [nume_ddl_gene]

♦ / VECT_ASSE = goes,
[cham_no_DEPL_R]

/ VECT_ASSE_GENE = goes,
[vect_asse_gene]

♦ TYPE_VECT = / 'FORC',
/ 'DEPL',
/ 'QUICKLY',
/ 'ACCE'

)
```

## 3 Operands

### 3.1 Operand BASE

- ◆ BASE = Ba

Concept of the type `mode_meca` or `mode_gene` for under - structuring which contains the vectors defining the subspace of projection.

### 3.2 Operand NUME\_DDL\_GENE

- ◆ NUME\_DDL\_GENE = nu\_gene

Classification associated with the generalized model.

### 3.3 Operands VECT\_ASSE/VECT\_ASSE\_GENE

- ◆ / VECT\_ASSE = goes

Concept of the type `cham_no_DEPL_R`, assembled vector which one wishes to project.

- / VECT\_ASSE\_GENE = goes

Concept of the type `vect_asse_gene`, assembled vector resulting from the under-structuring, which one wishes to project.

### 3.4 Operand TYPE\_VECT

- ◆ TYPE\_VECT = / 'FORC',  
/ 'DEPL',  
/ 'QUICKLY',  
/ 'ACCE',

Character string describing the type of the field represented by the assembled vector. The liquid assets are 'FORC', 'DEPL', 'QUICKLY' and 'ACCE'. The treatment is different according to whether the option is used FORC or others.

- With the option FORC, simple projection is carried out  $\Phi^T f$ , where  $\Phi$  is the base of modes and  $f$  effort.
- With the other options, one calculates by problem reverses the modal coefficients of participation associated with a given displacement. It is supposed that one can write displacement  $x$  in the form  $x = \eta^T \Phi$ . One calculates then  $\eta = \Phi^T (\Phi^T \Phi)^{-1} x$  (use of pseudo-inverse of Moore-Penrose).