
Operator PROJ_VECT_BASE

1 Drank

To project a vector assembled on a base of mechanical eigen modes or a basis of RITZ. The vector project could be used by the calculation algorithms out of generalized components (DYNA_TRAN_MODAL for example [U4.53.21]).

One can use PROJ_BASE [U4.63.11] for these projections.

Product a concept of the vect_asse_gene type.

2 Syntax

```
vecgene [vect_asse_gene] = PROJ_VECT_BASE  
  
    ( ◆BASE      = Ba,                               / [mode_meca]  
                                             / [mode_gene]  
  
    ◆NUMÉRIQUE_DDL_GENE =nu_gene ,  
[nume_ddl_gene]  
  
    ◆/VECT_ASSE      =va      ,  
[cham_no_DEPL_R]  
  
    /VECT_ASSE_GENE =va      ,  
[vect_asse_gene]  
  
    ◇TYPE_VECT      =      "FORC",                [DEFAULT]  
                      /      "DEPL",  
                      /      "QUICKLY",  
                      /      "ACCE"  
  
    )
```

3 Operands

3.1 Operand BASE

◆BASE = Ba

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

3.2 Operand NUME_DDL_GENE

◆NUMÉRIQUE_DDL_GENE = nu_gene

Classification associated with modele generalized.

3.3 Operands VECT_ASSE/VECT_ASSE_GENE

◆/VECT_ASSE = goes

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

/VECT_ASSE_GENE = goes

Concept of the type vect_asse_gene, assembled vector resulting from the substructuring, which one wishes to project.

3.4 Operand TYPE_VECT

◇TYPE_VECT = typ

Character string describing the type of the field represented by the assembled vector, by default one expects a field of the type forces FORC the other possibilities are DEPL, QUICKLY, and ACCE.

The processing is different according to whether one uses the option FORC or the others.

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