

Modeling D_PLAN_ABSO

Summary:

This document describes for modeling D_PLAN_ABSO :

- degrees of freedom carried by the finite elements which support modeling,
- the related meshes supports,
- supported loadings,
- nonlinear possibilities,
- CAS-tests implementing modeling.

Modeling D_PLAN_ABSO (Phenomenon: MECHANICS) corresponds to finite elements whose meshes supports are linear. They make it possible to take into account the condition of absorbing border of sections of solids, studied in plane deformations.

1 Discretization

1.1 Degrees of freedom

Modeling	Degrees of freedom (with each node top)
D_PLAN_ABSO	DX : following displacement X DY : following displacement Y

1.2 Meshes supports of the matrices of rigidity

The meshes supports of the finite elements are segments. The elements are isoparametric.

Modeling	Mesh	Interpolation	Remarks
D_PLAN_ABSO	SEG2 SEG3	linear quadratic	

1.3 Meshes supports of the loadings

The same ones as previously.

2 Supported loadings

The loading available is the following:

- `'ONDE_PLANE'`
Allows to impose a seismic loading by plane wave.

3 Non-linear possibilities

3.1 Laws of behaviors

The only relation of behavior, available under `DYNA_NON_LINE`, for this modeling, under `BEHAVIOR` is the relation `'ELAS'`.

3.2 Deformations

Only linearized deformations keyword `'SMALL'` under `DEFORMATION` are available.

4 Example of implementation: CAS-test

- Non-linear dynamics
SDLV120B [V2.04.120]: Analysis of the propagation of one compression wave in an infinite elastic bar (absorption of the wave at the border of the grid).