

## okAgenda

Subject: ACCELERATION - TEST PROBLEM

Subtask: DEMONSTRATE ACCELERATION LOAD; RELATIVE/ABSOLUTE ACCELERATIONS, VELOCITIES

Prepared by: ok

Date: 12/29/2008

AND DISPLACEMENTS

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Material properties:

$$E = 30 \text{ GPa}$$

$$\rho = 0 \text{ kg/m}^3 \text{ (massless cantilever)}$$

GOAL :

- apply acceleration loads to the model

- illustrate absolute/relative acceleration, velocity & displacements

- verify SAP2000 results against those obtained from spreadsheet

(acceleration SAP2000 tool)

" to displacement record "

- check one actual acceleration record (ALTADENA-1)

- check one sinusoidal acceleration (10 cycles)

(do this first)

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terminology:

- ① input (ground) acceleration

input

- ② relative acceleration

calculated by program

- ③ absolute acceleration = ① + ②

similar applies to displacement & velocity, for which the

input values are calculated by integration of the  
acceleration records