

Support Solution Details - TPI

Number	31970
Type	TPI
Created Date	29-Jan-1999
Last Updated	
Title	Stress and Displacement Results of a Modal Analysis are Mass Normalized and Their Values Do Not Represent Anything Until Multiplied By a Factor as Done in a Dynamic Analysis.
Details	<p>Additional Information</p> <p>Description ----- After a Modal Analysis is run, results windows may be defined to view stress and displacement results. The meaning of these results is given below.</p> <p>Alternate Technique ----- See Resolution below.</p> <p>Resolution ----- The displacements results of a modal analysis represent the magnitude and direction of the eigenvectors. Stresses and displacements are mass normalized:</p> <ul style="list-style-type: none"> - Mass normalized displacements --> $d^2x/dt^2 + (c/M)*dx/dt + (k/m)*x = 0$ - Stresses are then calculated from the mass normalized displacements, hence mass normalized stresses. <p>Pro/MECHANICA goes one step further for displacements by normalizing to a maximum displacement of 1.</p> <p>Otherwise, the displacement and stress results of a modal analysis do not represent anything until they are multiplied by some factor as they would be if a dynamic analysis is run using this modal analysis.</p>

Affected Products

Product	Pro/MECHANICA
Module	Structure
Reported Release	20.0
Reported Datecode	Not Available
Resolved Release	Not Available
Resolved Datecode	Not Available
Affected Client	All
Affected Server	All

Related Documents

Type	Number	Status	Description
None Available			