ANSYS Class3 Error Report

ERROR NO:
2013-11

Keywords:

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ANTYPE,MODAL,RESTART     MODAL RESTART      MODE SUPERPOSITION
EXPANSION
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Description of Error:

The element results obtained in a mode superposition analysis (PSD,
transient, or harmonic) are incorrect when all the below conditions
apply:
- a modal analysis restart (ANTYPE, MODAL, RESTART) - also called
load generation - was performed prior to the mode superposition
analysis
- new elements or nodes were created during this restart analysis
to support the creation of new load vectors

- the element modal results were not written on the MODE file
(MSUPkey = NO on the MXPAND command)

This load generation procedure is typically used in a Workbench
Mechanical mode-superposition analysis.

Typical GUI Path(s):

Other Comments:

The displacement solution is correct.
New elements or nodes are typically introduced when the loading is
applied via surface effect elements (SURF153 or SURF154) or via
contact elements.

First Incorrect Version:

Release 12.0

Corrected In:

Release 15.0

Suggested User Action For Running on Uncorrected Version:

If the element modal results are written to the MODE file (MSUPkey
= YES on the MXPAND command), the mode superposition element
results are correct. If the load vectors are created during the
modal analysis (and not during the modal analysis restart), the
mode superposition element results are correct.
In Workbench Mechanical, the following Analysis Setting gives
correct element results:
Analysis Settings >Output Controls > Expand Results From>
 Modal Solution
Using:
Analysis Settings > Output Controls > Expand Results From
> Program Controlled
leads to correct results if the results are internally expanded
from the Modal Solution but may lead to incorrect results if
expanded from the Harmonic Solution.
You can check the solver output (or generate an input file) to
check which method is used in this case.

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