

Question 19

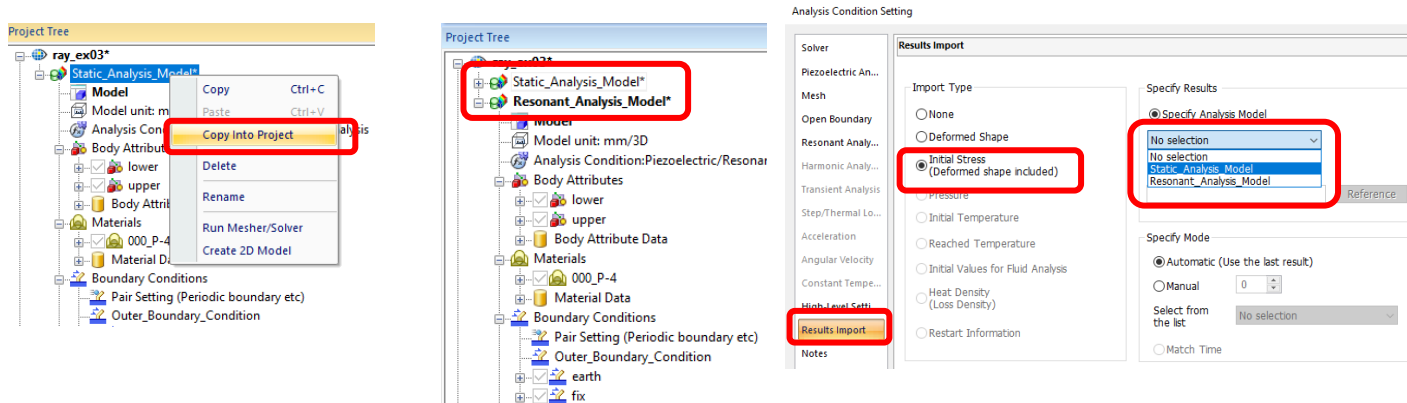
Q: How to perform the analysis with initial stress taken into account?

A: By using the results import function, vibration analyses, such as harmonic and resonant analyses, can be performed with initial stress taken into account.

Please refer to the next slides.

Additional Information

1. By using the results import function, vibration analyses, such as harmonic and resonant analyses, can be performed with initial stress taken into account.
2. To obtain the distribution of initial stress, prepare 'Static_Analysis_Model' and analyze the model subjected to a static load in the static analysis of analysis type.
3. Using the [Copy into Project] function, copy the previous model into another model.
4. Change the analysis type from the static analysis to the resonant analysis.
5. Select [Specify Analysis Model] in the specify results and select 'Static_Analysis_Model', and then perform the analysis.



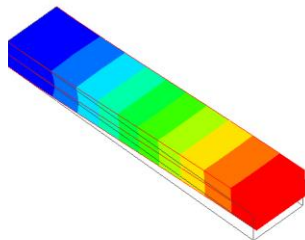
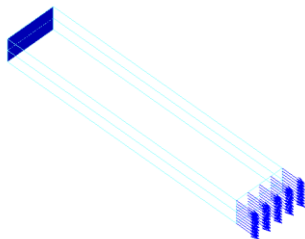
The image consists of three screenshots from a CAD software interface, illustrating the process of importing results from a static analysis into a resonant analysis.

- Left Screenshot:** Shows the 'Project Tree' with a context menu open for 'Static_Analysis_Model'. The 'Copy Into Project' option is highlighted with a red box.
- Middle Screenshot:** Shows the 'Project Tree' with 'Static_Analysis_Model' and 'Resonant_Analysis_Model' highlighted with red boxes.
- Right Screenshot:** Shows the 'Analysis Condition Setting' dialog box. The 'Results Import' section has 'Initial Stress (Deformed shape included)' selected with a red box. The 'Specify Results' section has 'Static_Analysis_Model' selected with a red box. The 'Specify Mode' section has 'Automatic (Use the last result)' selected.

Results

Static Analysis Model

Displacement Contour from Resonant Analysis



Static analysis result imported

Table

Spread of resonant and antiresonant frequencies [Hz]	Coupling coefficient[%]	Resonant resistance [ohm]	Equ...
Resonant frequency [Hz]	Convergence Judgment	Damping capacitance [F]	
0: 1.432394e+04Hz	1.432e+4	1.432e+4	1.092e+0
1: 1.851404e+04Hz	1.851e+4	1.851e+4	2.336e+0
2: 5.203039e+04Hz	5.203e+4	5.203e+4	1.236e+1

Static analysis result not imported

Table

Spread of resonant and antiresonant frequencies [Hz]	Coupling coefficient[%]	Resonant resistance [ohm]	Equ...
Resonant frequency [Hz]	Convergence Judgment	Damping capacitance [F]	
0: 6.681322e+03Hz	6.681e+3	6.681e+3	1.683
1: 1.306505e+04Hz	1.307e+4	1.307e+4	3.333
2: 4.026197e+04Hz	4.026e+4	4.026e+4	10.166

The resonant frequencies differ between with and without results import.
When results are imported, higher resonant frequencies are obtained.