AIM Modal Analysis of a Wing - Verification & Validation

Author: Madison Hill, ANSYS

Verification & Validation

Refine the Mesh

One of the ways we can check the validity of our analysis is by refining our mesh. If the values for our frequencies approach a limit, then we have arrived at our answer. If the values change drastically when we refine the mesh, then we need to refine the mesh further and we have not yet found an acceptable solution. We will refine the mesh by increasing the Mesh resolution, as in the Numerical Results video. The table below shows the results from the video. Since the frequencies do not change, we do not have the refine the mesh further.

Mode Number	Frequency (Unrefined Mesh)	Frequency (Refined Mesh)
1	4.8026	4.8178
2	25.226	25.199
3	32.198	32.143
4	38.24	38.072
5	49.042	48.292
6	54.988	53.914