Wind Turbine Blade - Verification & Validation

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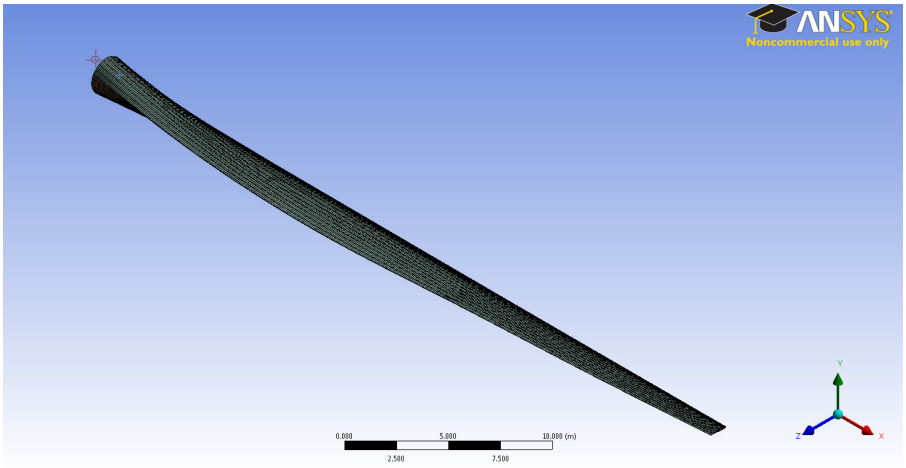
Verification & Validation

⚠ This tutorial is not being updated any more. We recommend that you follow this newer tutorial on fluid-structure analysis of a wind turbine blade. Thank you!

Refine the Mesh

Now that we have our results, it is important that we check to see that our computational simulation is accurate. One way to check our results is by refining the mesh further. The smaller the elements in the mesh, the more accurate our simulation will be, but the simulation will take longer. To refine the mesh, look to the outline tree and click ***Mesh > Body Sizing*** Change the element sizing to 0.1 (half the size of the mesh we originally tried).

The new mesh looks like:



It has twice as many elements as the original.

	Unrefined Mesh	Refined Mesh	Percent Difference
Number of Elements	7763	15052	93.894 %
Max Deformation	0.0010432 m	0.0010538 m	1.016 %
Max Normal Stress	3.7746e5 Pa	3.3744e5 Pa	10.602 %

Because there was relatively little change due to the refinement of the mesh, we have validated our results.

⚠ Under Construction

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