

An Introduction to Finite Element Analysis

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Provo Linux User's Group
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Who am I?

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- A PhD Mathematician (State University of New York at Albany)

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- A “pretending” Software Engineer (How I generally make money)

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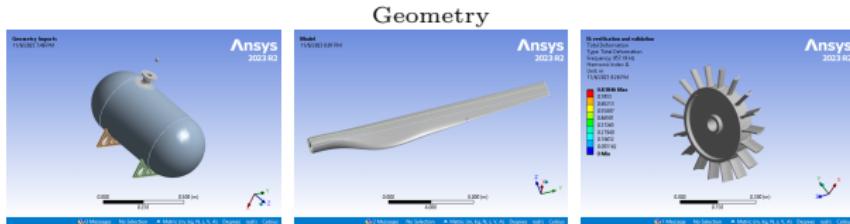
- A PhD Mathematician (State University of New York at Albany)
- A “pretending” Software Engineer (How I generally make money)
- A “graduate” of Cornell University’s eCornell Finite Element Analysis Course.

What is Finite Element Analysis?

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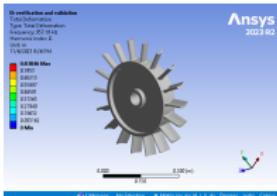
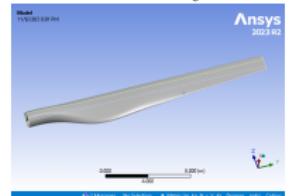
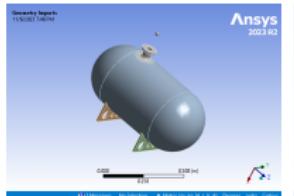
What is Finite Element Analysis?



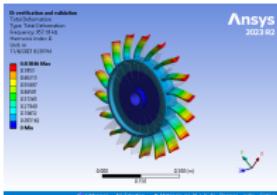
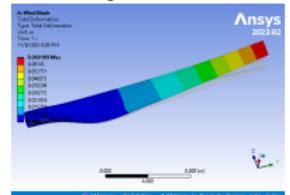
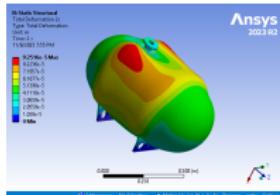
What is Finite Element Analysis?

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Geometry



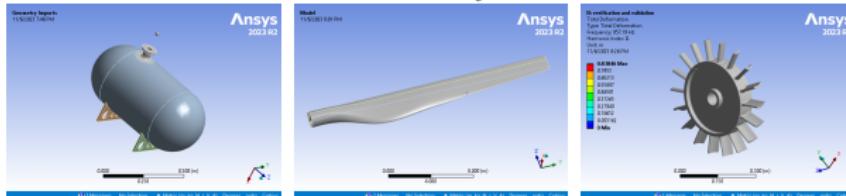
Displacement



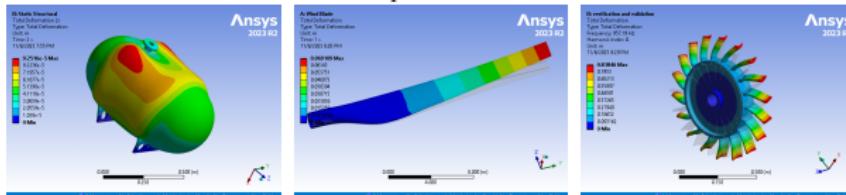
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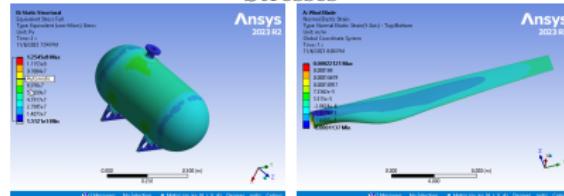
Geometry



Displacement



Stresses



What is Finite Element Analysis?

Displacement of Pressure Vessel (True Scale)

What is Finite Element Analysis?

Displacement of Pressure Vessel (Auto Scale)

What is Finite Element Analysis?

Stresses of Pressure Vessel

What is Finite Element Analysis?

Vibrations of a Jet Engine Turbine

Cyclic Mode 1, Harmonic Index 0