Wind Blade Analysis for Wind Power - Geometry

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Launch ANSYS and Save

This video shows you how you can access Ansys using either the free student version and/or Apps on Demand, a service provided to Cornell students. It also provides some important pointers on saving your Ansys project. Some students have lost hours of work in Ansys due to not saving properly. So please review the video carefully.

Download Blade Geometry:

Blade Geometry

Import Wind Blade, Orient Blade & Set Pitch Angle

Note these changes in the newest ANSYS version:

- **Sketch tab:** There is a separate Sketch tab and a new End Sketch button. All the sketching tools are now under the Sketch tab and you need to select the End Sketch button when you are done with the sketch. You should be able to figure it out by poking around.
- **Sketching the chord at blade tip:** You can skip the part of the video that involves sketching the chord at the blade tip (1:10-2:30) since you may have trouble snapping to the leading edge of the blade when sketching. This is done to determine the angle between the rotation plane and the chord at the blade tip. The video tells you what the angle is; it is -1.06 degrees.
- **Rotation to get right pitch angle:** In order zero out the pitch angle you must rotate the blade -1.06 degrees as shown in the video. In order to get a desired pitch angle from the zero position, rotate the blade in the negative direction for positive pitch angles, and in the positive direction for negative pitch angles. This is to remain consistent with the way the rotations were defined in the videos, where theta was a negative angle.

Create Flow Domain & Named Selections

Go to Step 3: Mesh

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