

## **Fatigue Life Variability and Reliability Analysis of a Wind Turbine Blade\***

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### **Abstract**

Wind turbines must withstand harsh environments that induce many stress cycles into their components. A numerical analysis package is used to illustrate the sobering variability in predicted fatigue life with relatively small changes in inputs. The variability of the input parameters is modeled to obtain estimates of the fatigue reliability of the turbine blades.

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