

Obviously, wind turbines must be exposed to the wind over their entire working life of several decades. Thus, the extremes of the transient wind environment must be considered when designing against sudden or accumulated damage due to flow-induced vibration. One mechanism of flow-induced vibration is vortex shedding, which may occur either when the turbine is offline (standstill) or when the wind direction changes rapidly. In both scenarios, the streamlined blade profile is not correctly aligned to the flow, and acts as a bluff body. The purpose of our research is to build a coupled model of vortex-induced-vibration (VIV) for wind turbine blades.