EUROPEAN-AMERICAN COLLABORATION IN WIND ENERGY

MONTHLY WEBINAR SERIES

Stand Still Vibrations of Wind Turbines

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ABSTRACT Stand still vibrations of large modern wind turbines is a recognized problem and have been documented over the last couple of years. Several types of wind turbine stand still problems can exist and the talk will be focused on edge-wise rotor vibrations related to vortex shedding. The talk is to a large extend based on the findings from the DANISH EUDP project PRESTIGE, dealing with the aeroelastic problem of stand still vibrations. The talk will address the basic aeroelastic problem from an aerodynamic and structural dynamics perspective, discuss method to analyze the vibration problem with special focus on the application of computational fluid mechanics.

BIO Working since 1991 with development, implementation, and application of computational fluid dynamics, with the focus on high performance computing, flows related to wind turbines and flow over complex terrain. The work has been comprehensive, covering application, the basic implementation and algorithm development, optimization, and verification of the actual flow solvers for several computer architectures, code parallelization, direct numerical simulation, turbulence modeling, transition modeling, hyperbolic mesh generation, and moving grid algorithms. <u>Event Website</u>