Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Stratificaiton Effects on wake of large wind turbines in wind farm[1]

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— The focus of the present talk is to demonstrate the interplay of the complex interactions between the wind turbulence and the wake turbulence under different stratification conditions. Large eddy simulation (LES) has been used to simulate flow over multi mega-watt wind turbines. The results have revealed different empirical relations for the mean velocity deficit decay and turbulence kinetic energy decay rates in the wake region of the wind turbine. The simulation for wind farm has revealed the wake decay rates as a function of the radial and streamwise distance from the upstream wind turbine. Vertical mixing plays a major role in altering the flow dynamics in the wake region.

[1]Support from NSF CBET-1348480, NSF HRD-1242180 and TACC Supercomputing

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Date submitted: 24 Jul 2013 Electronic form version 1.4