

Wind Turbine Wake Research at the SWiFT Facility

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Abstract

Wind turbine wakes significantly influence wind plant power performance and wind turbine loads, but gaps remain in accurately measuring and modeling the associated impacts. To address these gaps, Sandia National Laboratories has ongoing research programs related to the measurement, modeling, and uncertainty quantification of wake effects within wind plants. Researchers are using the Scaled Wind Farm Technology (SWiFT) facility to execute wake experiments that will inform model validation and uncertainty quantification campaigns. This presentation will summarize the validation framework and exhibit some of the results and data analysis from the recent experimental campaign.