

Abstract. Turbine-wake and farm-atmosphere interactions can reduce wind farm power production. To model farm performance, it is important to understand the impact of different flow effects on the farm ...

Under the weak power grid, the grid connection of wind turbines is unstable, and the current quality is poor. Based on DFIG output impedance model, a stability analysis method ...

Europe's largest wind power producer - Germany - remains in the grips of a years-long bout of sub-par wind electricity production due to below-average wind speeds at turbine level.

The aim is to investigate the impacts of the full aggregation of the wind turbines on the overall system critical modes under weak grid conditions as compared to the multi-machine ...

The results of a simulated wind power plant have shown that a wind power plant which is tuned for a strong grid can become unstable when connected to a weak grid.

Researchers at the Fraunhofer Institute for Applied Polymer Research IAP, in collaboration with the BBF Group, have developed a lightweight rotor that is specifically designed for ...

This paper proposes an intelligent control strategy based on the adaptive neuro-fuzzy inference system (ANFIS) to enhance power quality in wind energy systems connected to weak grids.

The results here obtained have shown that the incorporation of the wind farm with fix-speed wind turbines into a weak power system introduces important problems in the quality of voltage.

Abstract: 4 Hz oscillations and 30 Hz oscillations have been observed in real-world wind farms with weak grid interconnections. Such stability issues limit wind power delivery.

Advanced control approaches can be developed to enhance the wind turbine performance to increase the stability margins, and thus help connecting more distributed generation ...



Weak wind field wind power generation

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