

Simulation of Wind Turbine Electrical Grids

Description:

The Clemson HIL Grid Simulator allows wind turbine generator manufacturers to test both mechanical and electrical characteristics of their machines in a well-controlled and calibrated environment. This electrical grid simulation system and method combines components to better mimic and control expected and unexpected parameters in an electrical grid. The invention provides grid simulation in a manner to allow improved testing of variable power generators, such as wind turbines, and their operation once interconnected with a medium-voltage grid in multiple countries.

Applications:

- Wind energy
- Large solar energy
- Microgrid technologies
- Utility scale energy storage

Benefits:

- Improved efficiency over field testing
- More flexible testing environment
- Multiple devices possible

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