Wind turbine generator coupling

The interaction of fluid flow and the structure dynamic of the system is a vital subject for machines operating under their coupling. It is not different for wind turbine either, ...

The Archimedes spiral wind turbine (ASWT), as a novel type of horizontal-axis wind turbine, is well suited for remote islands. To explore the aerodynamic performance and coupling gain effect of ASWT array, a three ...

Flexible couplings in wind turbines are used on the high-speed (the output) shaft of the gearbox to drive the generator. The task is made more difficult because the coupling is working in a ...

Wind power is one of the essential branches of renewable energy resources, and it is playing an important role in innovating energy systems and mitigating global climate change. After ...

Generally, the mechanical part of the DFIG consists of blades, a rotor hub, a low-speed shaft, a gearbox, a high-speed shaft, a wind coupling, and a generator. 5 During the occurrence of ...

In wind turbines, couplings are used on the highspeed (output) shaft of the gearbox to drive the generator. Flexible shaft couplings accommodate that slight misalignment between the two. The task is made more difficult ...

A smooth coupling is implemented between the grid and doubly fed induction generator-based wind turbines (DFIG-WTs) during grid voltage imbalance. The nonlinear characteristics of a grid-connected DFIG-WT ...

Based on the mutual compensation of offshore wind energy and wave energy, a hybrid wind-wave power generation system can provide a highly cost-effective solution to the increasing demands for offshore power. To ...

The nacelle contains the key components of the wind turbine, i.e. the gearbox, mechanical brake, electrical generator, control systems, yaw from publication: Modelling and Control Design of ...

In wind turbines, flexible couplings are used on the high-speed (output) shaft of the gearbox to drive the generator and accommodate the misalignment between the two. The ...

Firstly, the aerodynamic-structure-servo coupling (ASSC) model of the wind turbine is established which considers the interaction among the aerodynamic load, structure, and servo system. ... The servo system of ...

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