

Several reliability studies have been conducted in the past. A comprehensive overview of available reliability data is given in Cevasco et al. (2021) and Pfaffel et al. ...

Pitch system is an essential subsystem of a wind turbine, which is to efficiently capture and maximize the utilization of wind energy by controlling the rotation of the blades. Its ...

The pitch control system adjusts these blades by rotating them so they can capture the optimal amount of wind energy, resulting in the best power output. This aspect must be balanced against the turbine's rated output ...

The fault rate and complexity of the pitch system, an important part of the wind turbine, are higher than those of the main shaft, gearbox, and generator (Wang et al., 2021). In case of any fault, ...

In this work we study the electric wind turbine generator based on a Pitch system, we have modeled this turbine to show the importance of the pitch angle (ψ) on production of electrical energy by ...

In order to achieve optimal wind turbine performance, pitch control systems and yaw systems are today's state of the art. They constantly adjust the orientation of the nacelle and rotor, as well as the pitch angle of the individual rotor blades, ...

The wind turbine system includes five subsystems: pitch system, pitch and generator control, aerodynamics, drive train, and generator units . The pitch control subsystem ...

Regarding the results obtained by the models to detect indirect failures in the Pitch system of wind turbines, as in the case of the equipment's generator, the IITUR26 (WFII) turbine, it can be ...

With the rapid development of wind energy, it is important to reduce operation and maintenance (O& M) costs of wind turbines (WTs), especially for a pitch system, which ...

In this paper, a linearized parameter varying dynamic modeling of the nonlinear wind turbine system including wind disturbances is developed. The stability of the wind turbine ...

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