Wind turbine generator idling

Technical modeling challenges for large idling wind turbines To cite this article: Galih Bangga et al 2023 J. Phys.: Conf. Ser. 2626 012026 View the article online for updates and enhancements.

The studies will be helpful for load engineers to select appropriate modeling strategies and shed some light into future engineering modeling improvements of wind turbines.

The aim of the present paper is to extend the existing knowledge on the dynamics and aerodynamics of an idling wind turbine and characterize its stability. Rotor stability in slow idling operation is assessed ...

It is described a method of controlling an offshore wind turbine (20) during idling for damping at least one mechanical vibration (21), the wind turbine including a nacelle (18) harboring...

Typical large scale pitch-controlled wind turbines idle their rotors during storm conditions. The design loads of wind turbines are calculated by aeroelastic simulations under various conditions.

Stability analysis shows that the stall-induced vibration occurs when a wind turbine stands still at high wind speeds with specific wind deviation angles. The parametric studies are carried out, ...

Idling instability predictions depend on the unsteady aerodynamic modeling especially the inclusion of the dynamic stall model. Calculations without dynamic stall model yield massive instabilities which ...

Idling instabilities of large wind turbines in extreme winds is a relatively well known problem for manufacturers, at least in terms of the results in calculations.

PDF | The present study investigates stall-induced vibrations on a IEA-15-RWT wind turbine blade.

Inspired by Vortex Generators" success in delaying airfoil stall, this study explores the potential of using Vortex Generators to mitigate stall-induced instability in floating offshore wind ...

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