
In this paper, a load-based maintenance approach is proposed to predict wind turbines life time. Physical models are used to evaluate load profiles at wind turbine blade root, ...

The proposed multi-point composite loading system can take advantage of the existing loading conditions in conventional laboratories to study the combination of T - V - H - ...

After completion of the numerical design process, the design loads and the system dynamics are verified by independent certification bodies before a prototype of the WT can be ...

In this article, we explore comprehensive strategies for improving turbine load management at every phase of the product lifecycle.

In this paper, a wind turbine mechanical load optimization control strategy based on an accurate wind speed estimator with time series Broad Learning System Method (BLSM) ...

At Fraunhofer IWES, a computational model for wind turbine load calculations for state-of-the-art onshore and offshore wind turbines has ...

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Given the limitations of conventional pitch control in adapting to wide-ranging wind speed variations and the need to balance power regulation with load mitigation objectives, this ...

As wind turbines grow larger and more efficient, managing the loads they experience becomes increasingly critical. Larger turbines generate greater loads, which can affect their structural ...

Discover techniques for active load control in wind turbines, enhancing efficiency, reducing fatigue, and improving structural integrity in varying conditions.

Aeroelastic modeling is the primary methodology for assessing structural loading and performance of any wind turbine, thereby providing an understanding of the impact of design ...

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