



Monitoring Data Based on Wind Turbine Structural Damage Identification and Dynamic Reliability Analysis

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Message from the Guest Editors

Wind turbine structural health monitoring focuses on the dynamic responses and reliability of wind turbine structures under different damage degrees and random dynamic excitation.

In wind turbine engineering, wind turbine structural damage includes foundation damage, as well as blade damage and tower damage, and the load mainly includes the wind load, the seismic load, and the wave load. Most structural damage to wind turbines causes changes in the dynamic response of wind turbine structures. It is important to use wind turbine structure monitoring data to analyze the dynamic response and identify the structural damage of wind turbines, and further evaluate the structural service reliability of the structure of wind turbines. This can reduce the occurrence of major accidents of wind turbines and maximize the economic benefits of wind farms.

In recent years, the aforementioned wind turbine structural health monitoring and service reliability analysis methods have made great progress, and a lot of research has been carried out in engineering applications.





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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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