Photovoltaic flexible support stress monitoring

The invention belongs to the technical field of new energy of photovoltaic power generation, and particularly relates to an intelligent monitoring system for a flexible support of a...

Abstract Flexible photovoltaic (PV) support systems have low stiffness, low damping, and may suffer from aerodynamic instability, especially fluttering, under wind loads. Reliable structural modal ...

To improve the span and stiffness and widen the application scene of the flexible photovoltaic support system, a new type of three-dimensional cable-truss flexible photovoltaic support system is proposed ...

The proposed monitoring system can realize effective real-time monitoring and intelligent management of flexible support structure, and can timely monitor and warn the stress of steel strand ...

During the tensioning process of the cable-truss support photovoltaic module support system, the tension sensor with a measuring range of 20 tons is used to monitor the internal force of ...

In this study, field modal testing of a flexible PV support structure was conducted, and high-order modal properties were identified from multi-sensor data.

This study involves the development of a MATLAB code to simulate the fluctuating wind load time series and the subsequent structural modeling in SAP2000 to evaluate the safety ...

Monitoring photovoltaic flexible structures is essential to ensuring their reliability and stability. Real-time monitoring and analysis enable the early detection of potential issues, helping to ...

The support structure for this system is made of steel coated with a Zn-Mg-Al alloy. To monitor environmental conditions and structural dynamics, various sensors were deployed. For real ...

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