Wind vibration accident of tracking photovoltaic support

Flexible photovoltaic (PV) modules support structures are extremely prone to wind-induced vibrations due to its low frequency and small mass.

Considering the effects of fluid forces and vortex interactions on the vibration behavior of photovoltaic support components, this study investigates the wind-induced response characteristics of ...

PV supports, which support PV power generation systems, are extremely vulnerable to wind loads. For sustainable development, corresponding wind load research should be carried out on ...

Wind-induced vibration in photovoltaic tracking support can lead to structural instability and even component fractures under extreme conditions.

The wind-induced vibration caused by wind loads is one of the main reasons for the failure of PV supports, so the research focus is not only to improve the power generation efficiency of ...

Flutter first occurred in the first row on the windward side of the PV support array, and the flutter critical wind speeds were respectively 18.0, 22.5 and 16.2 m/s at wind directions of 0°, 135° ...

In this study, the wind-induced vibration characteristics and the suppression measures of a 35-meter-span cable-truss support photovoltaic module system array are studied. Firstly, based on ...

By examining aerodynamic vibration characteristics at smaller scales, the study reveals the most adverse vibration evolution mechanisms for the flexible PV.

These findings provide insights for wind-resistant design optimization of flexible PV supports.

This study investigates the wind-induced vibrations (WIVs) of photovoltaic (PV) modules possessing unique characteristics such as lightweight construction, low frequency, and susceptibility ...

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