Flexible photovoltaic bracket wind vibration response

The second and third rows of PV modules on the windward side are prone to wake-induced vibration at low wind speed (8-15 m/s). And this kind of structure is prone to flutter when the wind speed ...

Abstract: This article investigates a flexible photovoltaic bracket"s response to wind vibration. A finite element model is established using SAP2000 software for time course analysis.

This study develops an efficient fluid-structure interaction (FSI) analysis framework to investigate the wind-induced vibration response of flexible photovoltaic support structures.

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

A large-span flexible photovoltaic (PV) support with saddle-shaped cable net supporting is proposed. It can surpass the current flexible PV support span up to 100 m level. Firstly, the components of the flexible PV ...

An analysis of the wind-induced vibration responses of the flexible PV support structures was conducted. The results indicated that the mid-span displacements and the axial forces in the wind-resistant ...

The wind-induced response and vibration modes of the flexible PV modules support structures with different parameters were investigated by using wind tunnel based on elastic test model.

Investigated structures" wind-induced vibration response evolution laws and mechanisms of single-layer and double-layer cable systems. Results reveal that flexible PV structures exhibit larger displacements ...

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