

Firstly, the superiority of the new system is proved by the aspects of static and dynamic performance. Then, the wind-vibration response is analyzed by the wind tunnel test. Finally, the ...

The cable pretension significantly affects the vibration response of the flexible photovoltaic more than the angle of direction. The response law of direction angle and pretension to multi-row ...

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 ...

The results show that there are obvious interference effects between each row of the flexible PV support array. The second and third rows of PV modules on the windward side are prone ...

The flexible PV support structure is prone to large deformation and wind-induced vibration under wind load. It is necessary to reduce the wind-induced vibration of the PV modules by changing structural ...

In this paper, the wind-induced vibration response characteristics of the cable-truss support photovoltaic module system array under 0° and 180° wind direction are discussed and the ...

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...

Due to their light weight, low stiffness, and large range of tilt angle changes, flexible-support photovoltaic structures are highly sensitive to wind loads. Therefore, it is necessary to study ...

Due to its low damping, limited structural stiffness, and complex dynamic behavior, the flexible photovoltaic (PV) bracket is prone to significant wind-induced vibrations.

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



Flexible support photovoltaic module vibration

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