

Flexible photovoltaic bracket vibration principle

For double-cable flexible PV supports, vortex-induced vibration (VIV) will occur at 15° and 20° inclinations, and flutter will occur in almost any cases.

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.

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 ...

This study focuses on the wind-induced vibration response of single-array flexible supports, thereby overlooking the potentially larger vibration response caused by wake effects ...

This study employs a vision-based displacement analyzer and three-dimensional digital image correlation method to obtain high-accuracy flexible PV support structures 3D displacement ...

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The analysis also provides insights into the mode shapes of these structures. An analysis of the wind-induced vibration responses of the flexible PV support structures was conducted.

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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 ...

A comparison was made in Table 2 of the vertical vibration dynamic characteristics of the flexible PV support structure, which were obtained through finite element model calculations and ...

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