Seismic support photovoltaic support Wang Lei

What is the wind vibration coefficient of flexible PV support structure?
The wind vibration coefficients in different zones under the wind pressure or wind suction are mostly between 2.0 and 2.15. Compared with the experimental results,the current Chinese national standards are relatively conservative in the equivalent static wind loads of flexible PV support structure. 1. Introduction

How wind induced vibration response of flexible PV support structure?
Aeroelastic model wind tunnel testsThe wind-induced vibration response of flexible PV support structure under different cases was studied by using aeroelastic model for wind tunnel test,including different tilt angles of PV modules,different initial force of cables,and different wind speeds.

Are flexible PV support structures prone to vibrations under cross winds?
For aeroelastic model tests,it can be observed that the flexible PV support structure is prone to large vibrationsunder cross winds. The mean vertical displacement of the flexible PV support structure increases with the wind speed and tilt angle of the PV modules.

Is a flexible PV support structure subjected to wind suction?
Fig. 13,Fig. 14,Fig. 15 show the flexible PV support structure is subjected to wind suction(? = 180°),the curves for the mean wind pressure coefficient in the span of S1 and S2 when the tilt angle ? is 10°,20° and 30°,respectively.

Why do wind-resistant PV modules have a small vibration amplitude?
Due to the wind-resistant anchor cables settingin both the windward and leeward zones,the vibration amplitude of the PV modules near the edge rows is significantly smaller than that of the middle rows when the structure is subjected to wind suction.

How does shielding affect the wind-induced response of flexible PV support structure?
The shielding effect greatlyaffects the wind-induced response of flexible PV support structure at ? = 20°. In comparison with the first row in the windward area,the amplitude in the side span decreased by approximately 53 %,and in the middle span,it decreased by about 52 %.

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There is a large gap between photovoltaic (PV) demand and PV supply in China. For a long time, more than 90% of the PV cells were exported to other countries, mainly to European and US ...

A series of experimental studies on various PV support structures was conducted. Zhu et al. [1], [2] used two-way FSI computational fluid dynamics (CFD) simulation to test the influence of ...

With the rapid development of emerging technologies such as self-media, the Internet of Things, and cloud computing, massive data applications are crossing the threshold of the era of real-time analysis and ...

Flexible photovoltaic (PV) support structure offers benefits such as low construction costs, large span length, high clearance, and high adaptability to complex terrains. However, due to the ...

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