

Can a cable-supported PV system reduce wind-induced vibration?

Recently, the authors (He et al., 2020) proposed a new cable-supported PV system by adding an additional cable and several triangle brackets to form an inverted arch and reduce the deflection of the PV modules and studied the wind-induced vibration and its suppression through a series of wind tunnel tests.

What is cable-supported photovoltaic (PV)?

Cable-supported photovoltaic (PV) modules have been proposed to replace traditional beam-supported PV modules. The new system uses suspension cables to bear the loads of the PV modules and therefore has the characteristics of a long span, light weight, strong load capacity, and adaptability to complex terrains.

Can a cable-supported PV system reduce vertical displacement?

Recently, the authors (He et al., 2020) proposed a new cable-supported PV system using three cables and four triangle brackets to form an inverted arch to reduce the vertical displacement of the PV modules.

What is a PV support structure?

Support structures are the foundation of PV modules and directly affect the operational safety and construction investment of PV power plants. A good PV support structure can significantly reduce construction and maintenance costs. In addition, PV modules are susceptible to turbulence and wind gusts, so wind load is the control load of PV modules.

What are the different types of PV support systems?

In order to meet the applicability of economy and safety, the optimal design of PV support systems have always been a research hotspot in the field of PV engineering and wind engineering. At present, there are three main types of PV support systems: fixed mounted PV, flexible mounted PV, and float-over mounted PV systems.

What are the characteristics of a cable-supported photovoltaic system?

Long span, light weight, strong load capacity, and adaptability to complex terrains. The nonlinear stiffness of the new cable-supported photovoltaic system is revealed. The failure mode of the new structure is discussed in detail. Dynamic characteristics and bearing capacity of the new structure are investigated.

The large-scale centralized development of wind and PV power resources is the key to China's dual carbon targets and clean energy transition. The vast desert-Gobi-wilderness areas in northern and western China will be ...

Photovoltaic Bracket -Nanjing Chinylion Metal Products Co., Ltd.-Photovoltaic bracket is mainly applicable to distributed power stations, rooftop power stations, household, commercial and ...

The 3D concentrating photovoltaic is innovated integrated into the building as the window, which can improve the efficiency of photovoltaic (PV) cell and maintain the daylighting performance for ...

To date, the best reported power conversion efficiency (PCE) of state-of-the-art single-junction polymer solar cells (PSCs) is ~ 9-10% 7,8,9, which still lags behind those of ...

5 ???&#0183; ???: ????, ????, ????, ???, ??? Abstract: In order to study the mechanica properties of the fixed photovoltaic bracket and its failure under wind load, the full ...

Under three typical working conditions, the maximum stress of the PV bracket was 103.93 MPa, and the safety factor was 2.98, which met the strength requirements; the hinge joint of 2 rows of PV brackets had large deformation, ...

This study provides review of grid-tied architectures used in photovoltaic (PV) power systems, classified by the granularity level at which maximum power point tracking (MPPT) is applied. Grid-tied P...

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