

The load bearing capacity of the PV system is discussed under self-weight, static wind load, snow load, and their combination. The influences of row spacing, tilt angle, initial cable force, ...

The calculation formula in the paper is simple and accurate, which can provide a reference for static analysis and structural design of flexible photovoltaic support.

Here, a vector form intrinsic finite element model for dynamic analysis of novel cable-suspended photovoltaic module support structure (CPMSS) was established to analyze characteristics of its ...

Considering the strain energy generated by cable force variation, the method presented in the paper has higher calculation accuracy for suspension cable structures with a small rise-span ratio, and includes ...

Using Hamilton's principle, this study derives practical formulas for bending, torsional, and lateral modal frequencies of a single-layer CSPS accounting for cable tension, cable spacing, span, ...

Recently, a new CSPS with a much smaller settlement and stronger wind resistance was proposed. The new CSPS, with a 10% lower cost compared with traditional fix-tilted PV support, is a ...

In this paper, aiming to provide a contribution to this gap, a PVSP steel support structure and its key design parameters, calculation method, and finite element analysis (FEA) detailed with...

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 ...

In order to reduce the construction costs of the flexible photovoltaic support, a mathematical model for optimizing the initial structure's morphology is established according to the ...

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