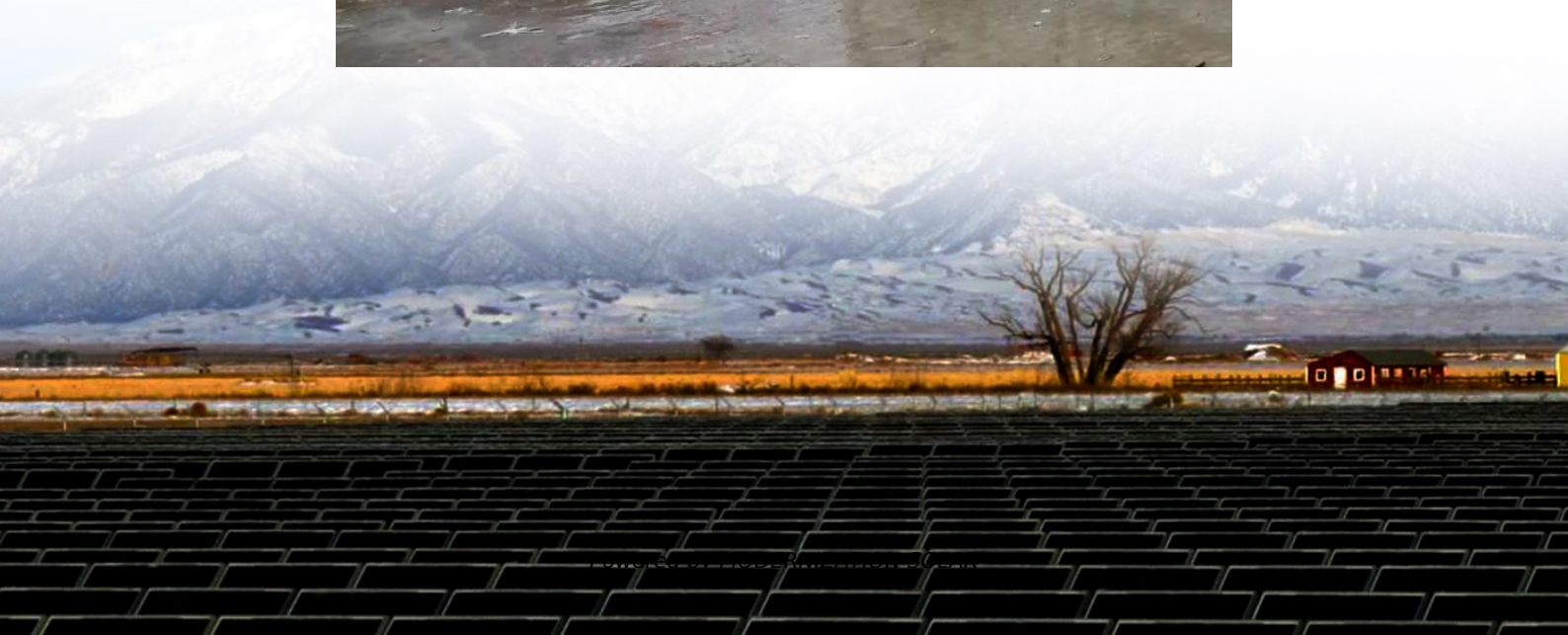


Flexible solar panel pressure measurement





Overview

Can aeroelastic wind tunnels measure long-span flexible photovoltaic (PV)?

Existing measurement technologies and methods have limited previous aeroelastic wind tunnel tests on long-span flexible photovoltaic (PV) to localized measurement points, lacking refined, multi-region, and multi-point analysis.

What is a flexible photovoltaic (PV) system?

Author to whom correspondence should be addressed. Photovoltaic (PV) system is an essential part in renewable energy development, which exhibits huge market demand. In comparison with traditional rigid-supported photovoltaic (PV) system, the flexible photovoltaic (PV) system structure is much more vulnerable to wind load.

What are the wind pressure shape coefficients for a photovoltaic tracking support structure?

Figure 7 presents the line graphs of the wind pressure shape coefficients for each row of the photovoltaic tracking support structure at tilt angles of 15° , 30° , and 45° under wind direction angles of 0° and 180° . The study shows that along the windward direction, the wind pressure shape coefficients for the first row is the highest.

What is the wind speed profile of a solar panel?

The Wind speed profile followed power law with exponential 0.15 as a characteristic index of open terrain. The measured wind speed of the upstream solar panel about 5 cm in height is the reference wind speed at which 7.3 m/s and 13 % for wind velocity and turbulence intensity (TI) at panel height respectively.



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...



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...

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Flexible photovoltaic panel pressure measurement

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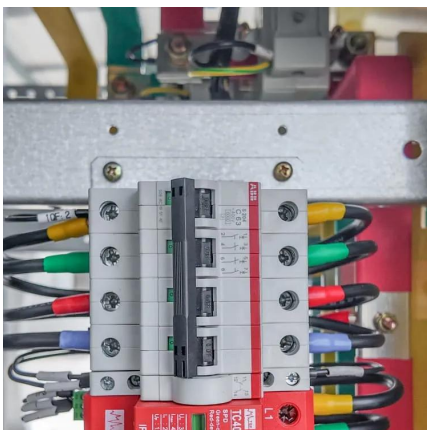
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