

Solar panel power generation interval





Overview

Can SSA-VMD-CNN-GRU predict solar power intervals?

Aiming at the difficulty of PV power prediction and the low accuracy of existing methods, a short-term PV power interval prediction method based on SSA-VMD-CNN-GRU is proposed. First, PV data undergo similar day clustering based on permutation entropy and VMD is applied to solar radiation signals with high correlation.

What is a short-term PV power interval prediction method based on SSA-VMD-CNN-GRU?

Based on the above theory, aiming to address the difficulty of PV power prediction and the low accuracy of existing methods, a short-term PV power interval prediction method based on sparrow search algorithm (SSA)-VMD-CNN-GRU is proposed.

What are the timescales for solar power aggregation?

Timescales (durations) considered are mainly minutes^{16,19-21}, hours^{14,17,18,26}, months²³ and years^{15,24,25}. Furthermore, the geographical scale for solar power aggregation varies with plant/site^{16,19-21,27}, to state^{15,18,23,24,26} and to sub-region^{14,25} but with a limited number of PV sites/stations.

What is intermittency of solar energy?

It is well recognized internationally that the intermittency of solar energy is a fundamental technical/ economic barrier which limits the penetration level of solar power in the energy supply.



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