

How efficient are bulk-heterojunction organic photovoltaic devices with nonfullerene acceptors?

Bulk-heterojunction organic photovoltaic devices with nonfullerene acceptors (NFAs) exhibit efficient hole transfer with small interfacial energy offset, which results in power conversion efficiencies above 17% in single junction devices using the high-performance NFA of Y6.

Which models are used in ultrashort-term prediction of PV power?

In summary, most of the existing studies relevant to the ultrashort-term prediction of PV power mainly focus on those ANN-based single models, the VMD/EEMD-based hybrid prediction models, and the joint prediction models based on two or three kinds of ANN.

What is a hybrid PV power prediction model?

Hybrid PV power prediction model can be roughly divided into two types: one combines ANN with the swarm intelligence optimization algorithm (SIOA), due to its superiority in finding the optimal solutions for a complex search space.

Which neural network is used in PV power forecasting?

At present, the deep neural network (DNN), the convolution neural network (CNN), and the deep belief network (DBN) have been successfully applied to PV power prediction. In Ref. , a hybrid PV power forecasting model based on CNN and long short-term memory (LSTM) neural network was proposed.

Does a hybrid PV power forecasting model work better than a single model?

In Ref. , a hybrid PV power forecasting model based on CNN and long short-term memory (LSTM) neural network was proposed. The results show that in most cases, hybrid networks work better than a single model. However, the DNN algorithm needs an iterative method to adjust the parameters continuously, so the training speed is extremely slow.

What is a quasi 2D light emitting diode?

[...] Quasi-two-dimensional (quasi-2D) perovskite light-emitting diodes (PeLEDs) are considered as one of the most potential candidates in electroluminescence territory owing to their unique quantum confinement effect and excellent thermal stability of the light.

Qian Li, Rui Wang, Tao Yu, Xiaoyong Wang, Zhi-Guo Zhang, Yuan Zhang, Min Xiao, Chunfeng Zhang. Long-Range Charge Separation Enabled by Intramoiety Delocalized Excitations in Copolymer Donors in ...

To enhance the robust stability of the dc-link voltage in the photovoltaic (PV) grid-connected system, a modified linear active disturbance rejection control (LADRC)-based regulation ...

Antimony selenide (Sb_2Se_3) is a kind of emerging candidate for the application in low-cost and

high-efficiency thin film solar cells owing to its non-toxicity, earth-abundance, and unique ...

Bulk-heterojunction organic photovoltaic devices with non-fullerene acceptors (NFAs) exhibit efficient hole transfer with small interfacial energy offset, resulting in power conversion ...

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Rich functionalities have been identified for domain walls (DWs, naturally occurring interfaces in ferroics), e.g., enhanced conductance and photovoltaic effect, which specify the interest in ...

et al. conducted research on column biaxial solar photovoltaic brackets, studying the structural loads at different solar altitude and azimuth angles. Conduct static analysis and optimization ...

To enhance the robust stability of the dc-link voltage in the photovoltaic (PV) grid-connected system, a modified linear active disturbance rejection control (LADRC)-based ...

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