Solar power generation methods and classification

Up to the year 2016, the worldwide operation of the sun-oriented power generation capacity has ascended to 302 GWp, which is enough to supply 1.8 per cent of the world energy demand. The solar power generation capacity ...

shrinkage and selection operator (LASSO) based forecasting model for solar power generation. LASSO based model assists in variable selection by minimizing the weights of less important ...

Solar forecasting is of great importance for ensuring safe and stable operations of the power system with increased solar power integration, thus numerous models have been presented ...

Moreover, they are categorized into four groups, namely, statistical, physical, hybrid, and others with relevant application conditions and features. Meanwhile, six categories, along with 30 ...

A comprehensive and systematic review of various methods utilized in solar irradiance and power forecasting, which aims to help readers more effectively utilize these approaches for future in ...

Forecasting solar power production accurately is critical for effectively planning and managing renewable energy systems. This paper introduces and investigates novel hybrid ...

Thus, forecasted weather parameters can be used to obtain future solar power generation using the developed model. This is called point forecasting. Statistical methods such as regression ...

Solar power integration has shown a significant growth in many power systems during the last decade. The intermittent nature of solar irradiance tends to vary the amount of ...

To optimize energy extraction in PV systems, several maximum power point tracking (MPPT) methods are proposed in the literature for uniform solar irradiance conditions (USICs) and for PSCs [11,12,13,14].