Principle of Intelligent Photovoltaic Panel Controller

Numerous control algorithms are widely reported in the literature for grid integration of solar PV systems with active power feeding, reactive power compensation and ...

This article presents a detailed examination of the applications of various remote-control, artificial intelligence, and cybersecurity techniques across a diverse range of solar energy sources.

By implementing a sun tracker controller using fuzzy logic controller to keep the PV panel pointing toward the sun by using a stepper motor. The use of stepper motor enables accurate tracking of the ...

For the limitation of fuzzy control algorithm, considering the property of the Versoria function, an MPPT design method for an intelligent controller based on the Versoria variable step ...

The intelligent system judgement and decision making based on the electrical signals fed back by the wind sensor or the vibration sensor. When the wind speed reaches the threshold, it can ...

In PV systems, intelligent MPPTs are an extremely promising development. In this article, we present a method of controlling a photovoltaic system with variable insolation conditions ...

This study presents a novel approach for integrating solar PV systems with high input performance through adaptive neuro-fuzzy inference systems (ANFIS). A fuzzy neural inference ...

This study delves into the efficacy of a fuzzy logic controller compared to conventional controllers designed for tracking the maximum power point.

In this paper, the photoelectric method is used to track the position of the sun, the control process is modeled and simulated in the system. The system is optimally controlled by adding a Kalman filter to ...

This research aims to offer decision-makers and solar energy consumers a comprehensive understanding of the principles behind MPPT, the various factors that impact it, and ...

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