The research of combining optimal estimation theorem to green power applications

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ABSTRACT

Because the industry and economic are progressed very fast, therefore, the fuel energy is exhausted day by day. The renewable energy plays an impartment role today. Many countries pay more attention to this kind of research recently. The solar energy is one of the most impartment renewable energy. However, the efficiency of the PV panel is very low. One method which can enhance the PV panel transform efficiency is very important. In this dissertation, we develop a high efficient energy storage technique and improved maximum power point tracking (MPPT) method. Moreover, in view of the traditional fixed angel PV system, an algorithm applying tracking method is proposed in this dissertation. The method combines a sensor and an optimal estimation approach for a PV system. With the developed algorithm, the sensors can detect the sun position and then applying the tracking algorithm to track the moving sun. The energy storage technique and tracking method proposed in this dissertation will improve the efficiency of the PV system.

Keywords : green energy、high efficient energy storage technique、improved maximum power point tracking method、optimal estimation approach

Table of Contents

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