PERFORMANCE ANALYSIS OF DUAL-AXIS SOLAR TRACKING SYSTEM

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In the name of Allah S.W.T, The Most Gracious and The Most Merciful

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ABSTRACT

This project presents the performance analysis of dual-axis solar tracking system using Arduino platform. The ultimate objective of this project is to investigate which one is better between static solar panel and solar tracker. This project is divided into two stages, which are hardware and software development. In hardware development, five light dependent resistors (LDR) were used to capture the maximum light source from the sun. Two servo motors also were used to move the solar panel at maximum light source location sensed by the LDRs. While for the software part, the code was constructed by using C programming language and targeted to the Arduino UNO controller. The performance of the solar tracker was analyzed and compared with the static solar panel, and it shows that the solar tracker is better than the static solar panel in term of voltage, current and power. Therefore, the solar tracker is proven working for capturing the maximum sunlight source for solar harvesting applications.

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