

# Dual-Axis Solar Tracking System

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**Abstract:** *In today's era, our life is dependent on energy. Nation's development is somehow associated with the availability of energy. Solar energy is the most eminent and renewable & cleanest sources of energy. It can be easily harnessed with the help of solar photovoltaic (PV) panels. But, we mainly observe that most of the solar panels are positioned at fixed angles. In order to maximize the amount of solar radiation collected by a solar panel, we use solar tracking device whose function is to follow the sun orthogonally throughout the day which enhances the energy capacity of the system. This paper comprises of development and design of dual axis solar panel tracking system & experimental study of dual axis solar tracker compared to fix position solar panel in terms of performance enhancement. The tracking mechanism of the sun requires light dependent resistor (LDR) as sensor to sense the maximum light availability & two DC motor for two axis movement (i.e., vertical and horizontal) to direct the position of solar panel. The software part is done by the help of written code using an Arduino Uno controller.*

**Keywords:** Solar.

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