

**PROJECT REPORT ON**  
**AUTONOMOUS SOLAR TRACKER**

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Submitted By

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**IN**

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**Under the Guidance of**

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# ABSTRACT

Solar energy is the most readily available source of energy. It is free. It is also the non-conventional source of energy because it is non-polluting. Fossil fuels are a relatively short-term energy sources; consequently, the uses of alternative sources such as solar energy are becoming more wide spread. To make solar energy more viable, the efficiency of solar array systems must be maximized. A feasible approach to maximizing the efficiency of solar array systems is sun tracking. Proposed in this report is a system that controls the movement of a solar array so that it is constantly aligned towards the direction of the sun. Solar modules are devices that cleanly convert sunlight into electricity and offer a practical solution to the problem of power generation in remote areas. The solar tracker designed and constructed in this project offers a reliable and affordable method of aligning a solar module with the sun in order to maximize its energy output.

Autonomous Solar Tracker is a hybrid hardware/software prototype, which automatically provides best alignment of solar panel with the sun, to get maximum output (electricity). In this project we are using PSoC microcontroller to implement the intelligent system.

A working system will ultimately be demonstrated to validate the design. Problems and possible improvements will also be presented.

We can hence conclude that the proposed project is an automatic method of effectively maximizing the efficiency of solar array systems.

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