



SBIT

ENGINEERING TOMORROW

Shri Balwant Institute of Technology

NCR Delhi, Sonapat
Approved by AICTE, Min. of HRD, Govt. of India and DTE, Govt. of Haryana
Affiliated to DCR University of Science & Technology, Murthal, Sonapat



SB Centre of Excellence



Students of Shri Balwant Institute of Technology, Sonapat have come with one of the latest developments in field of Science and Technology, the **Solar Tracking System**.

Akanksha, Preeti Rana and Poonam Dahiya, all fourth year students in Electronics and Communication Engineering at the Institute have developed the system to **control the position of a solar panel in accordance with the motion of sun thus increasing the efficiency of the solar panel**. It is designed for employing the new principle of using small solar cells to function as **self-adjusting light sensors**, providing a variable indication of their relative angle to the sun by detecting their voltage output. By using this method, the Solar Tracking System becomes successful in maintaining a solar array at a sufficiently perpendicular angle to the sun. The power increase gained over a fixed horizontal array was in excess of 30%.

Renewable energy is rapidly gaining importance as an energy resource as fossil fuel prices fluctuate. At the educational level, it is critical for engineering and technology students to have an understanding and appreciation of the technologies associated with renewable energy. As the sun moves across the sky during the day, it is advantageous to have the solar panels to track the location of the sun, such that the panels are always perpendicular to the solar energy radiated by the sun.

This will tend to maximize the amount of power absorbed by PV systems. It has been estimated that the use of a tracking system, over a fixed system, can increase the power output by 30% - 60%. The increase is significant enough to make tracking a viable proposition despite of the enhancement in system cost. Solar tracking system is basically designed to provide a proper security to home by using renewable sources of energy which is solar energy. By means of the solar energy the power consumption and pollution caused by heat is minimal. **Therefore, the main objective of the designed system is to decrease the use of electric power** and increase the efficiency of the home security system.

Solar Tracking System

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