**DESIGN OF A LOW COST SOLAR TRACKING SYSTEM**

Abhishek Mitra Nikhil Dakhole Nupur Bramhane Asst. prof. S.G.Kewte

abhishekmitra2111@gmail.com ndakhole35@gmail.com nupur.bramhane@gmail.com shashi.kewte@gmail.com

Department Of Electrical Engineering, KDKCE, Nagpur*.*

 ***ABSTRACT***

**In this paper the aim is to design the system, which will automatically track the position of sun and accordingly change the direction of the solar panel to get the maximum output from the solar cell. Solar energy is rapidly advancing as an important means of renewable energy resource. More energy can be produced by tracking the solar panel to remain aligned to the sun at a right angle to the rays of light. This paper describes in detail the design and construction of a prototype for solar tracking system which detects the sunlight using photocells. Its active sensors constantly monitor the sunlight and rotate the panel towards the direction where the intensity of sunlight is maximum. The light dependent resistors(LDR) senses the change in the position of the sun which is dealt by the respective change in the solar panels position by switching on and off the geared motor. An improvement in the hardware design of the existing solar energy collector system has been implemented in order to provide higher efficiency at lower cost. Actuation of the panel tilt for azimuth tracking and rotation of the panel for solar tracking are operated with a gear motor- based control system for adjusting the PV mount system’s position so as to collect maximum solar radiation. The gear motor controller module is built with state-of- the-art, low-cost digital logic circuit with built-in flexibility to accommodate position adjustments of the PV mounts.**