HARDWARE MODELLING OF AUTOMATIC SOLAR TRACKING SYSTEM

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Abstract— In this paper the hardware Implementation of solar tracking at all states are presented. First static flat plate solar tracking is used, in this method only 50% of solar energy is collected. By using the moving solar panel the efficiency is increased up to 75% to 80%. The unique feature of the proposed system is that instead of taking the earth as its reference, it takes the sun as a guiding source. 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 do the job of sensing 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.

Keywords— Solar panel, LDR, Automatic solar tracking system, control circuit and driver circuit.