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| **Title:** | Low Cost Microcontroller based Solar Tracking system with Charge Controller | | |
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| **Abstract:** |  |
| This paper presents a low cost microcontroller based solar tracking system with charge controller. Here PIC (Programmable Intelligent Controller) is used to coordinate and control the functions properly. Details of the designing process for the manufacture of solar tracking system and charge controller using (crystal oscillator, stepper motor, optocoupler, sensor, MOSFET) are presented. The source code is written in C for the PIC to achieve maximum power with precise and efficient disconnecting/ reconnecting action automatically. Main goal of this project is to develop and implement a prototype of two-axis solar tracking system based on a microcontroller. As a result, maintaining proper solar tracking, besides disconnection of battery from solar cell when overcharging and reconnection while under discharging which is another main feature of this proposed system. The LCD (Liquid Crystal Display) is equipped to display the tracking status, battery charging discharging status and amount of current flown to the load via microcontroller. The manufacture and operation of proposed low cost smart solar tracking system with charge controller is more effective and functions properly. Index Terms-Charge controller, maximum power point tracker, MOSFET, LCD, microcontroller, sensor, stepper motor, battery, optocoupler, crystal oscillator. | |