VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnanasangama"

Belgaum-590018, Karnataka State, INDIA

A

PROJECT REPORT

ON

SIMPLIFIED SOLAR TRACKING PROTOTYPE

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Submitted by

MAHESH R. SREEPRASAD K.S.

CHETHAN K.S. SANJO THOMAS

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Under the Guidance of

Mr. KUSUMADHARA S. B.E.,M.Tech.,MISTE

Associate Professor

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.V.G. COLLEGE OF ENGINEERING

SULLIA, D.K. 574327, KARNATAKA

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ABSTRACT

Solar energy is rapidly advancing as an important means of renewable energy resource. More energy can be produced by aligning the solar panel normal to sun light. This project deals with the design and construction of a simplified solar tracking prototype with two degree of freedom, the objective of which is to orient the solar panel normal to sunlight, so that it can receive maximum insolation.

The control circuit for the solar tracker is based on 8051 microcontroller. The microcontroller is interfaced with analog to digital converter, DC motor driver and LCD display. The microcontroller is programmed to detect the sun light through LDRs and then actuates the motors to position the solar panel where it can receive maximum sunlight. The program is developed using embedded C with Keil MicroVision3 and Willar software. A comparison of solar panel output voltages with and without solar tracker shows a significant gain.