

Solar Power Harvesting Using MPPT and Inverter

B Suresh Reddy¹, R Poojitha², G Shivani³, M Pranay⁴

¹Sr. Asst. Professor in Dept. of Electrical & Electronics Engineering

^{2,3,4}UG Student, Dept. of Electrical & Electronics Engineering

Christu Jyothi Institute of Technology & Science, Jangaon, Telangana, India

Abstract: *This project focuses on efficient solar power harvesting using Maximum Power Point Tracking (MPPT) techniques and a DC-AC inverter. Solar energy, being a clean and renewable source, is increasingly used to meet growing energy demands. However, the efficiency of panels is influenced by environmental factors such as sunlight intensity and temperature. To maximize energy extraction, MPPT algorithms are employed to dynamically solar adjust the operating point of the solar panel to ensure it consistently operates at its maximum power point. The harvested DC power is then converted to AC using a high-efficiency inverter to make it suitable for household or grid applications. This system enhances the overall energy conversion efficiency and provides a reliable power source with reduced dependence on conventional energy systems.*

Keywords: MPPT, Inverter, Solar Energy, Battery

