

## Major Project

My major project is 'DMPPT Strategy for PV Module Strings under Non-uniform Operating Conditions'.

This project aims to create a single MPPT controller for more number of PV modules.

I used three PV modules, each panel integrated with its own DC/DC boost converter. These modules are connected to a common DC bus. A DC/AC inverter is used to connect the load to the system. A DMPPT controller is used to update the duty cycle of each DC/DC converter.

The irradiance of each panel is set to vary. This change affects the current significantly but affects the voltage only slightly. As a result, less power is generated, and the panel is not used efficiently. To avoid this, the DMPPT controller is designed to check the voltage of each PV panel regularly. If any change is found, it updates the duty cycle for that converter.

The total duration for one cycle is 1.5 seconds, with 0.5 seconds spent on each panel. This project removes the need for separate controllers for each panel and uses a single common controller instead.