

SIMULATION OF MPPT CONTROL SYSTEM WITH DC/DC BIDIRECTION CONVERTER IN BOOST MODE FOR PV SYSTEM

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Abstract:

As energy demands around the world increase, the need for a renewable energy sources that will not harm the environment has been increased. Solar power system is one of the most promising as a future energy technology but solar panels are dependent on sunlight to effectively gather solar energy. Since the conversion efficiency of photovoltaic (PV) arrays is very low, it requires maximum power point tracking (MPPT) control techniques. The purpose of the MPPT is to adjust the solar operating voltage close to the MPP under changing atmospheric conditions.

This paper presents a simulation model of PV module and DC/DC bidirection converter with the Perturb and Observe (P&O) technique of MPPT in PSIM software.

Keyword: PV, P&O MPPT, DC/DC bidirection converter