

# Design, Coding and Simulation of MPPT on DC-DC Buck and DC-DC Boost Converters

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**Abstract:** *Solar PV Arrays have come out as a very easily implementable mode of renewable energy generation. But the major drawback with Solar PV Array is their efficiency and reliability. There are various ways to improve the efficiency of a PV Array. A very optimal solution to improve the efficiency and reliability is by implementing Maximum Power Point Tracing (MPPT) techniques to the Solar PV Array system. There are numerous techniques available to implement MPPT such as Perturb and Observe (P&O) and Incremental Conductance (IC). In this paper, we will design, implement and analyse Perturb and Observe technique to DC-DC Buck and DC-DC Boost Converter and study its effects at different levels of irradiance and compare the results with the maximum power that a particular PV system can produce. The simulations are done using MATLAB/Simulink and code for MPPT is written using MATLAB.*

**Keywords:** PV Array, MPPT, Perturb and Observe, Solar Energy, MATLAB/Simulink.

## REFERNCES

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