Maximum power point tracking under partial shading condition using particle swarm optimization with DC-DC boost converter

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Abstract

This paper introduces a new algorithm based on the particle swarm optimization for maximum power point tracking MPPT of photovoltaic systems under partial shading conditions. In this paper, the PV module is interfaced to the load using DC-DC boost converter. The MATLAB/SIMULINK is utilized to obtain this study. The simulation results show the high tracking efficiency of the proposed technique under different irradiance patterns. The suggested algorithm success to hunt the global operating point of maximum power by controlling the DC/DC converter.

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