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## Comparison of Photovoltaic (PV) Panels and Soft Switching Boost Converters for PV Power Generation Systems

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### Abstract

*In this paper comparison of monocrystalline and polycrystalline PV arrays based on output voltage and power was carried out. The comparison of Zero Voltage Switching (ZVS) interleaved converter Zero Current Switching (ZCS) interleaved converter and soft switching (resonance) interleaved converter was carried out using MATLAB/SIMULINK simulation. The simulation results were compared based on efficiency, harmonic distortion and settling time. Perturb and Observe MPPT (maximum power point tracking) control is used for simulating the model. The hardware performance of interleaved soft switching converter was compared with simulation results. A fault tolerant circuit introduced to protect the converter from switching circuit faults and device faults.*

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