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CASCADED H BRIDGE MULTILEVEL INVERTER BASED GRID INTEGRATED SOLAR SYSTEM

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ABSTRACT

In the high-power grid-integrated solar energy system (GISES), multilevel inverters are used because they have lower switching losses and harmonics in the injected current. A suitable choice of multiple output dc-dc converters is necessary for the integration of solar PV array with multilevel inverters (MIs). Additionally, there is less research in the literature on two-stage GISES with isolated multi output dc-dc converters and dc-ac multilevel inverters. This article makes effective use of a cascaded H-bridge multilevel inverter with isolated multiple outputs. To provide maximum power extraction under poor irradiation conditions, the isolated multiple output zeta converters is equipped with the maximum power point tracking method, which is based on the firefly algorithm. Through a band stop generalized integral control, active power exchange, and the grid, the power quality is improved.

KEYWORDS: *H Bridge Multilevel Inverter, Control Techniques, Algorithms*