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(57) Abstract :
A multi-high gain multiport Direct Current-Direct Current (DC-DC) converter (104) for integrating renewable energy sources with Maximum Power Point Tracking (MPPT) to DC load is disclosed. The multi high gain multiport DC-DC converter (104) includes at least three energy sources or storages (102A-102N), inductors (L1-L3), diodes (D1-D4), and power switches (S1- S4). Energy sources or storages (102A-102N) includes first energy source or storage (102A), second energy source or storage (102B), and third energy source or storage (102N). The plurality of inductors (L1-L3), plurality of diodes (D1-D4), and plurality of power switches (S1-S4) is configured as boost converters. The energy sources or storages (102A-102N) are configured with boost converter for transferring one or more input energy from renewable energy sources to energy storage system. By adjusting duty ratios, multi high gain multiport DC-DC converter tracks MPPT from renewable energy sources. The DC-DC converter regulates renewable energy sources to maintain output DC-link voltage. <>

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