

# Power Conversion Circuits for Distributed PV Systems

**Abstract**—There are two types of distributed Photovoltaic (PV) systems, AC module type and DC module type. In AC module type, the key component is the Step-up DC-DC converter which boosts the output voltage of a PV panel to Grid. In this presentation new High Step-up DC-DC converter is introduced which is based on Quasi-Z-source network. The proposed converter features low voltage ripple at output voltage, low voltage stress and free from the high side driver. On the other hand, in DC module type the obstacle of it is the partial shadow problem because of the series connection of PV panels. We introduced the new configuration for DC module type based on Buck-only converter with Current Source Inverter (CSI). The proposed configuration provides simple Module Integrated Converter (MIC) and high reliability. To confirm the validity of the proposals the measurement results of both are shown.