Low Frequency Operation and dsPIC Micro-controller Implementation for Multilevel Quasi Z Source Inverter in Photovoltaic Application

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Abstract

In this paper implementation of a micro-controller based pulse width modulation for multilevel quasi Z source inverter (qZSI) is presented. First implementation of component design of qZSI is taken into consideration with continuous and discontinuous operation mode. In this paper operation of multilevel qZSI with low switching frequency is presented. After this detailed modelling for qZSI is established for implementing of PIC microcontroller (PIC 16F877A) to generate the switching signals. Development ofa five-level quasi z-source inverter prototype is done and by proper adjustment of the shoot through (ST) switching state and non-shoot through (NST) switching

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