SIMULATION OF SINGLE-PHASE INVERTER OPERATION USING SINGLE PHASE MATRIX CONVERTER TOPOLOGY

This thesis is presented as a partial fulfillment for the award of the Bachelor of Electrical Engineering (Hons.)

UNIVERSITI TEKNOLOGI MARA

MALAYSIA

MASNIE LALU
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM,
SELANGOR, MALAYSIA

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ABSTRACT

In this report the Single-phase Matrix Converter (SPMC) is presented to operate as an inverter. The well-known Sinusoidal Pulse Width Modulation (SPWM) technique was used to synthesize the output waveform. Safe commutation strategy was implemented to avoid voltage spikes due to inductive load. The development of a computer simulation model using MATLAB/Simulink is presented to verify the behavior of single-phase inverter operation using single phase matrix converter.

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