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A Novel Multilevel DC - AC Converter from Green Energy Power Generators Using Step-Square Waving and PWM Technique

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Abstract

Green energy sources or renewable energy system generally utilize modular approach in their design. This sort of power sources are generally in DC form or in single cases AC. Due to high fluctuation in the natural origin of this energy (wind & solar) source they are stored as DC. DC power however are difficult to transfer over long distances hence DC to AC converters and storage system are very important in green energy system design. In this work we have designed a novel multilevel DC to AC converter that takes into account the modular design of green energy systems. A power conversion efficiency of 99% with reduced total harmonic distortion (THD) was recorded from our simulated system design.

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