

163. A SOLAR POWER GENERATION SYSTEM WITH A FIFTEEN LEVEL INVERTER USING MARKOV CHAIN ALGORITHM

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This paper proposed a new solar power generation system, which is consist of dc/dc power converter and a new fifteen-level inverter. The output voltage of the solar cell array is divided into two independent voltage sources with multiple relationships. In this way, the proposed solar power generation system generates a sinusoidal output current that is in phase with the utility voltage and is fed into the utility. Hence, it requires only eight power electronic switches. The salient features of the proposed fifteen-level inverter in all time by means of any one of power electronic switch are used to complete the operation. Here markov chain algorithm is proposed which does not depend on past and future state rather than it randomly takes the decision. A PWM technique is used to control the outputs in the steady state by varying duty cycle and modulation index. A fifteen level inverter was designed and results were also shown in the project.

Keywords: Direct Current to Direct Current, Fifteen Level Inverter, Pulse Width Modulation.

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