

Optimization Design of Single Phase Inverter Connected to the Grid

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Abstract : In grid-connected photovoltaic systems, significant improvements can be carried out in the design and implementation of inverters: reduction of harmonic distortion, elimination of the DC component injected into the grid and the proposed control. This paper proposes a control strategy based on PWM switching patterns for an inverter for the photovoltaic system connected to the grid in order to control the injected current. The current injected must be sinusoidal with reduced harmonic distortion. An additional filter is designed to reduce high-order harmonics on the output side. This strategy exhibits the advantages: Simplicity, reduction of harmonics, the size of the line filter, reduction of the memory requirements and power calculation for the control.

Keywords : control, inverters, LCL filter, grid-connected photovoltaic system

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