عنوان مقاله:

Multi-Stage Structure with Model Predictive Control for Nine-Level Inverter Grid-Connected

محل انتشار:

ششمین کنگره ملی تازه های مهندسی برق و کامپیوتر ایران با نگاه کاربردی بر انرژی های نو (سال: 1398)

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خلاصه مقاله:

In this paper, an improved power conversion structure for integrating photovoltaic systems into the power grid is presented. In order to obtain a galvanic insulation between the grid and the PV panel, many PV systems use a power transformer, avoiding that a leakage current may flow through the capacitance between PV panel and ground. Some systems use a transformer embedded in a high-freq ency DC/DC converter. This structure is based on a multilevel inverter and on an isolated DC-DC converter. The structural design of this power converter allows a nine-level shaped output voltage wave at the output of the multilevel inverter. To control the proposed structure, model predictive control(MPC) technique is used. PSCAD/EMTDC software is used for simulation of the converter

کلمات کلیدی:

Photovoltaic power conversion, isolated DC-DC converter, grid connection, multilevel inverter, model predictive (control (MPC