

عنوان مقاله:

New Passive Filter Design of Inverter-Interfaced Distributed Generation for Grid-Tied and Stand-Alone Operation

محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

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خلاصه مقاله:

Recently, Distributed Generation (DG) has an important role in electric power systems. Some of DGs like photovoltaic (PV) are required an inverter to convert DC output voltage to desired AC voltage therefore, the inverter control strategy and appropriate output voltage or current are important issues. Harmonics and ripples in the waveform cause to increase losses which are lead to increase total costs so, a variety of filters and converters are designed. In this paper, a simple and new passive filter topology for eliminating output current ripples in the inverter based DG is proposed. The advantages of this filter are simplicity, lack of control circuits and semiconductor switches. This filter is operated based on reflected ripples that are automatically induced in which current ripples are removed and cause to enhance power quality. In order to comprehensive and accurate analysis, a DG along with this topology is used in two typical modes which are grid-connected and isolated. Simulation results show that RRC performance is desirable as .DG interface and it can be improve losses and output efficiency

کلمات کلیدی:

;distributed generation; PWM inverter; filter; harmonic

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