عنوان مقاله:

New Method for Inrush Current Mitigation Using Series Voltage-Source PWM Converter for Three Phase Transformer

محل انتشار:

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خلاصه مقاله:

Transformer inrush currents have always been a concern in a power industry. Inrush currents generated by unloaded power transformer often reduce power quality on the system. Over the last decades, methods have been proposed to remove transformer inrush currents. To improve this situation, this paper proposes an active inrush current compensator that is capable of reducing the inrush current effectively during start up mode. The method uses a voltage source PWM converter is connected in series to the transformer that produce a dynamic resistor in series with transformer and remove inrush current. This method was tested by PSCAD/EMTDC simulation. Simulate shows that proposed method removes inrush current completely. This strategy is easier to implement because it has simple control method and requires no information of the transformer parameters, power on angle circuit breaker and measurement of residual flux and so on.

کلمات کلیدی:

inrush current, dynamic resistor, IGBT Bridge, PWM converter, PSCAD/EMTDC