

عنوان مقاله:

Current Balancing, Reactive Power and Harmonic Compensation Using a Traction Power Conditioner on Electrified Railway System

محل انتشار:

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خلاصه مقاله:

In order to overcome the power quality problems which are caused by traction networks such as Negative Sequence Current (NSC), harmonics and reactive power, a Traction Power Conditioner (TPC) is introduced in this paper, which can shift active and reactive power from one section to adjacent section. Firstly, a Y/ Δ transformer which is rarely considered as a traction transformer, is selected because of its better performance comparing to other transformers after compensation. In addition, a comprehensive compensation strategy is presented to compensate NSC, reactive power and harmonics for non-unity power factor traction loads, which is valid for all kinds of traction transformers. Finally, the correctness of the analysis and proposed strategy is verified by the simulation results using Matlab/Simulink software.

کلمات کلیدی:

power quality, Negative Sequence Current (NSC), electrified railway, Traction Power Conditioner (TPC), traction transformer

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