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MODELING AND SIMULATION OF POWER ACTIVE FILTERS FOR REDUCING HARMONIC POLLUTION USING THE INSTANTANEOUS REACTIVE POWER THEORY

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Abstract

The paper presents the structure of an active parallel filter for reducing harmonic pollution and reactive power. The active power filter control is based on instantaneous reactive power theory. The control is made in the system of axes α - β, which use direct and inverse transformation to obtain the equations from one system to another coordinate axes. The authors present the modeling of parallel active filter based on this theory and the simulation results in MATLAB-SIMULINK. The method is based on instantaneous reactive power (TPRI_Q).

Key words: distorting regime, harmonic pollution, power active filter, reactive power, simulation.

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