

IMPROVEMENT OF POWER QUALITY BY REDUCING HARMONICS PRODUCED BY NON-LINEAR LOADS

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Abstract

The main aim of this project is to explain the effects of Harmonics in the Power System and steps to reduce the effects of Harmonics. This project will also explain how Harmonic distortion is one of the most important problems associated with power quality and creates several disturbances to the Power System. It includes the Harmonic reduction techniques to improve the power quality for that purpose. Active power filters are used to improve power quality by compensating harmonics and reactive power required by a non linear load. A Series active and passive shunt filter is simulated on matlab simulink platform and the control strategy based on instantaneous reactive power theory so that the voltage waveform injected by the active filter is able to compensate the reactive power.

Keywords : Active power filters, harmonics, hybrid filters, instantaneous reactive power, power quality.

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