



# Implementation of Active Harmonic Filter with MATLAB/Simulink to compensate Non-Linear Loads

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*Abstract*—In this paper, the implementation of a shunt active power filter is given for three phase system is presented. The circuit models a standard shunt AHF with IGBT inverter and series inductor on the AC side and DC capacitor energization. The AHF uses a PLL to generate a reference sinusoidal source current which is in-phase and has the same RMS gain as the load current. The AHF aims to inject this current error at the point of common coupling in order to match the source current as closely as possible with the reference current.

*Keywords*— Shunt AHF, IGBT inverter, Series Inductor.