Comparison of Reference Current Generation Techniques for Shunt Active Power Filter

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***Abstract* - In this paper a comparison is made between three different control strategies for reference current generation in three-phase three-wire shunt active power filter. Two approaches are being used for this purpose; one is time domain and the other is frequency domain. The three techniques considered are lnstantaneous Reactive Power Theory (p-q), Synchronous Reference Frame theory (d-q) and Discrete Fourier Transform (DFT). These methods are deeply analyzed under various nonlinear load conditions. The performance of these techniques is evaluated by measuring Total Harmonic Distortion (THD) of the source current before and after compensation. The results are evaluated and compared using MATLAB/Simulink.**

***Keywords*—Active power filter, Reference current generation, Harmonics mitigation**

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