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Different Control Techniques for Active Power Filter for Harmonic Elimination & Power Quality Improvement

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Power electronic loads are being connected to the distributed power plants through power electronic converters and these power electronic converters and loads are the source of harmonics and reactive power which affects the performance of the power system network. Switching compensators called Active filters or active power line conditioners brings an effective alternative to the conventional passive LC filters as they can compensate for several harmonic orders, and are unaffected by major changes in network characteristics, avoiding the risk of resonance between the filter and network impedance and are compact and robust compared with traditional passive compensators.
The aim of this work is to design shunt active filter to mitigate and alleviate the harmonics and reactive power issues with controller based on different theories under unbalanced and distorted regimes. In this paper a control method for active power filter using Space Vector Pulse Width Modulation (SVPWM) is compared with other control techniques.

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