

A New Hybrid Active Power Filter with Injection Circuit and Fuzzy Generalized PI-Control Method

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Abstract: *This paper deals with fuzzy generalized PI-control method for hybrid active power filter, and new injection circuit topology. In this supply current detection control strategy is used. With this approach of injection circuit topology, in power system harmonics compensation down by using low capacity active power filter. The fuzzy generalized PI-control method is used. In this control method two control units present: a generalized integrator control unit and fuzzy adjuster system. This control method is useful to any other active power filters; also it is less expensive compare with new technologies like FACT systems and it very effective in compensation of harmonics. Compare to other HAPF control methods fuzzy generalized PI-control method have the advantages of faster response and low error of harmonic compensation in distribution system. The MATLAB simulation result shows that the new control method is very effective in reducing harmonics.*