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IMPROVED POWER QUALITY FEATURES USING FUZZY BASED UPQC TOPOLOGY FOR BLDC DRIVE APPLICATIONS

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ABSTRACT

Implementation of the fuzzy logic controller by using voltage as feedback for significantly improving the dynamic performance of proposed UPQC module. Power quality is normally degree of any deviation from the nominal values of the voltage magnitude and frequency. Power quality problem manifested in voltage, current (or) frequency deviations. That causes power failure (or) disoperation of customer of equipment. Mostly power quality problems mitigate by UPQC. This UPQC contain combination of the the series and shunt active filters and series active filter mitigate the voltage related harmonics in power supply side and shunt active filters are mitigate the current related harmonics of non linear loads. And UPQC mitigate the harmonics and other harmonic sensitive loads. APF(active power filters),passive filters, UPFC (Unified Power Flow Converter) etc are mitigate the other power quality problems. Among from them unified power quality conditioner was widely studied by different controllers and we applied to BLDC motor for updating of load characteristics that improve the power quality in distribution side.

KEYWORDS: Series Active Power Filter, Shunt Active Power Filter, Three-Phase Four Wire Systems (3P4W), Instantaneous Active Reactive Power (P-Q) Theory