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Performance Comparison of L-UPQC and R-UPQC with FUZZY logic Controller for Power Quality Improvement

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Abstract : In the modern power system, the usage of power electronic loads was statically high and it behaves as non-linear load. This load causes the serious voltage distortion and power quality issues on the transmission and distribution system by injecting the harmonics. Usually active power filters are used to regulate this problem. Unified power quality conditioner is the combination of series and shunt active power filters. It not only eliminates the harmonics, also it treats all type of voltage and current fluxuations and compensate the reactive power in distribution system. In this paper new topology of unified power quality conditioner with different control strategy was introduced to rectify the power quality issues and increase the strength of power quality. UPQC concern feedback system with FUZZY logic controllers was used to improve the performance of UPQC and compare the results using MAT LAB/SIMULINK.

Index Terms : L-UPQC, R-UPQC, Active Power Filters, Power Quality.

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