

Integration of UPQC Based on Fuzzy Controller for Power Quality Enhancement in Distributed Network

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Abstract : The use of Distributed Generation (DG) has been increasing in recent years to fill the gap between energy supply and demand. This paper presents the grid connected wind energy system with UPQC based on fuzzy controller to compensate for voltage and current disturbances. The proposed system can improve power quality at the point of installation on power distribution systems. Simulation results show the capability of the DG-UPQC intelligent system to compensate sags voltage and current harmonics at the Point of Common Coupling (PCC).

Keywords : shunt active filter, series active filter, UPQC, power quality, sags voltage, distributed generation, wind turbine

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