

PERFORMANCE OF FUZZY CONTROLLER FOR UPFC TO ENHANCE POWER SYSTEM QUALITY

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ABSTRACT

This paper presents a new control method to compensate the power quality problems through a three-phase unified power flow controller (UPFC) under non-ideal mains voltage and unbalanced load conditions. A unified power flow controller (UPFC) using a fuzzy logic controller (FLC) has been proposed. The results obtained through the FLC are good in terms of dynamic response because of the fact that the FLC is based on linguistic variable set theory and does not require a mathematical model of the system. Moreover, the tedious method of tuning the PI controller is not required in case of FLC. Simulations are carried out using MATLAB/Simulink to validate the theoretical findings.

KEYWORDS: FACTS Applications, UPFC, PI Controller