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DAMPING OF OSCILLATIONS BY WAVELET BASED FUZZY LOGIC CONTROLLER IN UPFC INSTALLED POWER SYSTEM

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Abstract

In the world of power systems Flexible Alternating Current Transmission System (FACTS) Technology opens a new opportunities to control the power flow and loading of transmission lines in a desired manner by maintaining the transmission lines voltage at a specified level. Unified Power Flow Controller (UPFC) is one of the versatile FACTS device and is used to control the power flow in transmission lines. In this paper a Continuous Wavelet Transform (CWT) based Fuzzy Logic Damping Controlled (FLDC) UPFC is proposed for damping the oscillations generated in the power system due to transients. The proposed control strategy with UPFC is installed in a Western System Coordinating Council (WSCC) 9 bus system. The entire system is simulated in MATLAB/SIMULINK environment.

Keywords: FACTS, UPFC, FLDC, CWT and SIMULINK