International J. of Engg. Research & Indu. Appls. (IJERIA).
ISSN 0974-1518, Vol.1, No. VI (2008), pp 309-328

WAVELET BASED NEURAL NETWORKS FOR DETECTION, CLASSIFICATION, LOCALISATION, AND CONTROLLING OF VOLTAGE SAGS USING INTERLINE POWER QUALITY CONDITIONER

M. SUSHAMA, G. TULASI RAM DAS AND A. JAYALAXMI

Abstract

Vast spread of sensitive loads in power systems results in increasing susceptibility to power quality problems, which makes fast detection and classification and localization algorithms a necessity. A new approach for power quality event detection using Wavelet Multi Resolution analysis (MRA)is presented in this paper.

For Classification, Wavelet transform is utilized to extract feature vectors for various PQ disturbances based on the Multi Resolution Analysis (MRA). These feature vectors then are applied to the Neural Network system. For the compensation of the Voltage Sag an Interline Unified Power Quality Conditioner (IPQC) was employed. The complete simulation was carried out using MATLAB/ Simulink.

Keywords : Wavelet Transforms(WT), Multi Resolution Analysis(MRA), Interline Power Quality Conditioner(IPQC).