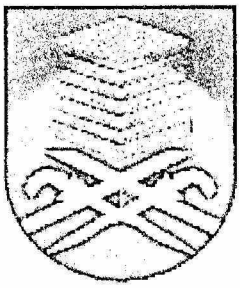
IDENTIFICATION AND CLASSIFICATION OF POWER QUALITY DISTURBANCES USING MATLAB ANALYSIS

Thesis presented in partial of fulfillment for the award of

Bachelor of Electrical (Hons) Engineering

UNIVERSITI TEKNOLOGI MARA



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ABSTRACT

Service reliability and quality of power has become an important concern for many industrial facilities, especially with the increasing sensitivity of electronic equipment and automated controls. Power quality may occur in each of machinery equipments manifested in voltage, current or mal-operation in devices.

This project will briefly discuss the use of Discreet Wavelet Transform Analysis (DWT) in attempt to determine power disturbances according to the appearances of resulting waveforms. By combining the methods of filtering Wavelet Analysis and Artificial Neural Network (ANN) in order to characterize and classify of power disturbances in the transmission system. These programs were developed using MATLAB version 7.0.

Keywords: Discrete Wavelet Transform Analysis (DWT), Multiresolution Analysis (MRA), Self-Organization Mapping Neural Network (SOMNN) and Competitive Learning.

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