

## Detection of Voltage Sag and Voltage Swell in Power Quality Using Wavelet Transforms

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**Abstract :** Voltage sag, voltage swell, high-frequency noise and voltage transients are kinds of disturbances in power quality. They are also known as power quality events. Equipment used in the industry nowadays has become more sensitive to these events with the increasing complexity of equipment. This leads to the importance of distributing clean power quality to the consumer. To provide better service, the best analysis on power quality is very vital. Thus, this paper presents the events detection focusing on voltage sag and swell. The method is developed by applying time domain signal analysis using wavelet transform approach in MATLAB. Four types of mother wavelet namely Haar, Dmey, Daubechies, and Symlet are used to detect the events. This project analyzed real interrupted signal obtained from 22 kV transmission line in Skudai, Johor Bahru, Malaysia. The signals will be decomposed through the wavelet mothers. The best mother is the one that is capable to detect the time location of the event accurately.

**Keywords :** power quality, voltage sag, voltage swell, wavelet transform

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