

Wavelet transforms : practical applications in power systems.

ABSTRACT

An application of wavelet analysis to power system transient generated signals is presented in this paper. With the time-frequency localisation characteristics embedded in wavelets, the time and frequency information of a waveform can be presented as a visualised scheme. This feature is very important for non-stationary signals analysis such as the ones generated from power system disturbances. Unlike the Fourier transform, the wavelet transform approach is more efficient in monitoring fault signals as time varies. For time intervals where the function changes rapidly, this method can zoom in on the area of interest for better visualisation of signal characteristics

Keyword: High impedance faults; Power quality; Time-frequency localisation; Voltage sag; Wavelet transforms.