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Advantage use of wavelet techniques for the interpretation of non-stationary signal

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The applications of the wavelet analysis are huge in different fields of signal processing, compression, time-frequency analysis. The concept of wavelet was firstly introduced on 1980's for the analysis of seismic data, by Morlet. This tool is also a famous tool in applied geomagnetic seismology, astronomy and so many others field of research. The amplitude of the wavelet coefficient can be used as a gauge of local uniformity of a signal. Wavelets types vary according to data and analysis objectives. This method is used for analyzing localized variations of power within a time series. In the wavelet analysis, the continuous wavelet transform and discrete wavelet transform are used, which make it suitable for studying the non-stationary signals at different frequencies. Continuous Wavelet Transformation (CWT) enables continuous description of signal in detailed form not only in terms of time but also in terms of scale. A time-frequency representation is constructed for a signal using CWT. A discrete wavelet transform (DWT) is a wavelet transform for which the wavelet analyzing function is discretely sampled. It contains discrete values of scale and localization. So it may or may not have redundant representation depending on the discretization scheme used. In this work, various types of data base will be presented using both continuous and discrete wavelet transform.

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