Analyzing Nonstationary Financial Time Series Via Hilbert-Huang Transform (HHT)

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DESCRIPTION

This is a computer-implemented trend data extracting method for non-stationary time varying phenomenon. The method involves inputting a representation of a non-stationary time varying phenomenon. The representation is recursively sifted using empirical mode decomposition to extract an intrinsic mode function (IMF) indicative of an intrinsic oscillatory mode. The sifted representation is filtered by identifying cut off frequencies to identify the IMF. The identified IMF is rectified, and the rectified IMF is normalized. The representation is low pass filtered responsive to the cut off frequencies. Trend data is extracted from the filtered representation, and the extracted trend data is displayed.

FEATURES AND BENEFITS

- o The method allows determining the trend and detrends of the data from non stationary and nonlinear processes not relying on extrinsic functional or simplifying assumptions.
- o The method intuitively and directly determines a precise defined trend in any data including non stationary time varying data.
- o The method allows extracting the trend from non stationary and nonlinear data signals such that the trend is defined by the same mechanisms from which the data is collected.
- o The method allows extracting the trend that is an intrinsically fitted monotonic function within data span, or a function and detrends non stationary time varying data simply by removing intrinsically determined trend.

APPLICATIONS

- o Geometrical Signal Processing
- o Biological Signal Processing
- o Geophysical Signal Processing

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14807-1, please contact:

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