National Aeronautics and Space Administration
www.nasa.gov

Empirical Mode Decomposition for Analyzing Acoustical Signals

Case Number: GSC- 13817-4
Patent Number: 6,862,558
Patent Exp. Date: 6/10/2017

DESCRIPTION

This technology is a computer implemented acoustical signal analyzing method which involves extracting a set of intrinsic mode functions from acoustic signal and storing it. The Empirical Decomposition Method (EMD) and the Hilbert Spectral Analysis (HSA) are used to obtain the HHT. Essentially, the acoustical signal will be decomposed into the Intrinsic Mode Function Components (IMFs). Once the invention decomposes the acoustic signal into its constituting components, all operations such as analyzing, identifying, and removing unwanted signals can be performed on these components. Upon transforming the IMFs into Hilbert spectrum, the acoustical signal may be compared with other acoustical signals.

FEATURES AND BENEFITS

- This method enables one to produce a distributed or filtered sensor of original physical signal and eliminates undersigned intrinsic mode function (IMF) components.
- The technology also enables one to determine an analytic function which accurately represents the physically important components of the original signal.

APPLICATIONS

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

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-13817-1, please contact:

Enidia Santiago- Arce
Technology Manager
NASA Goddard Space Flight Center
Innovative Partnerships Program Office
enidia.santiago-arce-1@nasa.gov
(301) 286-8497