

This function (EMDH) executes the EMD and Hurst-based speech enhancement algorithm [1]. This function requires the emd.m file provided by G. Rilling and P. Flandrin at <http://perso.ens-lyon.fr/patrick.flandrin/emd.html>, and also the LDestimate.m file provided by D. Veitch and P. Abry at <http://crin.eng.uts.edu.au/~darryl/index.html>.

This current version was written and evaluated for MATLAB R2009b.

Usage:

```
emd(h(infile,outfile,num_IMF>window,H_th)
or
emd(h(infile,outfile) for default parameters
```

where

infile: input .wav filename
outfile: output .wav filename
num_IMF: total number of modes (IMFs) obtained with EMD (default: 8)
window: frame length in samples (default: 512)
H_th: Hurst exponent threshold value (default: 0.9)

Reference:

[1] L. Zăo, R. Coelho and P. Flandrin, "Speech Enhancement with EMD and Hurst-based Mode Selection", IEEE/ACM Transactions on Audio, Speech and Language Processing, v. 22, n. 5, pp. 897-909, May 2014.

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Contents of EMDH_SE.zip:

emd.h – the algorithm MATLAB file
README.pdf – this file
noisy_sample.wav – a sample noisy file
enhanced_sample.wav – the file obtained by enhancing the noisy_sample.wav with the EMDH algorithm with the default parameters