

This file (ins) computes the index of non-stationarity [1] of a target acoustic signal. The user may set the number of surrogates and the time scale  $T_h/T$ , which is defined as the ratio of the length adopted in the short-time spectral analysis ( $T_h$ ) and the total time duration ( $T$ ) of the input signal. The C/C++ executable was compiled in a Linux machine (Ubuntu 14.04 LTS).

#### Usage:

`./ins <input> [options]`

#### Options:

|                                |   |
|--------------------------------|---|
| <code>-t "t1;t2;...;tn"</code> | define the time scales $t_1, t_2, \dots, t_n$ (default: $t_1=0.015$ )       |
| <code>-j &lt;J&gt;</code>      | number of surrogates (default: 50)  |
| <code>-v</code>                | 'Verbose' mode, written into an output file                                 |
| <code>-o &lt;output&gt;</code> | output file for the verbose mode (default: <code>out_&lt;input&gt;</code> ) |

#### Reference:

[1] P. Borgnat, P. Flandrin, P. Honeine, C. Richard, and J. Xiao, "Testing Stationarity with Surrogates: A Time-Frequency Approach", IEEE Transactions on Signal Processing, v. 58, n. 7, pp. 3459-3470, July 2010.

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#### Contents of INS.zip:

ins – the executable file

README.pdf – this file