

Package ‘TSeriesMMA’

July 21, 2025

Title Multiscale Multifractal Analysis of Time Series Data

Version 0.1.1

Description Multiscale multifractal analysis (MMA) (Gierałtowski et al., 2012)<[DOI:10.1103/PhysRevE.85.021915](https://doi.org/10.1103/PhysRevE.85.021915)> is a time series analysis method, designed to describe scaling properties of fluctuations within the signal analyzed. The main result of this procedure is the so called Hurst surface $h(q,s)$, which is a dependence of the local Hurst exponent h (fluctuation scaling exponent) on the multifractal parameter q and the scale of observation s (data window width).

Depends R ($\geq 3.0.2$)

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Encoding UTF-8

LazyData true

Author Vishakh Padmakumar [aut, cre],
Rishab Ranga [aut],
Amogha Udupa [aut],
Param Hanji [aut]

Maintainer Vishakh Padmakumar <vishakhpadmakumar@gmail.com>

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Contents

mma	2
Index	3

mma*Multiscale Multifractal Analysis of Time Series Data*

Description

Multiscale Multifractal Analysis of Time Series Data

Usage

```
mma(smin = 10, smax = 600, qmin = -5, qmax = 5, data, col = "V1",  
    theta = -45, phi = 25)
```

Arguments

smin	Minimal s scale used, when calculating Fq(s) functions family (default 10)
smax	Maximal s scale used, when calculating Fq(s) functions family, has to be multiple of 5 (default 600; in general should be near to N/50, where N is a time series length)
qmin	Minimal multifractal parameter q used (default -5)
qmax	Maximal multifractal parameter q used (default 5)
data	Time series data
col	The color variation of the plot
theta	Angle of view
phi	Second angle of view

Examples

```
## Not run:  
mma(smax=30, data=timeSeriesData)  
  
## End(Not run)
```

Index

mma, [2](#)