Package: rjd3stl (via r-universe)

September 10, 2024

Type Package

Title R Interface to 'JDemetra+ 3.x' time series analysis software.

Version 2.1.1

Description R Interface to 'JDemetra+ 3.x'
(<https://github.com/jdemetra>) time series analysis software.
It provides functions allowing to decompose a time series,
including high-frequency data with multiple periodicities.

Depends R (>= 4.1.0)

Imports rJava (>= 1.0-6), rjd3toolkit (>= 3.2.2), rjd3highfreq (>=
2.1.0)

Remotes github::rjdverse/rjd3toolkit@*release,
github::rjdverse/rjd3highfreq@*release

SystemRequirements Java (>= 17)

License EUPL

URL https://github.com/jdemetra/rjd3stl,
https://rjdverse.github.io/rjd3stl/

LazyData TRUE

Suggests knitr, rmarkdown

RoxygenNote 7.3.1

BugReports https://github.com/rjdverse/rjd3stl/issues

Encoding UTF-8

Collate 'jd3_stl.R' 'zzz.R'

Repository https://rjdverse.r-universe.dev

RemoteUrl https://github.com/rjdverse/rjd3stl

RemoteRef v2.1.1

RemoteSha aa0f048e3e8e81cfaa4fc24e05715fa6072e15a7

Contents

istl 2
loess 3
mstl 3
stlplus 4

Index **6**

`istl` *Title*

Description

Title

Usage

```
istl(
  y,
  periods,
  multiplicative = TRUE,
  swindows = NULL,
  twindows = NULL,
  ninnerloop = 1,
  nouterloop = 15,
  nojump = FALSE,
  weight.threshold = 0.001,
 weight.function = c("BIWEIGHT", "UNIFORM", "TRIANGULAR", "EPANECHNIKOV", "TRICUBE",
    "TRIWEIGHT")
)
```

Arguments

`weight.function`

Examples

```
q<-rjd3stl::istl(rjd3toolkit::ABS$X0.2.09.10.M, c(12, 25))
decomp<-q$decomposition
```

loess *Fit a Loess regression.*

Description

Fit a Loess regression.

Usage

```
loess(y, window, degree = 1, jump = 0)
```

Arguments

y	input time series.
jump	

Examples

```
q<-rjd3stl::stlplus(rjd3toolkit::ABS$X0.2.09.10.M, 12)
decomp<-q$decomposition
t<-decomp[,'t']
matplot(cbind(t,loess(t, 121)), type='l')
```

mstl *Title*

Description

Title

Usage

```
mstl(
  y,
  periods,
  multiplicative = TRUE,
  swindows = NULL,
  twindow = 0,
  ninnerloop = 1,
  nouterloop = 15,
  nojump = FALSE,
  weight.threshold = 0.001,
 weight.function = c("BIWEIGHT", "UNIFORM", "TRIANGULAR", "EPANECHNIKOV", "TRICUBE",
    "TRIWEIGHT")
)
```

Arguments

weight.function

Examples

```
q<-rjd3stl::mstl(rjd3toolkit::ABS$X0.2.09.10.M, c(12, 25))
decomp<-q$decomposition
```

---

stlplus *Title*

Description

Perform an STL like (based on Loess) decomposition on any periodicity

Usage

```
stlplus(
  y,
  period,
  multiplicative = TRUE,
  swindow = 7,
  twindow = 0,
  lwindow = 0,
  sdegree = 0,
  tdegree = 1,
  ldegree = 1,
  sjump = 0,
  tjump = 0,
  ljump = 0,
  ninnerloop = 1,
  nouterloop = 15,
  weight.threshold = 0.001,
 weight.function = c("BIWEIGHT", "UNIFORM", "TRIANGULAR", "EPANECHNIKOV", "TRICUBE",
    "TRIWEIGHT"),
  legacy = FALSE
)
```

Arguments

y	input time series.
period	period, any positive real number.
multiplicative	Boolean indicating if the decomposition mode is multiplicative (TRUE).
swindow	length of the seasonal filter.
twindow	length of the trend filter.

lwindow	length of the filter used to remove the trend of the seasonal
sdegree	degree of the seasonal local polynomial (0 or 1)
tdegree	degree of the trend local polynomial (0 or 1)
ldegree	degree of the low-pass local polynomial (0 or 1)
sjump	number of jumps in the computation of the seasonal
tjump	number of jumps in the computation of the trend
ljump	number of jumps in the computation of the trend in the seasonal
ninnerloop	Number of inner loops
nouterloop	Number of outer loops (computation of robust weights)
weight.threshold	Weights threshold (in [0, 0.3])
weight.function	weights function
legacy	use of the (bugged) legacy MAD

Value

A matrix with the following series: y, sa, t, s, i, fit, weights

Examples

```
q<-rjd3stl::stlplus(rjd3toolkit::ABS$X0.2.09.10.M, 12)
decomp<-q$decomposition
```

Index

istl, 2

loess, 3

mstl, 3

stlplus, 4