Package ‘gsmoothr’

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Title Smoothing tools
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R topics documented:

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  tmeanC  Trimmed Mean Smoother

Description

A fast trimmed mean smoother (using C code) of data at discrete points (e.g. probe-level data).

Usage

tmeanC(sp, x, spout = NULL, nProbes = 10, probeWindow = 600, trim = 0.1)
Arguments

- **sp**: numeric vector of positions (x-values)
- **x**: numeric vector of data (corresponding to sp)
- **spout**: optional vector of output values to calculate trimmed mean at, default: NULL
- **nProbes**: minimum number of observations required within window
- **probeWindow**: distance (in x) in each direction to look for observations to be used in the trimmed mean
- **trim**: proportion of trim to use in trimmed mean

Details

Using the specified probe window, this procedure uses all values within the window and calculates a trimmed mean with the specified amount of trim. If there are not enough observations within the window at a given position (as given by nProbes), a zero is returned.

Value

vector (of the same length as sp (or spout)) giving the trimmed mean smoothed values

Author(s)

Mark Robinson

See Also

trimmed Mean

Examples

```r
sp <- seq(100, 1000, by=100)
ss <- seq(100,1000, by=50)
set.seed(14)
x <- rnorm(length(sp))

tmC <- tmeanC(sp, x, probeWindow=300, nProbes=5)
tmC1 <- tmeanC(sp, x, spout=sp, probeWindow=300, nProbes=5)
tmC2 <- tmeanC(sp, x, spout=ss, probeWindow=300, nProbes=5)

cbind(tmC,tmC1)

plot(sp, x, type="h", ylim=c(-2,2))
lines(sp, tmC1, col="blue")
lines(ss, tmC2, col="red")
```
trimmedMean

Trimmed Mean Smoother

Description

A slow trimmed mean smoother (using R code) of data at discrete points (e.g. probe-level data).

Usage

trimmedMean(pos, score, probeWindow=600, meanTrim=.1, nProbes=10)

Arguments

pos numeric vector of positions (x-values)

score numeric vector of data (corresponding to sp)

probeWindow distance (in x) in each direction to look for observations to be used in the trimmed mean

meanTrim proportion of trim to use in trimmed mean

nProbes minimum number of observations required within window

Details

Using the specified probe window, this procedure uses all values within the window and calculates a trimmed mean with the specified amount of trim. If there are not enough observations within the window at a given position (as given by nProbes), a zero is returned.

Value

vector (of the same length as sp giving the trimmed mean smoothed values

Author(s)

Mark Robinson

See Also
tmeanC

Examples

sp <- seq(100, 1000, by=100)
ss <- seq(100,1000, by=50)
set.seed(14)
x <- rnorm(length(sp))

tmC <- trimmedMean(sp, x, probeWindow=300, nProbes=5)
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