

Package ‘gsmoothr’

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Title Smoothing tools

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Depends R (>= 2.8.0), methods

Description Tools rewritten in C for various smoothing tasks

License LGPL (>= 2.0)

NeedsCompilation yes

Repository CRAN

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R topics documented:

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| tmeanC | <i>Trimmed Mean Smoother</i> |
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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

[trimmedMean](#)

Examples

```
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 | <i>Trimmed Mean Smoother</i> |
|-------------|------------------------------|

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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