Package: npwbs (via r-universe)

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Type Package

Title Nonparametric Multiple Change Point Detection Using WBS

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Description Implements the procedure from G. J. Ross (2021) - ``Nonparametric Detection of Multiple Location-Scale Change Points via Wild Binary Segmentation'' <arxiv:2107.01742>. This uses a version of Wild Binary Segmentation to detect multiple location-scale (i.e. mean and/or variance) change points in a sequence of univariate observations, with a strict control on the probability of incorrectly detecting a change point in a sequence which does not contain any.

Depends R (>= 3.6.0)

License GPL-3

Encoding UTF-8

NeedsCompilation no

Repository CRAN

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Contents

`detectChanges` *Nonparametric detection of multiple change points using Wild Binary Segmentation*

Description

Returns the estimated number and locations of the change points in a sequence of univariate observations. For full details of how this procedure works, please see G. J. Ross (2021) - "Nonparametric Detection of Multiple Location-Scale Change Points via Wild Binary Segmentation" at https://arxiv.org/abs/2107.01742

Usage

```
detectChanges(y,alpha=0.05,prune=TRUE,M=10000,d=2,displayOutput=FALSE)
```

Arguments

`y`	The sequence to test for change points
`alpha`	Required Type I error (i.e. false positive) rate. Can be set to either 0.05 or 0.01
`prune`	Whether to prune potential excess change points via post-processing. Most likely should be left as TRUE.
`M`	Number of subsequences to sample during WBS. Should be left as M=10000
`d`	Minimum number of observations between change points. Should be left as d=2.
`displayOutput`	If TRUE then will print some information while searching for change points

Value

A vector containing the location of the detected change points

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Examples

```
set.seed(100)
y <- c(rnorm(30,0,1),rnorm(30,3,1), rnorm(30,0,1),rnorm(30,0,3))
detectChanges(y)
```

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