Package ‘linearQ’

Type Package
Title Linear Algorithm for Simulating Quantiles in Multiscale Change-Point Segmentation Problem
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Description It is a linear algorithm to simulate quantiles of multiscale statistics under null hypothesis for multiscale change-point segmentation. The reference is in preparation.
License GPL (>= 2)
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linearQ-package Quantile Simulation in Multiscale Change-Point Segmentation.

Description

A linear algorithm for simulating quantiles of multiscale statistics under null hypothesis in multiscale change-point segmentation.
linearQ-package

Details
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`fastquantile`  Quantile simulation

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References


Examples

```r
# simulate quantiles for multiscale statistics from normal regression model
seed = 123
q <- fastquantile(0.9, 500, 100, seed = seed, type = 1)
```

Description

This is a linear algorithm for quantile simulation under null hypothesis in multiscale change-point segmentation.

Usage

```r
fastQuantile(alpha, n, r=round(50/min(alpha, 1-alpha)), 
               mtype=c("norm-pen", "pois"), seed = 123, ...)
```
Arguments

- **alpha**: a scalar with values in [0, 1]; the $\alpha$-quantile of the null distribution of the multiscale statistic via Monte Carlo simulation
- **n**: number of observations
- **r**: number of Monte Carlo simulations
- **mType**: "norm-pen" simulates the multiscale statistic from Normal regression model, "pois" simulates the multiscale statistic from Poisson regression model.
- **seed**: data seed
- **...**: further arguments passed to penalty function

Value

A scalar quantile value $q$.

References


Examples

```r
# simulate quantiles for multiscale statistics from Normal regression model
seed = 123
q <- fastQuantile(0.9, 500, 100, mType = "norm-pen")
```
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