Package ‘QuantileNPCI’

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Type Package
Title Nonparametric Confidence Intervals for Quantiles
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Imports
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exactBeta

*Calculate lower and upper CI of a given quantile using exact method, based on beta distribution*

**Description**

Calculate lower and upper CI of a given quantile using exact method, based on beta distribution.

**Usage**

```r
exactBeta(n, q, alpha)
```

**Arguments**

- `n` sample size
- `q` quantile
- `alpha` desired significance level

**Value**

A list of the lower and upper confidence limit of the quantiles. Values are between [0,1]

- `u1` lower confidence limit of the quantile
- `u2` upper confidence limit of the quantile

**Examples**

```r
QuantileNPCI::exactBeta(25, 0.5, 0.05)
```

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**flood**

*The flood rate of Feature River and Blackstone River.*

**Description**


**Usage**

```r
flood
```
quantCI

Format

A data frame with 96 rows and 3 variables:

- loc  River name
- year year of the record
- discharge flood discharge rate

quantCI

Description

Calculate nonparametric confidence intervals for quantiles using fractional order statistics,

Usage

quantCI(x, q, alpha, method)

Arguments

- x vector of data
- q the quantile
- alpha the significance level
- method the method used for calculate the confidence interval. Options are "exact" or "approximate".

Value

returns a list of 5 values:

- u1 the lower confidence limit of the quantile
- u2 the upper confidence limit of the quantile
- lower.ci the estimated x value at u1
- qx the estimate x value of at the quantile q
- upper.ci the estimated x value at u2

Author(s)

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Examples

x <- c(3.5, 2.4, 2.1, 1.3, 1.2, 2.2, 2.6, 4.2)
quantCI(x, q=0.5, alpha=0.05, method = "exact")
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