

Package ‘AsyK’

July 11, 2019

Type Package

Title Density Estimation by Using Asymmetrical Kernels

Version 0.1.0

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Description Density estimation by using symmetrical kernels and to calculate mean square error. See Scaillet (2004) <doi:10.1080/10485250310001624819> and Khan and Akbar (2019).

License GPL-2

Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

NeedsCompilation no

Repository CRAN

Date/Publication 2019-07-11 07:59:29 UTC

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graphLap

Plot Density by Laplace kernel.

Description

Plot Kernel density by using Laplace Kernel.

Usage

```
graphLap(y, k, h)
```

Arguments

y	a numeric vector of positive values.
k	grid points.
h	the bandwidth

Examples

```
y<-rexp(23,1)
h<-0.79 * IQR(y) * length(y) ^ (-1/5)
graphLap(y,80,h)
```

graphrig

Plot Density by RIG kernel.

Description

Plot Kernel density by using Resiprocal Inverse Gaussian Kernel.

Usage

```
graphrig(y, k, h)
```

Arguments

y	a numeric vector of positive values.
k	grid points.
h	the bandwidth

Examples

```
y<-rexp(23,1)
h<-0.79 * IQR(y) * length(y) ^ (-1/5)
graphrig(y,80,h)
```

mselap *Calculate Mean Square Error(MSE) when Laplace Kernel is used.*

Description

Calculate MSE by using Laplace Kernel.

Usage

```
mselap(y, k, h, type)
```

Arguments

y	a numeric vector of positive values.
k	grid points.
h	the bandwidth
type	mention distribution of vector.If exponential distribution then use "Exp". if use gamma distribution then use "Gamma".

Value

MSE

Examples

```
y<-rexp(100,1)
h<-0.79 * IQR(y) * length(y) ^ (-1/5)
mselap(y,200,h,"exp")
```

mserig *Calculate Mean Square Error(MSE) when RIG kernel is used.*

Description

Calculate MSE by using Resiprocal Inverse Gaussian Kernel.

Usage

```
mserig(y, k, h, type)
```

Arguments

y	a numeric vector of positive values.
k	grid points.
h	the bandwidth
type	mention distribution of vector.If exponential distribution then use "Exp". if use gamma distribution then use "Gamma".

Value

MSE

Examples

```
y<-rexp(100,1)
h<-0.79 * IQR(y) * length(y) ^ (-1/5)
mserig(y,200,h,"exp")
```

NSR

Calculate Bandwidth.

Description

Calculate Bandwidth proposed by Silverman for nonnormal data.

Usage

NSR(y)

Arguments

y a numeric vector of positive values.

Value

h

Examples

```
y<-rexp(10,1)
NSR(y)
```

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