Package 'SinIW'

October 12, 2022

Type Package

Title The SinIW Distribution

Version 0.2

Date 2016-07-17

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Description Density, distribution function, quantile function, random generation and survival function for the Sine Inverse Weibull Distribution as defined by SOUZA, L. New Trigonometric Class of Probabilistic Distributions. 219 p. Thesis (Doctorate in Biometry and Applied Statistics) - Department of Statistics and Information, Federal Rural University of Pernambuco, Recife, Pernambuco, 2015 (available at <http://www.openthesis.org/documents/New-trigonometric-classes-probabilistic-distributions-602633.html>) and BRITO, C. C. R. Method Distributions generator and Probability Distributions Classes. 241 p. Thesis (Doctorate in Biometry and Applied Statistics) - Department of Statistics and Information, Federal Rural University of Pernambuco, Recife, Pernambuco, 2014 (available upon request).

Depends R (>= 3.0.1)

Imports pracma, fdrtool

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LazyData TRUE

URL https://github.com/TrigonometricDistribution

BugReports https://github.com/TrigonometricDistribution/SinIW/issues

RoxygenNote 5.0.1

NeedsCompilation no

Repository CRAN

Date/Publication 2016-07-18 13:02:47

R topics documented:

`dsiniw` *The density function of the SinInverseWeibull probability distribution.*

Description

The density function of the SinInverseWeibull probability distribution.

Usage

```
dsiniw(x, alpha, theta)
```

Arguments

`x`	vector of quantiles.
`alpha`	Alpha parameter.
`theta`	Theta parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
dsiniw(0.5,1,1)
dsiniw(0.5,0.5,0.7)
```

`hsiniw` *The hazard rate function of the SinInverseWeibull probability distribution.*

Description

The hazard rate function of the SinInverseWeibull probability distribution.

Usage

```
hsiniw(x, alpha, theta)
```

Arguments

`x`	vector of quantiles.
`alpha`	Alpha parameter.
`theta`	Theta parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
hsiniw(0.5,0.5,1.1)
hsiniw(0.5,1,1.9)
```

`psiniw` *The cumulative function of the SinInverseWeibull probability distribution.*

Description

The cumulative function of the SinInverseWeibull probability distribution.

Usage

```
psiniw(q, alpha, theta, lower = TRUE, log.p = FALSE)
```

Arguments

`q`	vector of quantiles.
`alpha`	Alpha parameter.
`theta`	Theta parameter.
`lower`	Lower parameter.
`log.p`	Log.p parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
psiniw(0.5,1,1,TRUE,FALSE)
psiniw(0.5,0.5,0.7,TRUE,FALSE)
```

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qsiniw *Te quantile function of the SinInverseWeibull probability distribution.*

Description

Te quantile function of the SinInverseWeibull probability distribution.

Usage

```
qsiniw(p, alpha, theta, lower = TRUE, log.p = FALSE)
```

Arguments

p	vector of probabilities.
alpha	Alpha parameter.
theta	Theta parameter.
lower	Lower parameter.
log.p	Log.p parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
qsiniw(0.5,1,1,TRUE,FALSE)
qsiniw(0.5,1,0.1,TRUE,FALSE)
```

rsiniw — *Generates random deviates from a SinInverseWeibull probability distribution.*

Description

Generates random deviates from a SinInverseWeibull probability distribution.

Usage

```
rsiniw(n, alpha, theta)
```

Arguments

n	Number of observations to be generated.
alpha	Alpha parameter.
theta	Theta parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
rsiniw(1000,0.1,0.9)
rsiniw(1000,0.2,0.8)
```

ssiniw — *The survival function of the SinInverseWeibull probability distribution.*

Description

The survival function of the SinInverseWeibull probability distribution.

Usage

```
ssiniw(x, alpha, theta)
```

Arguments

x	vector of quantiles.
alpha	Alpha parameter.
theta	Theta parameter.

Value

A vector with n observations of the SinInverseWeibull distribution.

Examples

```
ssiniw(0.1, 1, 1)
ssiniw(0.1, 1, 0.1)
```

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