Package 'CosW'

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Type Package

Title The CosW Distribution

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Description Density, distribution function, quantile function, random generation and survival function for the Cosine 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/CosW/issues

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NeedsCompilation no

Repository CRAN

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R topics documented:

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dcosw   *The probability density function of the CosWeibull probability distri-*
                                bution.

Description

The probability density function of the CosWeibull probability distribution.

Usage

```
dcosw(x, alpha, lambda)
```

Arguments

x	Vector of quantiles.
alpha	Alpha parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
dcosw(1,1,1)
dcosw(1,1.5,2)
```

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hcosw	*The hazard function of the CosWeibull probability distribution.*

Description

The hazard function of the CosWeibull probability distribution.

Usage

```
hcosw(x, alpha, lambda)
```

Arguments

x	Vector of quantiles..
alpha	Alpha parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
hcosw(1,1.5,2)
hcosw(1,2,0.5)
```

---

pcosw	*The cumulative density function of the CosWeibull probability distribution.*

Description

The cumulative density function of the CosWeibull probability distribution.

Usage

```
pcosw(q, alpha, lambda, lower = TRUE, log.p = FALSE)
```

Arguments

q	Vector of quantiles.
alpha	Alpha parameter.
lambda	Lambda parameter.
lower	Lower parameter.
log.p	Log.p parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
pcosw(0.5,1,1,lower = TRUE,log.p = FALSE)
pcosw(0.5,1.5,1,lower = TRUE,log.p = FALSE)
```

---

qcosw   *The quantile function of the CosWeibull probability distribution.*

Description

The quantile function of the CosWeibull probability distribution.

Usage

```
qcosw(p, alpha = 1, lambda, lower = TRUE, log.p = FALSE)
```

Arguments

p	Vector of probabilities.
alpha	Alpha parameter.
lambda	Lambda parameter.
lower	Lower parameter.
log.p	Log.p parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
qcosw(1, 1, 1, TRUE, FALSE)
qcosw(1, 1, 0.1, TRUE, FALSE)
```

---

rcosw	*Generates random deviates from a CosWeibull probability distribution.*

Description

Generates random deviates from a CosWeibull probability distribution.

Usage

```
rcosw(n, alpha, lambda)
```

Arguments

n	Number of observations to be generated.
alpha	Alpha parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
rcosw(1000,1,1)
rcosw(1000,1,0.1)
```

---

scosw	*The survival function of the CosWeibull probability distribution.*

Description

The survival function of the CosWeibull probability distribution.

Usage

```
scosw(x, alpha, lambda)
```

Arguments

x	Vector of quantiles..
alpha	Alpha parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the CosWeibull distribution.

Examples

```
hcosw(1,1,1)
hcosw(1,1.5,2)
```

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