Package 'SecKW'

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Type Package

Title The SecKW Distribution

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Description Density, distribution function, quantile function, random generation and survival function for the Secant Kumaraswamy 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/SecKW/issues

RoxygenNote 5.0.1

NeedsCompilation no

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R topics documented:

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dseckw	*The density function of the Secant Kumaraswamy Weibull probability distribution.*

Description

The density function of the Secant Kumaraswamy Weibull probability distribution.

Usage

```
dseckw(x, a, b, c, lambda)
```

Arguments

x	Vector of quantiles.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
dseckw(1, 1, 1, 1, 1)
dseckw(1, 2, 2, 1, 1)
```

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hseckw	*The hazard rate function of the Secant Kumaraswamy Weibull probability distribution.*

Description

The hazard rate function of the Secant Kumaraswamy Weibull probability distribution.

Usage

```
hseckw(x, a, b, c, lambda)
```

Arguments

x	Vector of quantiles.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
hseckw(1, 1, 1, 1, 1)
hseckw(1, 3, 0.5, 2, 2)
```

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pseckw	*The cumulative function of the Secant Kumaraswamy Weibull probability distribution.*

Description

The cumulative function of the Secant Kumaraswamy Weibull probability distribution.

Usage

```
pseckw(q, a, b, c, lambda, lower = TRUE, log.p = FALSE)
```

Arguments

q	Vector of quantiles.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.
lower	logical; if TRUE (default), probabilities are $P[X \leq x]$ otherwise, $P[X > x]$.
log.p	logical; if TRUE, probabilities p are given as log(p).

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
pseckw(0.5, 1, 1, 1, 1,TRUE,FALSE)
pseckw(0.5, 3, 0.5, 2, 2,TRUE,FALSE)
```

---

qseckw	*The cumulative function of the Secant Kumaraswamy Weibull probability distribution.*

Description

The cumulative function of the Secant Kumaraswamy Weibull probability distribution.

Usage

```
qseckw(p, a, b, c, lambda, lower = TRUE, log.p = FALSE)
```

Arguments

p	Vector of probabilities.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.
lower	logical; if TRUE (default), probabilities are $P[X \leq x]$ otherwise, $P[X > x]$.
log.p	logical; if TRUE, probabilities p are given as log(p).

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
qseckw(0.5, 1, 1, 1, 1, TRUE, FALSE)
qseckw(0.5, 3, 0.5, 2, 2, TRUE, FALSE)
```

---

rseckw	*Generates random deviates from a Secant Kumaraswamy Weibull probability distribution.*

Description

Generates random deviates from a Secant Kumaraswamy Weibull probability distribution.

Usage

```
rseckw(n, a, b, c, lambda)
```

Arguments

n	Number of observations to be generated.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
rseckw(1000, 1, 1, 1, 1)
rseckw(1000, 2, 2, 1, 1)
```

---

sseckw	*The survival function of the Secant Kumaraswamy Weibull probability distribution.*

Description

The survival function of the Secant Kumaraswamy Weibull probability distribution.

Usage

```
sseckw(x, a, b, c, lambda)
```

Arguments

x	Vector of quantiles.
a	A parameter.
b	B parameter.
c	C parameter.
lambda	Lambda parameter.

Value

A vector with n observations of the Secant Kumaraswamy Weibull distribution.

Examples

```
sseckw(1, 1, 1, 1, 1)
sseckw(1, 3, 0.5, 2, 2)
```

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