

Package ‘LBPG’

July 21, 2025

Type Package

Title The Length-Biased Power Garima Distribution

Version 0.1.2

Language en-US

Maintainer Kittipong Klinjan <kittipong_k@rmutt.ac.th>

Description The Length-Biased Power Garima distribution for computes the probability density, the cumulative density distribution and the quantile function of the distribution, and generates sample values with random variables based on Kittipong and Siri-
napa(2021)<[DOI:10.14456/sjst-psu.2021.89](https://doi.org/10.14456/sjst-psu.2021.89)>.

License GPL-3

Encoding UTF-8

Imports gsl,stats

RoxygenNote 7.1.2

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

NeedsCompilation no

Author Kittipong Klinjan [cre, aut],
Onrampa Thepdaeng [aut],
Tadaporn Sombunpen [aut],
Atchanut Rattanalertnusorn [aut],
Sirinapa Aryuyuen [aut]

Repository CRAN

Date/Publication 2022-03-21 08:30:25 UTC

Contents

dLBPG	2
pLBPG	2
qLBPG	3
rLBPG	4
Index	5

dLBPG	<i>The probability density function of the length-biased power Garima distribution.</i>
-------	---

Description

The LBPG package computes the probability density, the cumulative density distribution and the quantile function of the length-biased power Garima (LBPG) distribution, and generates sample values with random variables that has the LBPG distribution.

Usage

```
dLBPG(x, lambda, beta)
```

Arguments

x	vector of positive quantile.
lambda	positive parameter(Transformed parameter).
beta	positive parameter(Shape parameter).

Value

dLBPG gives the probability density function.

References

Kittipong Klinjan and Sirinapa Aryuyuen(2021), The length-biased power Garima distribution and its application to model lifetime data,Songklanakarinn Journal of Science and Technology (SJST),Volume 43 No.3(May - Jun. 2021),pp667-676, <DOI: 10.14456/sjst-psu.2021.89>

Examples

```
dLBPG(5.7, 1.5, 2.5)
```

pLBPG	<i>The cumulative density function of the length-biased power Garima distribution.</i>
-------	--

Description

The LBPG package computes the probability density, the cumulative density distribution and the quantile function of the length-biased power Garima (LBPG) distribution, and generates sample values with random variables that has the LBPG distribution.

Usage

pLBPG(x, lambda, beta)

Arguments

x vector of positive quantile.
 lambda positive parameters(Transformed parameter).
 beta positive parameters(Shape parameter).

Value

pLBPG gives the cumulative density function.

References

Kittipong Klinjan and Sirinapa Aryuyuen(2021), The length-biased power Garima distribution and its application to model lifetime data, Songklanakarinn Lournal of Science and Technology (SJST), Volume 43 No.3(May - Jun. 2021), pp667-676, <DOI: 10.14456/sjst-psu.2021.89>

Examples

pLBPG(0.5, 1.5, 2.5)

qLBPG

The quantile function of the length-biased power Garima distribution.

Description

The LBPG package computes the probability density, the cumulative density distribution and the quantile function of the length-biased power Garima (LBPG) distribution, and generates sample values with random variables that has the LBPG distribution.

Usage

qLBPG(p, alpha, beta)

Arguments

p vector of probabilities.
 alpha positive parameters(Transformed parameter).
 beta positive parameters(Shape parameter).

Value

qLBPG gives the quantile function.

References

Kittipong Klinjan and Sirinapa Aryuyuen(2021), The length-biased power Garima distribution and its application to model lifetime data,Songklanakar in Lournal of Science asd Techno;ogy (SJST),Volume 43 No.3(May - Jun. 2021),pp667-676, <DOI: 10.14456/sjst-psu.2021.89>

Examples

qLBPG(0.5,1.5,2.5)

rLBPG	<i>Random number generating of the length-biased power Garima distribution</i>
-------	--

Description

The LBPG package computes the probability density, the cumulative density distribution and the quantile function of the length-biased power Garima (LBPG) distribution, and generates sample values with random variables that has the LBPG distribution.

Usage

rLBPG(n, alpha, beta)

Arguments

n	number of observations.If length(n)>1,the length is taken no be the number required.
alpha	positive parameters(Transformed parameter).
beta	positive parameters(Shape parameter).

Value

rLBPG generates sample values of random variables.

References

Kittipong Klinjan and Sirinapa Aryuyuen(2021), The length-biased power Garima distribution and its application to model lifetime data,Songklanakar in Lournal of Science asd Techno;ogy (SJST),Volume 43 No.3(May - Jun. 2021),pp667-676, <DOI: 10.14456/sjst-psu.2021.89>

Examples

rLBPG(5,1.5,1)

Index

dLBPG, [2](#)

pLBPG, [2](#)

qLBPG, [3](#)

rLBPG, [4](#)