Package 'ChernoffDist'

May 7, 2026

Type Package

Title Chernoff's Distribution

Version 0.1.0

Author Haitian Xie

Maintainer Haitian Xie <xht@gsm.pku.edu.cn>

Description Computes Chernoff's distribution based on the method in Piet Groeneboom & Jon A Wellner (2001) Computing Chernoff's Distribution, Journal of Computational and Graphical Statistics, 10:2, 388-400, <doi:10.1198/106186001526279 97>. Chernoff's distribution is defined as the distribution of the maximizer of the two-sided Brownian motion minus quadratic drift. That is, Z = argmax (B(t)-t^2).

License GPL-3

Encoding UTF-8

RoxygenNote 7.2.3

Imports gsl

NeedsCompilation no

Repository CRAN

Date/Publication 2023-05-30 10:10:05 UTC

Contents

dChern *Density function of Chernoff's distribution*

Description

Computes the density of Chernoff's distribution.

Usage

```
dChern(x)
```

Arguments

x	evaluation point of the density.

Value

The function returns Chernoff's density evaluated at x.

Examples

```
dChern(0)
```

pChern *Cumulative distribution function of Chernoff's distribution*

Description

Computes the CDF of Chernoff's distribution.

Usage

```
pChern(q)
```

Arguments

q	evaluation point of the distribution function.

Value

The function returns Chernoff's distribution function evaluated at q.

Examples

```
pChern(0)
```

qChern *Quantile function of Chernoff's distribution*

Description

Computes the quantiles of Chernoff's distribution.

Usage

```
qChern(p)
```

Arguments

p	evaluation point of the quantile function.

Value

The function returns Chernoff's quantile function evaluated at p.

Examples

```
qChern(0.5)
```

Index