Package ‘proportion’

May 3, 2017

Title Inference on Single Binomial Proportion and Bayesian Computations

Version 2.0.0

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Description Abundant statistical literature has revealed the importance of constructing and evaluating various methods for constructing confidence intervals (CI) for single binomial proportion (p). We comprehensively provide procedures in frequentist (approximate with or without adding pseudo counts or continuity correction or exact) and in Bayesian cultures. Evaluation procedures for CI warrant active computational attention and required summaries pertaining to four criterion (coverage probability, expected length, p-confidence, p-bias, and error) are implemented.

License GPL-2

URL https://github.com/RajeswaranV/proportion

BugReports https://github.com/RajeswaranV/proportion/issues

Depends R (>= 3.2.2)

LazyData true

Encoding UTF-8

Imports TeachingDemos, ggplot2

Suggests knitr, rmarkdown

RoxygenNote 6.0.1

NeedsCompilation no

Repository CRAN

Date/Publication 2017-05-03 21:49:25 UTC

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A package for binomial proportion

Proportion: Let \( x \) denote the number of successes in \( n \) independent Bernoulli trials with \( X \sim \text{Binomial} \( n, p \) \) then \( \text{phat} = x/n \) denotes the sample proportion.

Description

Proportion: Let \( x \) denote the number of successes in \( n \) independent Bernoulli trials with \( X \sim \text{Binomial} \( n, p \) \) then \( \text{phat} = x/n \) denotes the sample proportion.

Introduction

Objective of this package is to present interval estimation procedures for ‘\( p \)’ outlined above in a more comprehensive way. Quality assessment procedures such as statistic based on coverage probability, Expected length, Error, p-confidence and p-bias are also included. Also, an array of Bayesian computations (Bayes factor, Empirical Bayesian, Posterior predictive computation, and posterior probability) with conjugate prior are made available. The proportion package provides three categories of important functions: **Confidence Intervals**, **metrics on confidence interval**s (coverage probability, length, p-confidence and p-bias, error and long term power) and **other methods** (hypothesis testing and general/simulation methods).

Proportion methods grouping

For finding confidence interval for \( p \) we have included

- Methods based on the asymptotic normality of the sample proportion and estimating standard error
- Exact methods based on inverting equal-tailed binomial tests of \( H_0 : p = p_0 \).
- Methods based on likelihood ratios
- Bayesian approaches with beta priors or other suitable priors.
Proportion function naming convention

The general guideline for finding functions are given below:

- Short names for concepts: ci - Confidence Interval, covp - Coverage Probability, expl - Expected length (simulation), length - Sum of length, pCOpBI - p-Confidence and p-Bias, err - Error and long term power

- Short names for methods: AS - ArcSine, LR - Likelihood Ratio, LT - Logit Wald, SC - Score (also known as Wilson), TW - Wald-T, WD - Wald, BA - Bayesian and EX - Exact in general form that includes Mid-P and Clopper-Pearson.

- For adjusted methods "A" is added to the function name while "C" will be added if it is continuity corrected.

- For generic functions BAF - Bayesian Factor, SIM - Simulation, GEN - Generic, PRE - Predicted, POS - Posterior

- Combining the above you should be able to identify the function. For example, function for coverage probability (covp) using ArcSine (AS) method will be covpAS(). If we need the adjusted coverage probability (covp) using ArcSine (AS) method, then it will be covpAAS().

- Wherever possible, results are consolidated for all x (0, 1...n) and specific x (function name succeeds with x). For example, if we run ciAS(n=5, alp=0.05) the output of x=5 will be the same as ciAS(x=5, n=5, alp=0.05). In the first case the output is printed for all the values of x till x=n.

- All refers to six approximate methods (Wald, Score, Likelihood Ratio, ArcSine, Logit Wald and Wald-T) - AAll (Adjusted All) refers to six methods adjusted with adding factor h (Wald, Score, Likelihood Ratio, ArcSine, Logit Wald and Wald-T)

- CAll (Continuity corrected All) refers to five methods (Wald, Score, ArcSine, Logit Wald and Wald-T) with continuity correction c

- Grouping functions for plots end with "g" (PlotciAllxg is the same as PlotciAllx, except the results are grouped by x)

- For almost all the functions, corresponding plot function is implemented, which plots the output in an appropriate graph. For example, the function covpAll() will give the numeric output for the coverage probability of the six approximate methods (see explanation of All above). Prefixing this with Plot makes it PlotcovpAll() and will display the plot for the same six approximate methods.

Reproducibility of reference papers

To help the researcher reproduce results in existing papers we have taken six key papers (see references below) [3], [8], [9], [10], [11], [12] and reproduced the results and suggested further items to try. Details are in the vignette.

References


```r
# Function ciAA11

ciAA11 <- function(n, alp, h) {
  # CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)
  # given adding factor

  # Description
  # CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) given adding factor

  # Usage
  # ciAA11(n, alp, h)

  # Arguments
  # n - Number of trials
  # alp - Alpha value (significance level required)
  # h - adding factor

  # Details
  # The Confidence Interval using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp and h
```
Value

A dataframe with

- Name of the method
- Number of successes (positive samples)
- Lower limit
- Upper Limit
- Lower Abberation
- Upper Abberation
- Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation , binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciALR, ciALT, ciASC, ciATW, ciAWD

Examples

n=5; alp=0.05; h=2
ciAAll(n, alp, h)

---

**ciAAllx**

CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) given x and n

---

Description

CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) given x and n
Usage

ciAAllx(x, n, alp, h)

Arguments

x  - Number of success
n  - Number of trials
alp - Alpha value (significance level required)
h  - Adding factor

Details

The Confidence Interval of using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp, x and h

Value

A dataframe with

name  - Name of the method
x      - Number of successes (positive samples)
LLT    - Lower limit
ULT    - Upper Limit
LABB   - Lower Abberation
UABB   - Upper Abberation
ZWI    - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciAAllx, ciAASx, ciALRx, ciALTx, ciASCx, ciATWx, ciAWDx
Examples

\[
x = 5; \ n = 5; \ \text{alp} = 0.05; h = 2 \\
ciAAllx(x, n, \text{alp}, h)
\]

---

**Description**

Adjusted ArcSine method of CI estimation

**Usage**

ciAAS(n, alp, h)

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - adding factor

**Details**

Wald-type interval for the arcsine transformation of the parameter \( p \) for the modified data \( x + h \) and \( n + (2 \times h) \), where \( h > 0 \) and for all \( x = 0, 1, 2..n \).

**Value**

A dataframe with

- **x** - Number of successes (positive samples)
- **LAAS** - Adjusted ArcSine Lower limit
- **UAAS** - Adjusted ArcSine Upper Limit
- **LABB** - Adjusted ArcSine Lower Abberation
- **UABB** - Adjusted ArcSine Upper Abberation
- **ZWI** - Zero Width Interval

**References**


See Also

`prop.test` and `binom.test` for equivalent base Stats R functionality. `binom.confint` provides similar functionality for 11 methods. `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Adjusted methods of CI estimation: `PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciaAAll, ciALR, ciALT, ciASC, ciATW, ciAWD`

Examples

```r
n=5; alp=0.05; h=2
ciAAS(n, alp, h)
```

---

### ciAASx

**Adjusted ArcSine method of CI estimation**

**Description**

Adjusted ArcSine method of CI estimation

**Usage**

```r
ciAASx(x, n, alp, h)
```

**Arguments**

- `x`: Number of successes
- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `h`: Adding factor

**Details**

Wald-type interval for the arcsine transformation of the parameter `p` for the modified data `x + h` and `n + (2 * h)`, where `h > 0` and for the given `x` and `n`.

**Value**

A dataframe with

- `x`: Number of successes (positive samples)
- `LAASx`: ArcSine Lower limit
- `UAASx`: ArcSine Upper Limit
- `LABB`: ArcSine Lower Abberation
- `UABB`: ArcSine Upper Abberation
- `ZWI`: Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality. binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciAAllx, ciAAllx, ciALRx, ciALTx, ciASCx, ciATWx, ciAWDx

Examples

```r
x=5; n=5; alp=0.05; h=2
ciAASx(x, n, alp, h)
```

Description

CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

```r
ciAll(n, alp)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

Details

The Confidence Interval of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp.
Value

A dataframe with

method  - Name of the method
x        - Number of successes (positive samples)
LLT      - Lower limit
ULT      - Upper Limit
LABB     - Lower Abberation
UABB     - Upper Abberation
ZWI      - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05;
ciAll(n,alp)
ciAllx

Specific CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description
Specific CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage
ciAllx(x, n, alp)

Arguments
x - Number of success
n - Number of trials
alp - Alpha value (significance level required)

Details
The Confidence Interval of using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp and x

Value
A dataframe with
name - Name of the method
x - Number of successes (positive samples)
LLT - Lower limit
ULT - Upper Limit
LABB - Lower Abberation
UABB - Upper Abberation
ZWI - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Base methods of CI estimation given x & n: PlotciAllx, PlotciAllx, PlotciEXx, ciASx, ciBAX, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx

Examples

```r
x = 5; n = 5; alp = 0.05;
ciallx(x, n, alp)
```

```r
cialrHnL alpL hI
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - adding factor

Details

Likelihood ratio limits for the data \( x + h \) and \( n + (2 \times h) \) instead of the given codex and \( n \), where \( h \) is a positive integer (1, 2.) and for all \( x = 0, 1, 2..n \).
ciALRx

Value
A dataframe with
- x: Number of successes (positive samples)
- LALR: Adjusted Likelihood Lower limit
- UALR: Adjusted Likelihood Upper Limit
- LABB: Adjusted Likelihood Lower Abberation
- UABB: Adjusted Likelihood Upper Abberation
- ZWI: Zero Width Interval

References

See Also
prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciAAll, ciALT, ciASC, ciATW, ciAWD

Examples
n=5; alp=0.05; h=2
ciALRx(n, alp, h)

ciALRx
AdjustedLikelihood Ratio method of CI estimation

Description
AdjustedLikelihood Ratio method of CI estimation

Usage
ciALRx(x, n, alp, h)
Arguments

- **x**: Number of successes
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **h**: Adding factor

Details

Likelihood ratio limits for the data \( x + h \) and \( n + (2 \times h) \) instead of the given \( x \) and \( n \), where \( h \) is a positive integer \((1, 2, \ldots)\) and for the given \( x \) and \( n \).

Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LaLRx**: Likelyhood Ratio Lower limit
- **UALRx**: Likelyhood Ratio Upper Limit
- **LABB**: Likelyhood Ratio Lower Abberation
- **UABB**: Likelyhood Ratio Upper Abberation
- **ZWI**: Zero Width Interval

References


See Also

- `prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Adjusted methods of CI estimation given \( x \) & \( n \): `PlotciAAllx, ciAASx, ciAAllx, ciALTx, ciASCx, ciATWx, ciAWDx`

Examples

```r
x=5; n=5; alp=0.05; h=2
ciALRr(x,n,alp,h)
```
Adjusted Logit-Wald method of CI estimation

**Description**

Adjusted Logit-Wald method of CI estimation

**Usage**

```r
ciALT(n, alp, h)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - adding factor

**Details**

Wald-type interval for the logit transformation \( \log(p/(1-p)) \) of the parameter \( p \) for the modified data \( x + h \) and \( n + (2 \times h) \), where \( h > 0 \) and for all \( x = 0, 1, 2, ..n \).

**Value**

A dataframe with

- `x` - Number of successes (positive samples)
- `lalt` - Adjusted Logit-Wald Lower limit
- `ualt` - Adjusted Logit-Wald Upper Limit
- `labb` - Adjusted Logit-Wald Lower Abberation
- `uabb` - Adjusted Logit-Wald Upper Abberation
- `zwi` - Zero Width Interval

**References**


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciAAll, ciALR, ciASC, ciATW, ciAWD

Examples

n=5; alp=0.05;h=2
ciALT(n,alp,h)

---

ciALTx

**Adjusted Logit-Wald method of CI estimation**

Description

Adjusted Logit-Wald method of CI estimation

Usage

ciALTx(x, n, alp, h)

Arguments

- x - Number of successes
- n - Number of trials
- alp - Alpha value (significance level required)
- h - Adding factor

Details

Wald-type interval for the logit transformation $\log(p/1 - p)$ of the parameter p for the modified data eqnx + h and $n + (2 \times h)$, where $h > 0$ and the given x and n.

Value

A dataframe with

- Number of successes (positive samples)
- Logit Wald Lower limit
- Logit Wald Upper Limit
- Logit Wald Lower Abberation
- Logit Wald Upper Abberation
- Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciAAllx, ciAASx, ciAAllx, ciALRx, ciASCx, ciATWx, ciAWDX

Examples

x=5; n=5; alp=0.05; h=2
ciALTx(x,n,alp,h)

---

### ciAS

**ArcSine method of CI estimation**

**Description**

ArcSine method of CI estimation

**Usage**

```r
ciAS(n, alp)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

**Details**

Wald-type interval for all $x = 0, 1, 2 .. n$ using the arcsine transformation of the parameter $p$; that is based on the normal approximation for $\sin^{-1}(p)$. Calculates the Confidence Interval of $n$ given $alp$ along with lower and upper abberation.
Value

A dataframe with

- Number of successes (positive samples)
- ArcSine Lower limit
- ArcSine Upper Limit
- ArcSine Lower Abberation
- ArcSine Upper Abberation
- Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Basic methods of CI estimation: PlotciAS, PlotciAl1g, PlotciAll, PlotciBA, PlotciEX, PlotciLR, PlotciLT, PlotciSC, PlotciTW, PlotciWD, ciAll, ciBA, ciEX, ciLR, ciLT, ciSC, ciTW, ciWD

Examples

```r
n=5; alp=0.05
ciAS(n,alp)
```
ciASC

Adjusted Score method of CI estimation

Description

Adjusted Score method of CI estimation

Usage

ciASC(n, a1p, h)

Arguments

n - Number of trials
a1p - Alpha value (significance level required)
h - adding factor

Details

A score test approach is used after the given data x and n are modified as \( x + h \) and \( n + (2 \times h) \) respectively, where \( h > 0 \) and for all \( x = 0, 1, 2, \ldots, n \).

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LASC</td>
<td>Adjusted Score Lower limit</td>
</tr>
<tr>
<td>UASC</td>
<td>Adjusted Score Upper Limit</td>
</tr>
<tr>
<td>LABB</td>
<td>Adjusted Score Lower Abberation</td>
</tr>
<tr>
<td>UABB</td>
<td>Adjusted Score Upper Abberation</td>
</tr>
<tr>
<td>ZWI</td>
<td>Zero Width Interval</td>
</tr>
</tbody>
</table>

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAlg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciAAll, ciALR, ciALT, ciATW, ciAWD

Examples

n=5; alp=0.05; h=2
ciASCx(n, alp, h)

ciASCx

Description

Adjusted Score method of CI estimation

Usage

ciASCx(x, n, alp, h)

Arguments

x - Number of successes
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

A score test approach is used after the given data x and n are modified as x + h and n + (2 * h) respectively, where h > 0 and for the given x and n.

Value

A dataframe with

x Number of successes (positive samples)
LASCx Score Lower limit
UASCx Score Upper Limit
LABB Score Lower Abberation
UABB Score Upper Abberation
ZWI Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation , binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciAAllx, ciAASx, ciAAllx, ciALRx, ciALTx, ciATWx, ciAWDx

Examples

x=5; n=5; alp=0.05; h=2
ciascx(x, n, alp, h)

---

ciasx  

Base ArcSine method of CI estimation

Description

Base ArcSine method of CI estimation

Usage

ciasx(x, n, alp)

Arguments

x - Number of successes
n - Number of trials
alp - Alpha value (significance level required)

Details

Wald-type interval for the given x and n using the arcsine transformation of the parameter p; that is based on the normal approximation for $\sin^{-1}(p)$
Value

A dataframe with

- \( x \): Number of successes (positive samples)
- \( \text{LASx} \): ArcSine Lower limit
- \( \text{UASx} \): ArcSine Upper Limit
- \( \text{LABB} \): ArcSine Lower Abberation
- \( \text{UABB} \): ArcSine Upper Abberation
- \( \text{ZWI} \): Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2e1 which provides multiple functions for CI calculation, \( \text{binom.blaker.limits} \) which calculates Blaker CI which is not covered here and \( \text{propCI} \) which provides similar functionality.

Other Base methods of CI estimation given \( x \) & \( n \): \( \text{PlotciAllxg, PlotciAllx, PlotciEXx, ciAllx, ciBAX, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx} \)

Examples

\( x=5; \ n=5; \ \text{alp}=0.05 \)
\( \text{ciASx}(x,n,\text{alp}) \)
ciATW  

*Adjusted WALD-T method of CI estimation*

---

**Description**

Adjusted WALD-T method of CI estimation

**Usage**

`ciATW(n, alp, h)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - adding factor

**Details**

Given data `x` and `n` are modified as `x + h` and `n + (2 * h)` respectively, where `h > 0` then approximate method based on a `t` approximation of the standardized point estimator for all `x = 0, 1, 2..n`.

**Value**

A dataframe with

- `x` - Number of successes (positive samples)
- `LATW` - Adjusted WALD-T Lower limit
- `UATW` - Adjusted WALD-T Upper Limit
- `LABB` - Adjusted WALD-T Lower Abberation
- `UABB` - Adjusted WALD-T Upper Abberation
- `ZWI` - Zero Width Interval

**References**


CiATWx

Adjusted WALD-T method of CI estimation

Description

Adjusted WALD-T method of CI estimation

Usage

ciATWx(x, n, alp, h)

Arguments

x - Number of successes
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

Given data x and n are modified as x + h and n + (2 * h) respectively, where h > 0 then approximate method based on a t_approximation of the standardized point estimator for the given x and n.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATWx</td>
<td>T-Wald Lower limit</td>
</tr>
<tr>
<td>UATWx</td>
<td>T-Wald Upper Limit</td>
</tr>
<tr>
<td>LABB</td>
<td>T-Wald Lower Abberation</td>
</tr>
<tr>
<td>UABB</td>
<td>T-Wald Upper Abberation</td>
</tr>
<tr>
<td>ZWI</td>
<td>Zero Width Interval</td>
</tr>
</tbody>
</table>

See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Examples

n=5; alp=0.05; h=2

`ciATWx(n, alp, h)`
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciAAAllx, ciAASx, ciAAAllx, ciALRx, ciALTx, ciASCx, ciAWDx

Examples

x=5; n=5; alp=0.05; h=2
ciawdx(x, n, alp, h)

ciAWD

Adjusted Wald method of CI estimation

Description

Adjusted Wald method of CI estimation

Usage

ciAWD(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - adding factor

Details

Given data x and n are modified as x + h and n + (2 * h) respectively, where h > 0 then Wald-type interval is applied for all x = 0, 1, 2..n.
**Value**

A dataframe with

- **x**: Number of successes (positive samples)
- **LAWD**: Wald Lower limit
- **UAWD**: Wald Upper Limit
- **LABB**: Wald Lower Abberation
- **UABB**: Wald Upper Abberation
- **ZWI**: Zero Width Interval

**References**


**See Also**

- `prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation , `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Adjusted methods of CI estimation: `PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciAAll, ciALR, ciALT, ciASC, ciATW`

**Examples**

```r
n=5; alp=0.05; h=2
ciAWD(x, alp, h)
```

---

**ciAWDx**

*Adjusted Wald method of CI estimation*

**Description**

Adjusted Wald method of CI estimation

**Usage**

```r
ciAWDx(x, n, alp, h)
```
ciAWDx

Arguments

- **x** - Number of successes
- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor

Details

Given data x and n are modified as \(x + h\) and \(n + (2 \times h)\) respectively, where \(h > 0\) then Wald-type interval is applied for the given x and n.

Value

A dataframe with

- **x** - Number of successes (positive samples)
- **LawDx** - Adjusted Wald Lower limit
- **UawDx** - Adjusted Wald Upper Limit
- **LAbb** - Adjusted Wald Lower Abberation
- **UAbb** - Adjusted Wald Upper Abberation
- **ZWI** - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Adjusted methods of CI estimation given x & n: PlotciaAllx, cIAASx, cIAAllx, cIALRx, cIALTx, cASCx, cATWx

Examples

```r
x = 5; n=5; alp=0.05; h=2
ciAWDx(x,n,alp,h)
```
Bayesian method of CI estimation with different or same parameteric values for Beta prior distribution

Usage
ciBA(n, alp, a, b)

Arguments
- n - Number of trials
- alp - Alpha value (significance level required)
- a - Shape parameter 1 for prior Beta distribution in Bayesian model. Can also be a vector of length n+1 priors.
- b - Shape parameter 2 for prior Beta distribution in Bayesian model. Can also be a vector of length n+1 priors.

Details
Highest Probability Density (HPD) and two tailed intervals are provided for all \( xi = 0, 1, 2, .. n \) based on the conjugate prior \( \beta(ai, bi)(i = 1, 2, n + 1) \) for the probability of success \( p \) of the binomial distribution so that the posterior is \( \beta(xi + ai, n - xi + bi) \).

Value
A dataframe with
- x - Number of successes (positive samples)
- pmean - Posterior mean
- LBAQ - Lower limits of Quantile based intervals
- UBAQ - Upper limits of Quantile based intervals
- LBAH - Lower limits of HPD intervals
- UBAH - Upper limits of HPD intervals

References
ciBAX

See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05; a=0.5;b=0.5;
ciBA(n,alp,a,b)
n=5; alp=0.05; a=c(0.5,2,1,1,2,0.5);b=c(0.5,2,1,1,2,0.5)
ciBA(n,alp,a,b)

Bayesian method of CI estimation with Beta prior distribution

Description

Bayesian method of CI estimation with Beta prior distribution

Usage

ciBA(x, n, alp, a, b)

Arguments

x - Number of sucess
n - Number of trials
alp - Alpha value (significance level required)
a - Shape parameter 1 for prior Beta distribution in Bayesian model. Can also be a vector of length n+1 priors.
b - Shape parameter 2 for prior Beta distribution in Bayesian model. Can also be a vector of length n+1 priors.

Details

Highest Probability Density (HPD) and two tailed intervals are provided for the given x and n. based on the conjugate prior $\beta(a, b)$ for the probability of success p of the binomial distribution so that the posterior is $\beta(x + a, n - x + b)$.
Value

A dataframe with

- Number of successes (positive samples)

Lower limits of Quantile based intervals

- Upper limits of Quantile based intervals

Lower limits of HPD intervals

- Upper limits of HPD intervals

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation , binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Base methods of CI estimation given x & n: PlotciAllxg, PlotciAllx, PlotciEXx, ciASx, ciAllx, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx

Examples

x=5; n=5; alp=0.05; a=c(0.5,2,1,1,2,0.5); b=c(0.5,2,1,1,2,0.5)
ciBAX(x,n,alp,a,b)

x= 5; n=5; alp=0.05; a=c(0.5,2,1,1,2,0.5); b=c(0.5,2,1,1,2,0.5)
ciBAX(x,n,alp,a,b)
ciCAll

CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Description
CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage
ciCAll(n, alp, c)

Arguments
n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details
The Confidence Interval on 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for n given alp along with Continuity correction c

Value
A dataframe with
method - Name of the method
x - Number of successes (positive samples)
LLT - Lower limit
ULT - Upper Limit
LABB - Lower Abberation
UABB - Upper Abberation
ZWI - Zero Width Interval

References
See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCAllg, PlotciCAll, PlotciCLT, PlotciCSC, PlotciCTW, PlotciCWD, ciCAS, ciCLT, ciCSC, ciCTW, ciCWD

Examples

n=5; alp=0.05; c=1/(2n)

\texttt{ciCAllx(n, alp, c)}

\begin{tabular}{ll}
\texttt{ciCAllx} & \textit{CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)}
\end{tabular}

Description

CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

\texttt{ciCAllx(x, n, alp, c)}

Arguments

\begin{itemize}
\item \texttt{x} - Number of successes
\item \texttt{n} - Number of trials
\item \texttt{alp} - Alpha value (significance level required)
\item \texttt{c} - Continuity correction
\end{itemize}

Details

The Confidence Interval of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for \(n\) given \(alp\) and \(x\)

Value

A dataframe with

\begin{itemize}
\item \texttt{method} - Name of the method
\item \texttt{x} - Number of successes (positive samples)
\item \texttt{LLT} - Lower limit
\item \texttt{ULT} - Upper Limit
\item \texttt{LABB} - Lower Abberation
\item \texttt{UABB} - Upper Abberation
\item \texttt{ZWI} - Zero Width Interval
\end{itemize}
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation given x and n: PlotciCAllxg, PlotciCAllx, ciCLTx, ciCSCx, ciCTWx, ciCWDx

Examples

x=5; n=5; alp=0.05; c=1/(2*n)
ciCAllx(x, n, alp, c)

---

ciCAS

Continuity corrected ArcSine method of CI estimation

description

Continuity corrected ArcSine method of CI estimation

Usage

ciCAS(n, alp, c)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Wald-type interval for the arcsine transformation using the test statistic \((\text{abs}(\sin^{-1}p) - \sin^{-1}\hat{p}) - c)/SE\) where \(c > 0\) is a constant for continuity correction and for all \(x = 0, 1, 2..n\).
Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LCA**: ArcSine Lower limit
- **UCA**: ArcSine Upper Limit
- **LABB**: ArcSine Lower Abberation
- **UABB**: ArcSine Upper Abberation
- **ZWI**: Zero Width Interval

References


See Also

- `prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Continuity correction methods of CI estimation: `PlotciCAS`, `PlotciCALlg`, `PlotciCALl`, `PlotciCLT`, `PlotciCSC`, `PlotciCTW`, `PlotciCWD`, `ciCAll`, `ciCLT`, `ciCSC`, `ciCTW`, `ciCWD`

Examples

```r
n=5; alp=0.05; c=1/(2*n)
ciCASx(n, alp, c)
```

### Description

Continuity corrected ArcSine method of CI estimation

### Usage

```r
ciCASx(x, n, alp, c)
```
ciCASx

Arguments

- `x` - Number of successes
- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

Details

Wald-type interval for the arcsine transformation using the test statistic \((\text{abs}(\sin^{-1}\hat{p} - \sin^{-1}p) - c)/SE\) where \(c > 0\) is a constant for continuity correction and for all \(x = 0, 1, 2, \ldots n\).

Value

A dataframe with:

- `x` - Number of successes (positive samples)
- `LCAX` - ArcSine Lower limit
- `UCAX` - ArcSine Upper Limit
- `LABB` - ArcSine Lower Abberation
- `UABB` - ArcSine Upper Abberation
- `ZWI` - Zero Width Interval

References


See Also

- `prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Examples

```r
x = 5; n = 5; alp = 0.05; c = 1/2 * n
ciCASx(x, n, alp, c)
```
ciCLT

Continuity corrected Logit Wald method of CI estimation

Description

Continuity corrected Logit Wald method of CI estimation

Usage

```
ciCLT(n, alp, c)
```

Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `c`: Continuity correction

Details

Wald-type interval for the logit transformation of the parameter $p$ using the test statistic $\left(\text{abs}(L(p) - L(p_{\hat{}})) - c)/SE$ where $c > 0$ is a constant for continuity correction and $L(y) = \log(y/1 - y)$ for all $x = 0, 1, 2, \ldots, n$. Boundary modifications when $x = 0$ or $x = n$ using Exact method values.

Value

A dataframe with

- `x`: Number of successes (positive samples)
- `LCLT`: Logit Wald Lower limit
- `UCLT`: Logit Wald Upper Limit
- `LABB`: Logit Wald Lower Abberation
- `UABB`: Logit Wald Upper Abberation
- `ZWI`: Zero Width Interval

References


ciCLTx

See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCallg, PlotciCAll, PlotciCLT, PlotciCSC, PlotciCTW, PlotciCWD, ciCAS, ciCAll, ciCSC, ciCTW, ciCWD

Examples

n=5; alp=0.05; c=1/(2*n)
ciCLT(n, alp, c)

---

ciCLTx

Continuity corrected Logit-Wald method of CI estimation

Description

Continuity corrected Logit-Wald method of CI estimation

Usage

ciCLTx(x, n, alp, c)

Arguments

x - Number of successes
n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Wald-type interval for the logit transformation of the parameter p using the test statistic \( \frac{\text{abs}(L(p) - c)}{SE} \) where \( c > 0 \) is a constant for continuity correction and \( L(y) = \log(y/1 - y) \) for all \( x = 0, 1, 2..n \). Boundary modifications when \( x = 0 \) or \( x = n \) using Exact method values.

Value

A dataframe with

- Number of successes (positive samples)
- Logit Wald Lower limit
- Logit Wald Upper Limit
- Logit Wald Lower Abberation
- Logit Wald Upper Abberation
- Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation given x and n: PlotciCALxg, PlotciCALx, ciCALx, ciCSCx, ciCTWx, ciCWDx

Examples

x=5; n=5; alp=0.05; c=1/2*n
ciCSC(x, n, alp, c)

---

**ciCSC**

*Continuity corrected Score method of CI estimation*

Description

Continuity corrected Score method of CI estimation

Usage

```r
.ciCSC(n, alp, c)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

Details

A score test approach using the test statistic \(\frac{(\text{abs}(\hat{p} - p) - c)}{SE}\) where \(c > 0\) is a constant for continuity correction for all \(x = 0, 1, 2..n\)
Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCS</td>
<td>Score Lower limit</td>
</tr>
<tr>
<td>UCS</td>
<td>Score Upper Limit</td>
</tr>
<tr>
<td>LABB</td>
<td>Score Lower Abberation</td>
</tr>
<tr>
<td>UABB</td>
<td>Score Upper Abberation</td>
</tr>
<tr>
<td>ZWI</td>
<td>Zero Width Interval</td>
</tr>
</tbody>
</table>

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCALLg, PlotciCALL, PlotciCLT, PlotciCSC, PlotciCTW, PlotciCWD, ciCAS, ciCALL, ciCLT, ciCTW, ciCWD

Examples

n=5; alp=0.05; c=1/(2*n)
ciCSCx(n, alp, c)
Arguments

- x: Number of successes
- n: Number of trials
- alp: Alpha value (significance level required)
- c: Continuity correction

Details

A score test approach using the test statistic \( \frac{\text{abs}(\hat{p} - p) - c}{SE} \) where \( c > 0 \) is a constant for continuity correction for all \( x = 0, 1, 2, \ldots n \)

Value

A dataframe with:

- x: Number of successes (positive samples)
- LCSx: Score Lower limit
- UCSx: Score Upper Limit
- LABB: Score Lower Abberation
- UABB: Score Upper Abberation
- ZWI: Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation given x and n: PlotciCAllxg, PlotciCAllx, ciCAllx, ciCLTx, ciCTWx, ciCWDx

Examples

x=5; n=5; alp=0.05; c=1/(2*n)
ciCSCx(x,n,alp,c)
Continuity corrected Wald-T method of CI estimation

Description

Continuity corrected Wald-T method of CI estimation

Usage

`ciCTW(n, alp, c)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

Details

Approximate method based on a $t$-approximation of the standardized point estimator using the test statistic $(\text{abs}(\hat{p} - p) - c)/SE$ where $c > 0$ is a constant for continuity correction for all $x = 0, 1, 2..n$. Boundary modifications when $x = 0$ or $x = n$ using Wald adjustment method with $h = 2$.

Value

A dataframe with

- `x` - Number of successes (positive samples)
- `LCTW` - T-Wald Lower limit
- `UCTW` - T-Wald Upper Limit
- `LABB` - T-Wald Lower Abberation
- `UABB` - T-Wald Upper Abberation
- `ZWI` - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCallg, PlotciCall, PlotciCLT, PlotciCSC, PlotciCTW, PlotciCWD, ciCAS, ciCAll, ciCLT, ciCSC, ciCWD

Examples

n=5; alp=0.05; c=1/(2*n)
ciCTW(n, alp, c)

---

### Description

Continuity corrected Wald-T method of CI estimation

### Usage

ciCTW(x, n, alp, c)

### Arguments

- **x**: Number of successes
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction

### Details

Approximate method based on a t_approximation of the standardized point estimator using the test statistic \((|\text{phat} - p| - c)/SE\) where \(c > 0\) is a constant for continuity correction for all \(x = 0, 1, 2..n\). Boundary modifications when \(x = 0\) or \(x = n\) using Wald adjustment method with \(h = 2\).

### Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LCTW**: T-Wald Lower limit
- **UCTW**: T-Wald Upper Limit
- **LABB**: T-Wald Lower Abberation
- **UABB**: T-Wald Upper Abberation
- **ZWI**: Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality. binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation given x and n: PlotciCAllxg, PlotciCAllx, ciCAllx, ciCLTx, ciCSCx, ciCWDx

Examples

x=5; n=5; alp=0.05; c=1/2*n

ciCTWx(x,n,alp,c)

---

ciCWD

Continuity corrected Wald method of CI estimation

Description

Continuity corrected Wald method of CI estimation

Usage

ciCWD(n, alp, c)

Arguments

n - Number of trials

alp - Alpha value (significance level required)

c - Continuity correction

Details

Wald-type interval (for all \( x = 0, 1, 2, ..., n \)) using the test statistic \( (|\hat{p} - p| - c) / SE \) where \( c > 0 \) is a constant for continuity correction
Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LCW**: Wald Lower limit
- **UCW**: Wald Upper Limit
- **LABB**: Wald Lower Abberation
- **UABB**: Wald Upper Abberation
- **ZWI**: Zero Width Interval

References


See Also

`prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Continuity correction methods of CI estimation: `PlotciCAS, PlotciCALLg, PlotciCALL, PlotciCLT, PlotciCSC, PlotciCTW, PlotciCWD, ciCAS, ciCALL, ciCLT, ciCSC, ciCTW`

Examples

```r
n=5; alp=0.05; c=1/(2*n)
ciCWDx(n, alp, c)
```

---

**ciCWDx**

*Continuity corrected Wald method of CI estimation*

Description

Continuity corrected Wald method of CI estimation

Usage

```r
ciCWDx(x, n, alp, c)
```
ciCWDx

Arguments

- Number of successes
- Number of trials
- Alpha value (significance level required)
- Continuity correction

Details

Wald-type interval (for all \(x = 0, 1, 2, \ldots n\)) using the test statistic \(\frac{\text{abs}(\hat{p} - p) - c}{SE}\) where \(c > 0\) is a constant for continuity correction

Value

A dataframe with

- Number of successes (positive samples)
- CC-Wald Lower limit
- CC-Wald Upper Limit
- CC-Wald Lower Abberation
- CC-Wald Upper Abberation
- Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Continuity correction methods of CI estimation given x and n: PlotciCALLxg, PlotciCALLx, ciCALLx, ciCLTxs, ciCSCx, ciCTWxs

Examples

\(x = 5; n=5; \alpha p=0.05; c=1/(2*n)\)
\(ciCWDx(x, n, alp, c)\)
ciEX

**Exact method of CI estimation**

**Description**

Exact method of CI estimation

**Usage**

`ciEX(n, alp, e)`

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `e`: Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P. The input can also be a range of values between 0 and 1.

**Details**

Confidence interval for $p$ (for all $x = 0, 1, 2 .. n$), based on inverting equal-tailed binomial tests with null hypothesis

$$H0 : p = p0$$

and calculated from the cumulative binomial distribution. Exact two sided P-value is usually calculated as

$$P = 2[e * Pr(X = x) + min(Pr(X < x), Pr(X > x))]$$

where probabilities are found at null value of $p$ and $0 <= e <= 1$. The Confidence Interval of $n$ given $alp$ along with lower and upper abberation.

**Value**

A dataframe with

- `x`: Number of successes (positive samples)
- `LEX`: Exact Lower limit
- `UEX`: Exact Upper Limit
- `LABB`: Likelihood Ratio Lower Abberation
- `UBBB`: Likelihood Ratio Upper Abberation
- `ZWI`: Zero Width Interval
- `e`: Exact method input
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods. wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05;e=0.5
ciEX(n,alp,e) #Mid-p
n=5; alp=0.05;e=1 #Clopper-Pearson
   ciEX(n,alp,e)
n=5; alp=0.05;e=c(0.1,0.5,0.95,1) #Range including Mid-p and Clopper-Pearson
   ciEX(n,alp,e)

---

Exact method of CI estimation

Description

Exact method of CI estimation

Usage

ciEXx(x, n, alp, e)
Arguments

- Number of successes
- Number of trials
- Alpha value (significance level required)
- Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P

Details

Confidence interval for $p$ (for the given $x$ and $n$), based on inverting equal-tailed binomial tests with null hypothesis $H_0 : p = p_0$ and calculated from the cumulative binomial distribution. Exact two-sided P-value is usually calculated as

$$P = 2\left[ e \ast Pr(X = x) + min(Pr(X < x), Pr(X > x)) \right]$$

where probabilities are found at null value of $p$ and $0 \leq e \leq 1$.

Value

A dataframe with

- Number of successes (positive samples)
- Exact Lower limit
- Exact Upper Limit

References


See Also

`prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2ci` which provides multiple functions for CI calculation, `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Base methods of CI estimation given x & n: `PlotciAllxg, PlotciAllx, PlotciEXx, ciASx, ciAllx, ciBAx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx`

Examples

```r
x=5; n=5; alp=0.05; e=0.5
ciExx(x,n,alp,e) #Mid-p
x=5; n=5; alp=0.05; e=1 #Clopper Pearson
ciExx(x,n,alp,e)
```

LiLR

Likelihood Ratio method of CI estimation

Usage

`cilR(n, alp)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

Details

Likelihood ratio limits for all x = 0, 1, 2 ..n obtained as the solution to the equation in p formed as logarithm of ratio between binomial likelihood at sample proportion and that of over all possible parameters. Calculates the Confidence Interval of n given alp along with lower and upper abberation.

Value

A dataframe with

- `x` - Number of successes (positive samples)
- `LLR` - Likelihood Ratio Lower limit
- `ULR` - Likelihood Ratio Upper Limit
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation , binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Basic methods of CI estimation: PlotCIAS, PlotCIAllg, PlotCIAll, PlotCIBA, PlotCIEX, PlotCI LR, PlotCI LT, PlotCI SC, PlotCI TW, PlotCI WD, CI AS, CI AL, CI BA, CI EX, CI LT, CI SC, CI TW, CI WD

Examples

n=5; alp=0.05
ciLR(n, alp)

ciLRx  

Description

Likelihood Ratio method of CI estimation

Usage

ciLRx(x, n, alp)
**Arguments**

- **x**: Number of successes
- **n**: Number of trials
- **alp**: Alpha value (significance level required)

**Details**

Likelihood ratio limits for the given \(x\) and \(n\) obtained as the solution to the equation in \(p\) formed as logarithm of ratio between binomial likelihood at sample proportion and that of over all possible parameters.

**Value**

A dataframe with

- **x**: Number of successes (positive samples)
- **LLRx**: Likelihood Ratio Lower limit
- **ULRx**: Likelihood Ratio Upper Limit
- **LABB**: Likelihood Ratio Lower Abberation
- **UABB**: Likelihood Ratio Upper Abberation
- **ZWI**: Zero Width Interval

**References**

5. 2002 Pan W. Approximate confidence intervals for one proportion and difference of two proportions Computational Statistics and Data Analysis 40, 128, 143-157.

**See Also**

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.
Other Base methods of CI estimation given x & n: \texttt{PlotciAllxg}, \texttt{PlotciAllx}, \texttt{PlotciEXx}, \texttt{ciASx}, \texttt{ciAllx}, \texttt{ciBAx}, \texttt{ciEXx}, \texttt{ciLTx}, \texttt{ciSCx}, \texttt{ciTWx}, \texttt{ciWDx}

**Examples**

\begin{verbatim}
   x=5; n=5; alp=0.05
ciLRx(x,n,alp)
\end{verbatim}

---

\begin{tabular}{ll}
\texttt{ciLT} & \textit{Logit Wald method of CI estimation} \\
\end{tabular}

**Description**

Logit Wald method of CI estimation

**Usage**

\texttt{ciLT(n, alp)}

**Arguments**

- \texttt{n} - Number of trials
- \texttt{alp} - Alpha value (significance level required)

**Details**

The Confidence Interval of \( n \) given \( alp \) along with lower and upper abberation.

**Value**

A dataframe with

- \texttt{x} - Number of successes (positive samples)
- \texttt{LLT} - Logit Wald Lower limit
- \texttt{ULT} - Logit Wald Upper Limit
- \texttt{LABB} - Logit Wald Lower Abberation
- \texttt{UABB} - Logit Wald Upper Abberation
- \texttt{ZWI} - Zero Width Interval
References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05

ciLT(n, alp)

---

Logit Wald method of CI estimation

Description

Logit Wald method of CI estimation

Usage

ciLT(x, n, alp)
Arguments

\(x\) - Number of successes
\(n\) - Number of trials
\(\alpha\) - Alpha value (significance level required)

Details

Wald-type interval for all the given \(x\) and \(n\) based on the logit transformation of \(p\); that is normal approximation for \(\log(p/(1-p))\)

Value

A dataframe with

\(x\) - Number of successes (positive samples)
\(\text{LLTx}\) - Logit Wald Lower limit
\(\text{ULTx}\) - Logit Wald Upper Limit
\(\text{LABB}\) - Logit Wald Lower Abberation
\(\text{UABB}\) - Logit Wald Upper Abberation
\(\text{ZWI}\) - Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation , binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Base methods of CI estimation given x & n: PlotCIAllxg, PlotCIAllx, PlotCIEXx, ciASx, ciAllx, ciBAX, ciEXx, ciLRx, ciSCx, ciTWx, ciWDx
**Examples**

```
x=5; n=5; alp=0.05
ciSC(x, n, alp)
```

**Score method of CI estimation**

**Description**

Score method of CI estimation

**Usage**

```
ciSC(n, alp)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

**Details**

A score test approach based on inverting the test with standard error evaluated at the null hypothesis is due to Wilson for all \( x = 0, 1, 2 \ldots n \).

**Value**

A dataframe with

- `x` - Number of successes (positive samples)
- `LSC` - Score Lower limit
- `USC` - Score Upper Limit
- `LABB` - Score Lower Abberation
- `UABB` - Score Upper Abberation
- `ZWI` - Zero Width Interval

**References**


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Basic methods of CI estimation: Plotcias, PlotciAllg, PlotciAll, PlotciBA, PlotciEX, PlotciLR, PlotciLT, PlotciSC, PlotciTW, PlotciWD, cias, ciAll, cibA, ciEX, cilR, cilT, citw, ciwd

Examples

n=5; alp=0.05
ciscx(n, alp)

---

ciscx

### Base Score method of CI estimation

### Description

Base Score method of CI estimation

### Usage

ciscx(x, n, alp)

### Arguments

- **x**: Number of successes
- **n**: Number of trials
- **alp**: Alpha value (significance level required)

### Details

A score test approach based on inverting the test with standard error evaluated at the null hypothesis is due to Wilson for the given x and n
Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LSCx**: Score Lower limit
- **USCx**: Score Upper Limit
- **LABB**: Score Lower Abberation
- **UABB**: Score Upper Abberation
- **ZWI**: Zero Width Interval

References


See Also

- prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2c1 which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Base methods of CI estimation given x & n: PlotciAllxg, PlotciAllx, PlotciEXx, ciASx, ciAllx, cIBAx, ciEXx, cilRx, cILTx, ciTWx, ciWDx

Examples

```r
x=5; n=5; alp=0.05
ciSCx(x,n,alp)
```
ciTW: *Wald-T method of CI estimation*

**Description**

Wald-T method of CI estimation

**Usage**

`ciTW(n, alp)`

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)

**Details**

An approximate method based on a t_approximation of the standardized point estimator for all `x = 0, 1, 2 ..n`; that is the point estimator divided by its estimated standard error. Essential boundary modification is when `x = 0` or `n`,

\[
\hat{p} = \left(\frac{x + 2}{n + 4}\right)
\]

**Value**

A dataframe with

- `x`: Number of successes (positive samples)
- `LTW`: Wald-T Lower limit
- `UTW`: Wald-T Upper Limit
- `LABB`: Wald-T Lower Abberation
- `UABB`: Wald-T Upper Abberation
- `ZWI`: Zero Width Interval

**References**


ciTWx


See Also
prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05
ciTW(n, alp)

---

**ciTWx**  
Wald-T method of CI estimation

**Description**
Wald-T method of CI estimation

**Usage**
ciTWx(x, n, alp)

**Arguments**
- x - Number of successes
- n - Number of trials
- alp - Alpha value (significance level required)

**Details**
An approximate method based on a t_approximation of the standardized point estimator for the given x and n; that is the point estimator divided by its estimated standard error. Essential boundary modification is when \(x = 0\) or \(n\),

\[
\hat{p} = \frac{x + 2}{n + 4}, \quad \text{phat} = \frac{x + 2}{n + 4}
\]
Value

A dataframe with

- x: Number of successes (positive samples)
- LTx: Wald-T Lower limit
- UTx: Wald-T Upper Limit
- LABB: Wald-T Lower Abberation
- UABB: Wald-T Upper Abberation
- ZWI: Zero Width Interval

References


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2c1 which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.

Other Base methods of CI estimation given x & n: PlotciAllxg, PlotciAllx, PlotciEXx, ciASx, ciAllx, ciBx, ciEXx, ciLRx, ciLTx, ciSCx, ciWDx

Examples

```
x=5; n=5; alp=0.05
ciT(x,n,alp)
```
ciWD

Wald method of CI estimation

Description

Wald method of CI estimation

Usage

ciWD(n, alp)

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

Details

Wald-type interval that results from inverting large-sample test and evaluates standard errors at maximum likelihood estimates for all x = 0, 1, 2 ..n. Calculates the Confidence Interval of n given `alp` along with lower and upper abberation.

Value

A dataframe with

- `x` - Number of successes (positive samples)
- `LWD` - Wald Lower limit
- `UWD` - Wald Upper Limit
- `LABB` - Wald Lower Abberation
- `UABB` - Wald Upper Abberation
- `ZWI` - Zero Width Interval

References

ciWDx


See Also

prop.test and binom.test for equivalent base Stats R functionality, binom.confint provides similar functionality for 11 methods, wald2ci which provides multiple functions for CI calculation, binom.blaker.limits which calculates Blaker CI which is not covered here and propCI which provides similar functionality.


Examples

n=5; alp=0.05
ciWD(n, alp)

---

ciWDx  Wald method of CI estimation

Description

Wald method of CI estimation

Usage

ciWDx(x, n, alp)

Arguments

x - Number of successes
n - Number of trials
alp - Alpha value (significance level required)

Details

Wald-type interval that results from inverting large-sample test and evaluates standard errors at maximum likelihood estimates for the given x and n
Value

A dataframe with

- **x**: Number of successes (positive samples)
- **LWD**: Wald Lower limit
- **UWD**: Wald Upper Limit
- **LAB**: Wald Lower Abberation
- **UAB**: Wald Upper Abberation
- **ZWI**: Zero Width Interval

References


See Also

- `prop.test` and `binom.test` for equivalent base Stats R functionality, `binom.confint` provides similar functionality for 11 methods, `wald2c1` which provides multiple functions for CI calculation , `binom.blaker.limits` which calculates Blaker CI which is not covered here and `propCI` which provides similar functionality.

Other Base methods of CI estimation given x & n: `PlotciAllxg, PlotciAllx, PlotciEXx, ciASx, ciAllx, ciBAXx, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx`

Examples

```r
x=5; n=5; alp=0.05;
ciWD(x, n, alp)
```
covpAAll  

Coverage Probability for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Coverage Probability for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

covpAAll(n, alp, h, a, b, t1, t2)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
h  - Adding factor
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
 t2 - Upper tolerance limit to check the spread of coverage Probability

Details

Calculates the Coverage Probability for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Value

A dataframe with

<table>
<thead>
<tr>
<th>method</th>
<th>Method name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MeanCP</td>
<td>Coverage Probability</td>
</tr>
<tr>
<td>MinCP</td>
<td>Minimum coverage probability</td>
</tr>
<tr>
<td>RMSE_N</td>
<td>Root Mean Square Error from nominal size</td>
</tr>
<tr>
<td>RMSE_M</td>
<td>Root Mean Square Error for Coverage Probability</td>
</tr>
<tr>
<td>RMSE_MI</td>
<td>Root Mean Square Error for minimum coverage probability</td>
</tr>
<tr>
<td>tol</td>
<td>Required tolerance for coverage probability</td>
</tr>
</tbody>
</table>
References


See Also

Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAll, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAAS, covpALR, covpALT, covpASC, covpATW, covpAWD

Examples

```r
## Not run:
n = 10; alp=0.05; h=2;a=1;b=1; t1=0.93; t2=0.97
covpAAll(n, alp, h, a, b, t1, t2)
## End(Not run)
```

covpAAS Coverage Probability of Adjusted ArcSine method for given n

Description

Coverage Probability of Adjusted ArcSine method for given n

Usage

covpAAS(n, alp, h, a, b, t1, t2)

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability
Details

Evaluation of adjusted Wald-type interval for the arcsine transformation of the parameter $p$ using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with

- `mcpAA` Adjusted ArcSine Coverage Probability
- `micpAA` Adjusted ArcSine minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_MI` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability

References


See Also

Other Coverage probability of adjusted methods: `plotcovpAAS`, `plotcovpAAll`, `plotcovpALR`, `plotcovpALT`, `plotcovpASC`, `plotcovpATW`, `plotcovpAMD`, `covpAAll`, `covpALR`, `covpALT`, `covpASC`, `covpATW`, `covpAMD`

Examples

```R
n = 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
covpAAS(n,alp,h,a,b,t1,t2)
```

```R
covpAll
```

Coverage Probability using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Coverage Probability using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)
Usage

covpAll(n, alp, a, b, t1, t2)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"
t1  - Lower tolerance limit to check the spread of coverage Probability
t2  - Upper tolerance limit to check the spread of coverage Probability

Details

The Coverage Probability of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, Arc-Sine)

Value

A dataframe with

<table>
<thead>
<tr>
<th>method</th>
<th>method name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MeanCP</td>
<td>Coverage Probability</td>
</tr>
<tr>
<td>MinCP</td>
<td>Minimum coverage probability</td>
</tr>
<tr>
<td>RMSE_N</td>
<td>Root Mean Square Error from nominal size</td>
</tr>
<tr>
<td>RMSE_M</td>
<td>Root Mean Square Error for Coverage Probability</td>
</tr>
<tr>
<td>RMSE_MI</td>
<td>Root Mean Square Error for minimum coverage probability</td>
</tr>
<tr>
<td>tol</td>
<td>Required tolerance for coverage probability</td>
</tr>
</tbody>
</table>

References

See Also

Other Basic coverage probability methods: `PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD`

Examples

```r
## Not run:
n = 10; alp=0.05; a=1;b=1; t1=0.93;t2=0.97
covpAll(n,alp,a,b,t1,t2)

## End(Not run)
```

covpALR

**Coverage Probability of Adjusted Likelihood method for given n**

Description

Coverage Probability of Adjusted Likelihood method for given n

Usage

`covpALR(n, alp, h, a, b, t1, t2)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of adjusted Likelihood ratio limits using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage
covpALT

Value

A dataframe with

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
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<tbody>
<tr>
<td>mcpAL</td>
<td>Adjusted Likelihood Coverage Probability</td>
</tr>
<tr>
<td>micpAL</td>
<td>Adjusted Likelihood Minimum coverage probability</td>
</tr>
<tr>
<td>RMSE_N</td>
<td>Root Mean Square Error from nominal size</td>
</tr>
<tr>
<td>RMSE_M</td>
<td>Root Mean Square Error for Coverage Probability</td>
</tr>
<tr>
<td>RMSE_MI</td>
<td>Root Mean Square Error for minimum coverage probability</td>
</tr>
<tr>
<td>tol</td>
<td>Required tolerance for coverage probability</td>
</tr>
</tbody>
</table>

References


See Also

Other Coverage probability of adjusted methods: plotcovpAAS, plotcovpAA11, plotcovpALR, plotcovpALT, plotcovpASC, plotcovpATW, plotcovpAWD, covpAAS, covpAA11, covpALT, covpASC, covpATW, covpAWD

Examples

```r
covpALT(n, alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97)
covpALT(n, alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97)
```

covpALT

Coverage Probability of Adjusted Logit Wald method for given n

Description

Coverage Probability of Adjusted Logit Wald method for given n

Usage

```r
covpALT(n, alp, h, a, b, t1, t2)
```
Arguments

- **n**: Number of trials
- **alph**: Alpha value (significance level required)
- **h**: Adding factor
- **a**: Beta parameters for hypo 'p'
- **b**: Beta parameters for hypo 'p'
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of adjusted Wald-type interval based on the logit transformation of p using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with

- **mcpALT**: Adjusted Logit Wald Coverage Probability
- **micpALT**: Adjusted Logit Wald minimum coverage probability
- **RMSE_N**: Root Mean Square Error from nominal size
- **RMSE_M**: Root Mean Square Error for Coverage Probability
- **RMSE_MI**: Root Mean Square Error for minimum coverage probability
- **tol**: Required tolerance for coverage probability

References


See Also

Other Coverage probability of adjusted methods: `PlotcovpAAS, PlotcovpAA1, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAMD, covpAAS, covpAA1, covpALR, covpASC, covpATW, covpAMD`

Examples

```r
n= 10; alph=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
covpALT(n, alph, h, a, b, t1, t2)
```
**covpAS**

**Coverage Probability of ArcSine method**

**Description**

Coverage Probability of ArcSine method

**Usage**

`covpAS(n, a1p, a, b, t1, t2)`

**Arguments**

- `n` - Number of trials
- `a1p` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

**Details**

Evaluation of Wald-type interval for the arcsine transformation of the parameter p using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

**Value**

A dataframe with

- `mcpA` ArcSine Coverage Probability
- `micpA` ArcSine minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_MI` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability

**References**


See Also
Other Basic coverage probability methods: plotcovpAS, plotcovpAll, plotcovpBA, plotcovpEX, plotcovpLR, plotcovpLT, plotcovpSC, plotcovpTW, plotcovpWD, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
covpASC(10, 0.05, 1, 1, 0.93, 0.97)
```

covpASC  Coverage Probability of Adjusted Score method for given n

Description
Coverage Probability of Adjusted Score method for given n

Usage

`covpASC(n, alp, a, b, t1, t2)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability
Details

Evaluation of adjusted score test approach using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with

<table>
<thead>
<tr>
<th>mcpAS</th>
<th>Adjusted Score Coverage Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>micpAS</td>
<td>Adjusted Score minimum coverage probability</td>
</tr>
<tr>
<td>RMSE_N</td>
<td>Root Mean Square Error from nominal size</td>
</tr>
<tr>
<td>RMSE_M</td>
<td>Root Mean Square Error for Coverage Probability</td>
</tr>
<tr>
<td>RMSE_MI</td>
<td>Root Mean Square Error for minimum coverage probability</td>
</tr>
<tr>
<td>tol</td>
<td>Required tolerance for coverage probability</td>
</tr>
</tbody>
</table>

References


See Also

Other Coverage probability of adjusted methods: PlotcovpAS, PlotcovpAA11, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAS, covpAA11, covpALR, covpALT, covpATW, covpAWD

Examples

```r
n= 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
covpASC(n, alp, h, a, b, t1, t2)
```

<table>
<thead>
<tr>
<th>covpATW</th>
<th>Coverage Probability of Adjusted Wald-T method for given n</th>
</tr>
</thead>
</table>

Description

Coverage Probability of Adjusted Wald-T method for given n

Usage

```r
covpATW(n, alp, h, a, b, t1, t2)
```
Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"
- **t1** - Lower tolerance limit to check the spread of coverage Probability
- **t2** - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of approximate and adjusted method based on a t_approximation of the standardized point estimator using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

Value

A dataframe with

- **mcpATW** - Adjusted Wald-T Coverage Probability
- **mipATW** - Adjusted Wald-T minimum coverage probability
- **RMSE_N** - Root Mean Square Error from nominal size
- **RMSE_M** - Root Mean Square Error for Coverage Probability
- **RMSE_MI** - Root Mean Square Error for minimum coverage probability
- **tol** - Required tolerance for coverage probability

References


See Also

Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAll, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAAS, covpAAll, covpALR, covpALT, covpASC, covpAWD

Examples

```r
n = 10; alp=0.05; h=2;a=1;b=1; t1=0.93;t2=0.97
covpATW(n,alp,h,a,b,t1,t2)
```
Description
Coverage Probability of Adjusted Wald method for given n

Usage
covpAWD(n, alp, h, a, b, t1, t2)

Arguments
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details
Evaluation of adjusted Wald-type interval using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

Value
A dataframe with
mcpAW Adjusted Wald Coverage Probability
micpAW Adjusted Wald minimum coverage probability
RMSE_N Root Mean Square Error from nominal size
RMSE_M Root Mean Square Error for Coverage Probability
RMSE_MI Root Mean Square Error for minimum coverage probability
tol Required tolerance for coverage probability

References
See Also

Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAll, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, covpAAS, covpAAll, covpALR, covpALT, covpASC, covpATW

Examples

n= 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
covpAHD(n, alp, h, a, b, t1, t2)

covpBA

<table>
<thead>
<tr>
<th>covpBA</th>
<th>Coverage Probability of Bayesian method</th>
</tr>
</thead>
</table>

Description

Coverage Probability of Bayesian method

Usage

covpBA(n, alp, a, b, t1, t2, a1, a2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability
a1 - Beta Prior Parameters for Bayesian estimation
a2 - Beta Prior Parameters for Bayesian estimation

Details

Evaluation of Bayesian Highest Probability Density (HPD) and two tailed intervals using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage for the Beta - Binomial conjugate prior model for the probability of success \( p \).
Value

A dataframe with

- `method`: Both Quantile and HPD method results are returned
- `MeanCP`: Coverage Probability
- `MinCP`: Minimum coverage probability
- `RMSE_N`: Root Mean Square Error from nominal size
- `RMSE_M`: Root Mean Square Error for Coverage Probability
- `RMSE_MI`: Root Mean Square Error for minimum coverage probability
- `tol`: Required tolerance for coverage probability

References


See Also

Other Basic coverage probability methods: `PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD`

Examples

```r
## Not run:
n = 10; aLp=0.05; a=1;b=1; t1=0.93;t2=0.97;a1=1;a2=1
covpBA(n,aLp,a,b,t1,t2,a1,a2)
## End(Not run)
```
covpCAll

Description

Coverage Probability for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

```r
covpCAll(n, alp, c, a, b, tQ, tR)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `tQ` - Lower tolerance limit to check the spread of coverage Probability
- `tR` - Upper tolerance limit to check the spread of coverage Probability

Details

The Coverage Probability of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for `n` given `alp`, `h`, `a`, `b`, `t1`, and `t2` using all the methods

Value

A dataframe with

- `method` - Method name
- `MeanCP` - Coverage Probability
- `MinCP` - Minimum coverage probability
- `RMSE_N` - Root Mean Square Error from nominal size
- `RMSE_M` - Root Mean Square Error for Coverage Probability
- `RMSE_MI` - Root Mean Square Error for minimum coverage probability
- `tol` - Required tolerance for coverage probability
References


See Also

Other Coverage probability for continuity corrected methods: PlotcovpCAS, PlotcovpCA1All, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCLT, covpCSC, covpCTW, covpCWD

Examples

```r
## Not run:
n = 10; alp = 0.05; c = 1/(2*n); a = 1; b = 1; t1 = 0.93; t2 = 0.97
covpCA1All(n, alp, c, a, b, t1, t2)

## End(Not run)
```

covpCAS

Coverage Probability of Continuity corrected ArcSine method

Description

Coverage Probability of Continuity corrected ArcSine method

Usage

covpCAS(n, alp, c, a, b, t1, t2)

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability
**Details**

Evaluation of continuity corrected Wald-type interval for the arcsine transformation of the parameter \( p \) using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

**Value**

A dataframe with:

- `mcpCA`: Continuity corrected ArcSine Coverage Probability
- `micpCA`: Continuity corrected ArcSine minimum coverage probability
- `RMSE_N`: Root Mean Square Error from nominal size
- `RMSE_M`: Root Mean Square Error for Coverage Probability
- `RMSE_Mi`: Root Mean Square Error for minimum coverage probability
- `tol`: Required tolerance for coverage probability

**References**


**See Also**

Other Coverage probability for continuity corrected methods: `PlotcovpCAS`, `PlotcovpCAll`, `PlotcovpCLT`, `PlotcovpCSC`, `PlotcovpCTW`, `PlotcovpCWD`, `covpCAll`, `covpCLT`, `covpCSC`, `covpCTW`, `covpCWD`

**Examples**

```r
covpCAS(n, alp, c, a, b, t1, t2)
```

---

**Description**

Coverage Probability of Continuity corrected Logit Wald method

**Usage**

```r
covpCLT(n, alp, c, a, b, t1, t2)
```
**covpCLT**

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"
- **t1** - Lower tolerance limit to check the spread of coverage Probability
- **t2** - Upper tolerance limit to check the spread of coverage Probability

**Details**

Evaluation of continuity corrected Wald-type interval based on the logit transformation of p using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

**Value**

A dataframe with

- **mcpALT** - Continuity corrected Logit Wald Coverage Probability
- **micpALT** - Continuity corrected Logit Wald minimum coverage probability
- **RMSE_N** - Root Mean Square Error from nominal size
- **RMSE_M** - Root Mean Square Error for Coverage Probability
- **RMSE_MI** - Root Mean Square Error for minimum coverage probability
- **tol** - Required tolerance for coverage probability

**References**


**See Also**

Other Coverage probability for continuity corrected methods: **PlotcovpCAS, PlotcovpCAll, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCAll, covpCSC, covpCTW, covpCWD**

**Examples**

```r
n = 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
covpCLT(n, alp, c, a, b, t1, t2)
```
covpCSC | Coverage Probability of Continuity corrected Score method

**Description**

Coverage Probability of Continuity corrected Score method

**Usage**

covpCSC(n, alp, c, a, b, tQ, tR)

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **tQ**: Lower tolerance limit to check the spread of coverage Probability
- **tR**: Upper tolerance limit to check the spread of coverage Probability

**Details**

Evaluation of continuity corrected score test approach using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

**Value**

A dataframe with

- **mcpAS**: Continuity corrected Score Coverage Probability
- **micpAS**: Continuity corrected Score minimum coverage probability
- **RMSE_N**: Root Mean Square Error from nominal size
- **RMSE_M**: Root Mean Square Error for Coverage Probability
- **RMSE_MI**: Root Mean Square Error for minimum coverage probability
- **tol**: Required tolerance for coverage probability

**References**


covpCTW

See Also

Other Coverage probability for continuity corrected methods: PlotcovpCAS, PlotcovpCA1, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCA1, covpCLT, covpCTW, covpCWD

Examples

n= 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
covpCSC(n, alp, c, a, b, t1, t2)

---

covpCTW Coverage Probability of Continuity corrected Wald-T method

Description

Coverage Probability of Continuity corrected Wald-T method

Usage

covpCTW(n, alp, c, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of approximate and continuity corrected method based on a t_approximation of the standardized point estimator using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

Value

A dataframe with

mcpATW Continuity corrected Wald-T Coverage Probability
mccpATW Continuity corrected Wald-T minimum coverage probability
RMSE_N Root Mean Square Error from nominal size
RMSE_M Root Mean Square Error for Coverage Probability
RMSE_MI Root Mean Square Error for minimum coverage probability
tol Required tolerance for coverage probability
**References**


**See Also**

Other Coverage probability for continuity corrected methods: `PlotcovpCAS, PlotcovpCA11, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCA11, covpCLT, covpCSC, covpCWD`

**Examples**

```r
n = 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
covpCWD(n, alp, c, a, b, t1, t2)
```

**covpCWD**

*Coverage Probability of Continuity corrected Wald method*

**Description**

Coverage Probability of Continuity corrected Wald method

**Usage**

`covpCWD(n, alp, c, a, b, t1, t2)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

**Details**

Evaluation of Wald-type interval with continuity correction using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage
covpEX

Value

A dataframe with

<table>
<thead>
<tr>
<th>mcpcw</th>
<th>Continuity corrected Wald Coverage Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>micpw</td>
<td>Continuity corrected Wald minimum coverage probability</td>
</tr>
<tr>
<td>RMSE_N</td>
<td>Root Mean Square Error from nominal size</td>
</tr>
<tr>
<td>RMSE_M</td>
<td>Root Mean Square Error for Coverage Probability</td>
</tr>
<tr>
<td>RMSE_MI</td>
<td>Root Mean Square Error for minimum coverage probability</td>
</tr>
<tr>
<td>tol</td>
<td>Required tolerance for coverage probability</td>
</tr>
</tbody>
</table>

References


See Also

Other Coverage probability for continuity corrected methods: `plotcovCAS, plotcovpCAll, plotcovpCLT, plotcovpCSC, plotcovpCTW, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW`

Examples

```r
n = 10; alp = 0.05; c = 1/(2*n); a = 1; b = 1; t1 = 0.93; t2 = 0.97
covpCWD(n, alp, c, a, b, t1, t2)
```

---

covpEX Coverage Probability of Exact method

Description

Coverage Probability of Exact method

Usage

```r
covpEX(n, alp, e, a, b, t1, t2)
```
Arguments

- $n$ - Number of trials
- $\alpha$ - Alpha value (significance level required)
- $e$ - Exact method indicator (1:Clop-Pear,0.5:MID-p). The input can also be a range of values between 0 and 1.
- $a$ - Beta parameters for hypo "p"
- $b$ - Beta parameters for hypo "p"
- $t_1$ - Lower tolerance limit to check the spread of coverage Probability
- $t_2$ - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of Confidence interval for p based on inverting equal-tailed binomial tests with null hypothesis $H_0 : p = p_0$ using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with

- `mcpEX` Exact Coverage Probability
- `micpEX` Exact minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_MI` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability
- $e$ - Exact method input

References

covpGEN

See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

## Not run:
```
n= 10; alp=0.05; e=0.5; a=1; b=1; t1=0.93; t2=0.97 # Mid-p
covpEX(n,alp,e,a,b,t1,t2)
n= 10; alp=0.05; e=1; a=1; b=1; t1=0.93; t2=0.97 # Clopper-Pearson
covpEX(n,alp,e,a,b,t1,t2)
n=5; alp=0.05;
e=c(0.1,0.5,0.95,1) # Range including Mid-p and Clopper-Pearson
a=1; b=1; t1=0.93; t2=0.97
covpEX(n,alp,e,a,b,t1,t2)
```
## End(Not run)

---

covpGEN

*General Coverage Probability given hypothetical "p" Coverage probability for CI obtained from any method and discrete hypothetical p*

Description

General Coverage Probability given hypothetical "p" Coverage probability for CI obtained from any method and discrete hypothetical p

Usage

```
covpGEN(n, LL, UL, alp, hp, t1, t2)
```

Arguments

- **n**: Number of trials
- **LL**: Lower limit
- **UL**: Upper limit
- **alp**: Alpha value (significance level required)
- **hp**: Hypothetical "p"
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of intervals obtained from any method using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage for the \( n + 1 \) intervals and pre-defined space for the parameter \( p \)
Value

A dataframe with

- `mcp`: Mean Coverage Probability
- `micp`: Minimum coverage probability
- `RMSE_N`: Root Mean Square Error from nominal size
- `RMSE_M`: Root Mean Square Error for Mean Coverage Probability
- `RMSE_MI`: Root Mean Square Error for minimum coverage probability
- `tol`: Required tolerance for coverage probability

See Also

Other General methods for coverage probability: `plotcovpGEN`

Examples

```r
## Not run:
LL=c(0,0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
hp=seq(0,1,by=0.0001)
n= 5; alp=0.05; t1=0.93; t2=0.97
covpGEN(n,LL,UL,alp,hp,t1,t2)

## End(Not run)
```

<table>
<thead>
<tr>
<th>covpLR</th>
<th>Coverage Probability of likelihood method</th>
</tr>
</thead>
</table>

Description

Coverage Probability of likelihood method

Usage

```r
covpLR(n, alp, a, b, t1, t2)
```

Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `a`: Beta parameters for hypo "p"
- `b`: Beta parameters for hypo "p"
- `t1`: Lower tolerance limit to check the spread of coverage Probability
- `t2`: Upper tolerance limit to check the spread of coverage Probability
Details

Evaluation of Likelihood ratio limits using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with:

- `mcpl` likelihood Coverage Probability
- `micpl` likelihood minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_Mi` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability

References


See Also

Other Basic coverage probability methods: `PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLT, covpSC, covpTW, covpWD`

Examples

```R
n= 10; alp=0.05; a=1;b=1; t1=0.93;t2=0.97
covpLR(n,alp,a,b,t1,t2)
```
Description

Coverage Probability of Logit Wald method

Usage

covpLT(n, alp, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of Wald-type interval based on the logit transformation of p using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

Value

A dataframe with

mcplt Logit Wald Coverage Probability
micplt Logit Wald minimum coverage probability
RMSE_N Root Mean Square Error from nominal size
RMSE_M Root Mean Square Error for Coverage Probability
RMSE_MI Root Mean Square Error for minimum coverage probability
tol Required tolerance for coverage probability

References

covpSC


See Also

Other Basic coverage probability methods: plotcovpAS, plotcovpAll, plotcovpBA, plotcovpEX, plotcovpLR, plotcovpLT, plotcovpSC, plotcovpTW, plotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpSC, covpTW, covpWD

Examples

n  =  10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
covpLT(n,alp,a,b,t1,t2)

covpSC

Coverage Probability of Score method

Description

Coverage Probability of Score method

Usage

covpSC(n, alp, a, b, t1, t2)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"
t1  - Lower tolerance limit to check the spread of coverage Probability
t2  - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of score test approach using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage
Value

A dataframe with

- `mcps` Score Coverage Probability
- `micps` Score minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_MI` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability

References


See Also

Other Basic coverage probability methods: `PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpTW, covpWD`

Examples

```r
n= 10; alp=0.05; a=1; b=1; t1=0.93;t2=0.97
covpSC(n,alp,a,b,t1,t2)
```
covpSIM

Coverage Probability using simulation Coverage probability for CI obtained from any method over the space [0, 1]

Description

Coverage Probability using simulation Coverage probability for CI obtained from any method over the space [0, 1]

Usage

covpSIM(n, LL, UL, alp, s, a, b, t1, t2)

Arguments

n - Number of trials
LL - Lower limit
UL - Upper limit
alp - Alpha value (significance level required)
s - Number of hypothetical "p"
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

Evaluation of intervals obtained from any method using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage for the \( n + 1 \) intervals and pre-defined space for the parameter p using Monte Carle simulation

Value

A dataframe with

- mcp: Mean Coverage Probability
- micp: Minimum coverage probability
- RMSE_N: Root Mean Square Error from nominal size
- RMSE_M: Root Mean Square Error for Mean Coverage Probability
- RMSE_MI: Root Mean Square Error for minimum coverage probability
- tol: Required tolerance for coverage probability
See Also

Other Simulated methods for coverage probability: `PlotcovpSIM`

Examples

```r
LL=c(0,0.01,0.0734,0.18237,0.3344,0.5492) # Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
n= 5; alp=0.05; s=5000; a=1; b=1; t1=0.93; t2=0.97
covpSIM(n,LL,UL,alp,s,a,b,t1,t2)
```

---

**covpTW** 

*Coverage Probability of Wald-T method*

**Description**

Coverage Probability of Wald-T method

**Usage**

```
covpTW(n, alp, a, b, t1, t2)
```

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `a`: Beta parameters for hypo "p"
- `b`: Beta parameters for hypo "p"
- `t1`: Lower tolerance limit to check the spread of coverage Probability
- `t2`: Upper tolerance limit to check the spread of coverage Probability

**Details**

Evaluation of approximate method based on a t_approximation of the standardized point estimator using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage

**Value**

A dataframe with

- `mcptw`: Wald-T Coverage Probability
- `micptw`: Wald-T minimum coverage probability
- `RMSE_N`: Root Mean Square Error from nominal size
- `RMSE_M`: Root Mean Square Error for Coverage Probability
- `RMSE_MI`: Root Mean Square Error for minimum coverage probability
- `tol`: Required tolerance for coverage probability
References


See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpwd

Examples

n= 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
covptw(n, alp, a, b, t1, t2)

covpwd

Coverage Probability of Wald method

Description

Coverage Probability of Wald method

Usage

covpwd(n, alp, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability
Details

Evaluation of Wald-type interval using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage.

Value

A dataframe with

- `mcpW` Wald Coverage Probability
- `mipcW` Wald minimum coverage probability
- `RMSE_N` Root Mean Square Error from nominal size
- `RMSE_M` Root Mean Square Error for Coverage Probability
- `RMSE_MI` Root Mean Square Error for minimum coverage probability
- `tol` Required tolerance for coverage probability

References


See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW

Examples

```r
n = 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
covpWD(n, alp, a, b, t1, t2)
```
The empirical Bayesian approach for Beta-Binomial model

**Usage**

empericalBA(n, alp, sL, sU)

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **sL**: Lower support for MLE optimization
- **sU**: Upper support for MLE optimization

**Details**

Highest Probability Density (HPD) and two tailed intervals are provided for all \(x = 0, 1, 2 \ldots n\) based on empirical Bayesian approach for Beta-Binomial model. Lower and Upper support values are needed to obtain the MLE of marginal likelihood for prior parameters.

**Value**

A dataframe with

- **x**: Number of successes (positive samples)
- **pomean**: Posterior mean
- **LBAQ**: Lower limits of Quantile based intervals
- **UBAQ**: Upper limits of Quantile based intervals
- **LBAH**: Lower limits of HPD intervals
- **UBAH**: Upper limits of HPD intervals

**References**


**See Also**

Other Miscellaneous functions for Bayesian method: empericalBAX, probPOSx, probPOS, probPREx, probPRE
Examples

```r
sl = runif(1, 0, 2)  # Lower and upper of support for MLE optimization
sU = runif(1, sl, 10)
n = 5; alp = 0.05
empericalBAx(n, alp, sl, sU)
```

Description

The empirical Bayesian approach for Beta-Binomial model given x

Usage

```r
empericalBAx(x, n, alp, sl, sU)
```

Arguments

- **x**: Number of successes
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **sl**: Lower support for MLE optimization
- **sU**: Upper support for MLE optimization

Details

Highest Probability Density (HPD) and two tailed intervals are provided for the required x (any one value from 0, 1, 2..n) based on empirical Bayesian approach for Beta-Binomial model. Lower and Upper support values are needed to obtain the MLE of marginal likelihood for prior parameters.

Value

A dataframe with

- **x**: Number of successes (positive samples)
- **pmean**: Posterior mean
- **LEBAQ**: Lower limits of Quantile based intervals
- **UEBAQ**: Upper limits of Quantile based intervals
- **LEBAH**: Lower limits of HPD intervals
- **UEBAH**: Upper limits of HPD intervals

References

See Also

Other Miscellaneous functions for Bayesian method: `empericalBA`, `probPOSx`, `probPOS`, `probPREx`, `probPRE`

Examples

```r
sl = runif(1, 0.2) # Lower and upper of Support for MLE optimization
su = runif(1, sl, 10)
x = 0; n = 5; alp = 0.05
empericalBAx(x, n, alp, sl, su)
```

---

`erraall`  
*Calculates error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)*

**Description**

Calculates error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Usage**

```r
erraall(n, alp, h, phi, f)
```

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `h`: Adding factor
- `phi`: Null hypothesis value
- `f`: Failure criterion

**Details**

Calculates error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Value**

A dataframe with

- `delalp`: Delta-alpha is the increase of the nominal error with respect to real error
- `theta`: Long term power of the test
- `Fail_Pass`: Fail/pass based on the input `f` criterion
- `method`: Name of the method
See Also

Other Error for adjusted methods: `ploterrAAS, PloterrAAll, PloterrALR, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAAS, errALR, errALT, errASC, errATW, errAWD`

Examples

```r
n=20; alp=0.05; h=2; phi=0.99; f=-2
errAAll(n, alp, h, phi, f)
```

### Description

Calculates error, long term power and pass/fail criteria for adjusted ArcSine method

### Usage

```r
errAAS(n, alp, h, phi, f)
```

### Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `h`: Adding factor
- `phi`: Null hypothesis value
- `f`: Failure criterion

### Details

Evaluation of adjusted Wald-type interval for the arcsine transformation of the parameter `p` using error due to the difference of achieved and nominal level of significance for the `n + 1` intervals

### Value

A dataframe with

- `delalp`: Delta-alpha is the increase of the nominal error with respect to real error
- `theta`: Long term power of the test
- `Fail_Pass`: Fail/pass based on the input `f` criterion

### References

See Also

Other Error for adjusted methods: `ploterrAAS`, `ploterrALL`, `ploterrALT`, `ploterrASC`, `ploterrATW`, `ploterrAWD`, `errAAll`, `errALR`, `errALT`, `errASC`, `errATW`, `errAWD`

Examples

```r
n=20; alp=0.05; h=2; phi=0.99; f=-2
errAAS(n, alp, h, phi, f)
```

```r
errAll(HnL, alpL, phiL, fI)
```

Calculates error, long term power and pass/fail criteria using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

```r
errAll(n, alp, phi, f)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion

Details

Calculation of error, long term power and pass/fail criteria using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Value

A dataframe with

- `deltaalp` - Delta-alpha is the increase of the nominal error with respect to real error
- `theta` - Long term power of the test
- `fail_pass` - Fail/pass based on the input f criterion
- `method` - Name of the method

References

See Also


Examples

n=20; alp=0.05; phi=0.05; f=-2
erAll(n, alp, phi, f)

---

errALR

Calculates error, long term power and pass/fail criteria for adjusted Likelihood Ratio method

Description

Calculates error, long term power and pass/fail criteria for adjusted Likelihood Ratio method

Usage

errALR(n, alp, h, phi, f)

Arguments

- n: Number of trials
- alp: Alpha value (significance level required)
- h: Adding factor
- phi: Null hypothesis value
- f: Failure criterion

Details

Evaluation of adjusted Likelihood ratio limits using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

Value

A dataframe with

- delalp: Delta-alpha is the increase of the nominal error with respect to real error
- theta: Long term power of the test
- Fail_Pass: Fail/pass based on the input f criterion

References

errALT

See Also

Other Error for adjusted methods: PloterrAAS, PloterrAAll, PloterrALR, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAAS, errAAll, errALT, errASC, errATW, errAWD

Examples

n=20; alp=0.05; h=2; phi=0.99; f=-2
errALT(n, alp, h, phi, f)

---

errALT: Calculates error, long term power and pass/fail criteria for adjusted Logit Wald method

Description

Calculates error, long term power and pass/fail criteria for adjusted Logit Wald method

Usage

errALT(n, alp, h, phi, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
phi - Null hypothesis value
f - Failure criterion

Details

Evaluation of adjusted Wald-type interval based on the logit transformation of p using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

Value

A dataframe with

delalp - Delta-alpha is the increase of the nominal error with respect to real error
theta - Long term power of the test
Fail_Pass - Fail/pass based on the input f criterion

References

See Also

Other Error for adjusted methods: `ploterrAAS`, `ploterrAAll`, `ploterrALR`, `ploterrALT`, `ploterrASC`, `ploterrATW`, `ploterrAWD`, `erraas`, `erraAll`, `errALR`, `errASC`, `errATW`, `errAWD`

Examples

```r
n=20; alp=0.05; h=2;phi=0.99; f=-2
errALT(n,alp,h,phi,f)
```

---

**errAS**

*Calculates error, long term power and pass/fail criteria for ArcSine method*

**Description**

Calculates error, long term power and pass/fail criteria for ArcSine method

**Usage**

```r
errAS(n, alp, phi, f)
```

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **phi**: Null hypothesis value
- **f**: Failure criterion

**Details**

Evaluation of Wald-type interval for the arcsine transformation of the parameter \( p \) error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

**Value**

A dataframe with

- **delalp**: Delta-alpha is the increase of the nominal error with respect to real error
- **theta**: Long term power of the test
- **Fail_Pass**: Fail/pass based on the input \( f \) criterion

**References**

**See Also**

Other Error for base methods: `PloterrAS, PloterrAll, PloterrBA, PloterrEX, PloterrLR, PloterrLT, PloterrSC, PloterrTW, PloterrWD, errAll, errBA, errEX, errLR, errLT, errSC, errTW, errWD`

**Examples**

```r
n=20; alp=0.05; phi=0.05; f=-2
eroASC(n,alp,phi,f)
```

---

**Description**

Calculates error, long term power and pass/fail criteria for adjusted Score method

**Usage**

```r
eroASC(n, alp, h, phi, f)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `phi` - Null hypothesis value
- `f` - Failure criterion

**Details**

Evaluation of adjusted score test approach using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

**Value**

A dataframe with

- `delalp` - Delta-alpha is the increase of the nominal error with respect to real error
- `theta` - Long term power of the test
- `Fail_Pass` - Fail/pass based on the input f criterion

**References**

See Also

Other Error for adjusted methods: `ploterrAAS`, `ploterrAAll`, `ploterrALT`, `ploterrASC`, `ploterrATW`, `ploterrAWD`, `erraAS`, `erraAll`, `errALT`, `errATW`, `errAWD`

Examples

\[
n=20; \ \text{alp}=0.05; \ h=2; \phi_i=0.99; \ f=-2
\]
\[
\text{errASC}(n, \text{alp}, h, \phi_i, f)
\]

---

**errATW**

*Calculates error, long term power and pass/fail criteria for adjusted Wald-T method*

**Description**

Calculates error, long term power and pass/fail criteria for adjusted Wald-T method

**Usage**

\[
\text{errATW}(n, \text{alp}, h, \phi_i, f)
\]

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **phi** - Null hypothesis value
- **f** - Failure criterion

**Details**

Evaluation of approximate and adjusted method based on a t approximation of the standardized point estimator using error due to the difference of achieved and nominal level of significance for the \(n + 1\) intervals

**Value**

A dataframe with

- **delalp**: Delta-alpha is the increase of the nominal error with respect to real error
- **theta**: Long term power of the test
- **Fail_Pass**: Fail/pass based on the input f criterion

**References**

See Also

Other Error for adjusted methods: ploterrAS, PloterrAAll, PloterrALR, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAS, errAAll, errALR, errALT, errASC, errAWD

Examples

```r
n=20; alp=0.05; h=2; phi=0.99; f=-2
calculates error due to the difference of achieved and nominal level of significance for the n + 1 intervals

A dataframe with:
- `delalp`: Delta-alpha is the increase of the nominal error with respect to real error
- `theta`: Long term power of the test
- `Fail_Pass`: Fail/pass based on the input f criterion

See Also

Other Error for adjusted methods: PloterrAAS, PloterrAAll, PloterrALR, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAAS, errAAll, errALR, errALT, errASC, errATW

Examples

```
n=20; alp=.05; h=2;phi=.99; f=-2
errawd(n,alp,h,phi,f)
```

---

**errBA**

*Calculates error, long term power and pass/fail criteria for Bayesian method*

**Description**

Calculates error, long term power and pass/fail criteria for Bayesian method

**Usage**

```
errBA(n, alp, phi, f, a, b)
```

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **phi** - Null hypothesis value
- **f** - Failure criterion
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

**Details**

Evaluation of Bayesian Highest Probability Density (HPD) and two tailed intervals using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals for the Beta - Binomial conjugate prior model for the probability of success \( p \)

**Value**

A dataframe with
- **deltaalp** - Delta-alpha is the increase of the nominal error with respect to real error
- **theta** - Long term power of the test
- **Fail_Pass** - Fail/pass based on the input f criterion
- **method** - Name of method - Quantile or HPD
References


See Also

Other Error for base methods: ploterras, ploterrall, ploterrba, ploterrex, ploterrlr, ploterrlt, ploterrsc, ploterrtw, ploterrwd,erras, errall, errex, errlr, errlt, errsc, errtw, errwd

Examples

```r
n=20; alp=0.05; phi=0.05; f=-2; a=0.5; b=0.5
errBA(n,alp,phi,f,a,b)
```

```r
delalp theta fail_pass method
Delta-alpha is the increase of the nominal error with respect to real error
Long term power of the test
Fail/pass based on the input f criterion
Name of the method
```

Description

Calculates error, long term power and pass/fail criteria using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

```r
errCAll(n, alp, phi, c, f)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `c` - Continuity correction
- `f` - Failure criterion

Details

Calculates error, long term power and pass/fail criteria using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Value

A dataframe with

- `delalp` - Delta-alpha is the increase of the nominal error with respect to real error
- `theta` - Long term power of the test
- `Fail_Pass` - Fail/pass based on the input f criterion
- `method` - Name of the method
References


See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCAll, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCLT, errCSC, errCTW, errCWD

Examples

n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
errCAll(n,alp,phi,c,f)

table <- errCAS(n, alp, phi, c, f)

errCAS(n, alp, phi, c, f)

Description

Calculates error, long term power and pass/fail criteria for continuity corrected ArcSine method

Usage

errCAS(n, alp, phi, c, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
c - Continuity correction
f - Failure criterion

Details

Evaluation of continuity corrected Wald-type interval for the arcsine transformation of the parameter $p$ using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

Value

A dataframe with

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>delalp</td>
<td>Delta-alpha is the increase of the nominal error with respect to real error</td>
</tr>
<tr>
<td>theta</td>
<td>Long term power of the test</td>
</tr>
<tr>
<td>Fail_Pass</td>
<td>Fail/pass based on the input f criterion</td>
</tr>
</tbody>
</table>
References


See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCALL, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCALL, errCLT, errCSC, errCTW, errCWD

Examples

n = 5; alp = 0.05; phi = 0.05; c = 1/(2*n); f = -2
errCAS(n, alp, phi, c, f)

delalp theta
Delta-alpha is the increase of the nominal error with respect to real error Long term power of the test
Fail_Pass Fail/pass based on the input f criterion

Description

Calculates error, long term power and pass/fail criteria for continuity corrected Logit Wald method

Usage

errCLT(n, alp, phi, c, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
c - Continuity correction
f - Failure criterion

Details

Evaluation of continuity corrected Wald-type interval based on the logit transformation of p using error due to the difference of achieved and nominal level of significance for the n + 1 intervals

Value

A dataframe with

deltaalp theta Fail_Pass
Delta-alpha is the increase of the nominal error with respect to real error Long term power of the test Fail/pass based on the input f criterion
References


See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCAL, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCAL, errCSC, errCTW, errCWD

Examples

n=5; alp=0.05; phi=0.05;c=1/(2*n); f=-2
errCLT(n,alp,phi,c,f)

errCSC

Calculates error, long term power and pass/fail criteria for continuity corrected Score method

Description

Calculates error, long term power and pass/fail criteria for continuity corrected Score method

Usage

errCSC(n, alp, phi, c, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
c - Continuity correction
f - Failure criterion

Details

Evaluation of continuity corrected score test approach using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

Value

A dataframe with

delalp  Delta-alpha is the increase of the nominal error with respect to real error
theta  Long term power of the test
Fail_Pass  Fail/pass based on the input f criterion
References


See Also

Other Error for continuity corrected methods: ploterrCAS, ploterrCAII, ploterrCLT, ploterrCSC, ploterrCTW, ploterrCWD, errCAS, errCAII, errCLT, errCTW, errCWD

Examples

n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
errCSC(n, alp, phi, c, f)

errCTW

Calculates error, long term power and pass/fail criteria for continuity corrected Wald-T method

Description

Calculates error, long term power and pass/fail criteria for continuity corrected Wald-T method

Usage

errCTW(n, alp, phi, c, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
c - Continuity correction
f - Failure criterion

Details

Evaluation of approximate and continuity corrected method based on a t_approximation of the standardized point estimator using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

Value

A dataframe with
delalp Delta-alpha is the increase of the nominal error with respect to real error
theta Long term power of the test
Fail_Pass Fail/pass based on the input f criterion
References

See Also
Other Error for continuity corrected methods: ploterrCAS, ploterrCALL, ploterrCLT, ploterrCSC, ploterrCTW, ploterrCWD, errCAS, errCALL, errCLT, errCSC, errCWD

Examples
n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
errCTW(n,alp,phi,c,f)

delalp  theta  fail_pass

Calculates error, long term power and pass/fail criteria for continuity corrected Wald method

Description
Calculates error, long term power and pass/fail criteria for continuity corrected Wald method

Usage
errCWD(n, alp, phi, c, f)

Arguments
  n  - Number of trials
  alp - Alpha value (significance level required)
  phi - Null hypothesis value
  c  - Continuity correction
  f  - Failure criterion

Details
Evaluation of Wald-type interval with continuity correction using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

Value
A dataframe with
  delalp  Delta-alpha is the increase of the nominal error with respect to real error
  theta   Long term power of the test
  Fail_Pass Fail/pass based on the input f criterion
**References**


**See Also**

Other Error for continuity corrected methods: `PloterrCAS, PloterrCA11, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCA11, errCLT, errCSC, errCTW`

**Examples**

```r
n=5; alp=0.05; phi=0.05;c=1/(2*n); f=-2
errcWD(n, alp, phi, c, f)
```

**Description**

Calculates error, long term power and pass/fail criteria for Exact method

**Usage**

```r
errex(n, alp, phi, f, e)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion
- `e` - Exact method indicator in [0, 1] 1: Clopper Pearson, 0.5: Mid P The input can also be a range of values between 0 and 1.

**Details**

Evaluation of Confidence interval for $p$ based on inverting equal-tailed binomial tests with null hypothesis $H_0: p = p_0$ using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

**Value**

A dataframe with

- `delalp` - Delta-alpha is the increase of the nominal error with respect to real error
- `theta` - Long term power of the test
- `Fail_Pass` - Fail/pass based on the input f criterion
References


See Also

Other Error for base methods: ploterras, ploterrall, ploterrba, ploterrEX, ploterrLR, ploterrLT, ploterrSC, ploterrTW, ploterrWD, errAS, errAll, errBA, errLR, errLT, errSC, errTW, errWD

Examples

n=20; alp=0.05; phi=0.05; f=-2; e=0.5 # Mid-p
errEX(n, alp, phi, f, e)
n=20; alp=0.05; phi=0.05; f=-2; e=1 # Clopper-Pearson
errEX(n, alp, phi, f, e)
n=20; alp=0.05; phi=0.05; f=-2; e=c(0.1, 0.5, 0.95, 1) # Range including Mid-p and Clopper-Pearson
errEX(n, alp, phi, f, e)

erren

Calculates error, long term power and pass/fail criteria for CI obtained from any method

Description

Calculates error, long term power and pass/fail criteria for CI obtained from any method

Usage

erren(n, LL, UL, alp, phi, f)

Arguments

n - Number of trials
LL - Lower limit
UL - Upper limit
alp - Alpha value (significance level required)
phi - Null hypothesis value
f - Failure criterion

Details

Evaluation of intervals obtained from any method using error due to the difference of achieved and nominal level of significance for the $n+1$ intervals
errLR

Value

A dataframe with

- delalp: Delta-alpha is the increase of the nominal error with respect to real error
- theta: Long term power of the test
- Fail_Pass: Fail/pass based on the input f criterion

References


Examples

```r
LL=c(0.0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
n= 5; alp=0.05;phi=0.05; f=-2
errGEN(n,LL,UL,alp,phi,f)
```

Description

Calculates error, long term power and pass/fail criteria for Likelihood Ratio method

Usage

```r
errLR(n, alp, phi, f)
```

Arguments

- n: Number of trials
- alp: Alpha value (significance level required)
- phi: Null hypothesis value
- f: Failure criterion

Details

Evaluation of Likelihood ratio limits using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
Value

A dataframe with

- `delalp` Delta-alpha is the increase of the nominal error with respect to real error
- `theta` Long term power of the test
- `Fail_Pass` Fail/pass based on the input f criterion

References


See Also

Other Error for base methods: `ploterras`, `ploterrall`, `ploterrba`, `ploterrEX`, `ploterrLR`, `ploterrLT`, `ploterrSC`, `ploterrTW`, `ploterrWD`, `erras`, `errAll`, `errBA`, `errEX`, `errLT`, `errSC`, `errTW`, `errWD`

Examples

```r
n=20; alp=0.05; phi=0.05; f=-2
errLR(n, alp, phi, f)
```

```
errLT  Calculates error, long term power and pass/fail criteria for Logit Wald method
```

Description

Calculates error, long term power and pass/fail criteria for Logit Wald method

Usage

```r
errLT(n, alp, phi, f)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion

Details

Evaluation of Wald-type interval based on the logit transformation of \( p \) using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
errSC

Value

A dataframe with

delalp  Delta-alpha is the increase of the nominal error with respect to real error
theta   Long term power of the test
Fail_Pass  Fail/pass based on the input f criterion

References


See Also

Other Error for base methods: ploterras, ploterrall, ploterrBA, ploterrEX, ploterrLR, ploterrLT, ploterrSC, ploterrTW, ploterrWD, errAS, errAll, errBA, errEX, errLR, errSC, errTW, errWD

Examples

n=20; alp=0.05; phi=0.05; f=-2
errLT(n,alp,phi,f)

errSC  Calculates error, long term power and pass/fail criteria for Score method

Description

Calculates error, long term power and pass/fail criteria for Score method

Usage

errSC(n, alp, phi, f)

Arguments

n       - Number of trials
alp     - Alpha value (significance level required)
phi     - Null hypothesis value
f       - Failure criterion

Details

Evaluation of score test approach using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
Value

A dataframe with

- `delalp`: Delta-alpha is the increase of the nominal error with respect to real error
- `theta`: Long term power of the test
- `Fail_Pass`: Fail/pass based on the input f criterion

References


See Also

Other Error for base methods: `ploterras`, `ploterrall`, `ploterrba`, `ploterrex`, `ploterrlr`, `ploterrlt`, `ploterrsc`, `ploterrTW`, `ploterrwd`, `erras`, `errall`, `errBA`, `errEX`, `errLR`, `errLT`, `errTW`, `errWD`

Examples

```r
n=20; alp=0.05; phi=0.05; f=-2
calc = errsc(n,alp,phi,f)
```

.errTW                                                                                          Calculates error, long term power and pass/fail criteria for Wald-T method

Description

Calculates error, long term power and pass/fail criteria for Wald-T method

Usage

```r
errTW(n, alp, phi, f)
```

Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `phi`: Null hypothesis value
- `f`: Failure criterion

Details

Evaluation of approximate method based on a t_approximation of the standardized point estimator using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
Value

A dataframe with

delalp Delta-alpha is the increase of the nominal error with respect to real error
theta Long term power of the test
Fail_Pass Fail/pass based on the input f criterion

References


See Also

Other Error for base methods: Ploterras, PloterrAll, PloterrBA, PloterrEX, PloterrLR, PloterrLT, PloterrSC, PloterrTW, PloterrWD, errAS, errAll, errBA, errEX, errLR, errLT, errSC, errWD

Examples

n=20; alp=0.05; phi=0.05; f=-2
errTW(n,alp,phi,f)

table(errWD)

Calculates error, long term power and pass/fail criteria for Wald method

Description

Calculates error, long term power and pass/fail criteria for Wald method

Usage

errWD(n, alp, phi, f)

Arguments

  n             - Number of trials
  alp           - Alpha value (significance level required)
  phi           - Null hypothesis value
  f             - Failure criterion

Details

Evaluation of Wald-type intervals using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
Value

A dataframe with

delalp  Delta-alpha is the increase of the nominal error with respect to real error
theta  Long term power of the test
fail_pass  Fail/pass based on the input f criterion

References


See Also

Other Error for base methods: ploterras, ploterrall, ploterrba, ploterrEX, ploterrLR, ploterrLT, ploterrSC, ploterrTW, ploterrWD, errAS, errAll, errBA, errEX, errLR, errLT, errSC, errTW

Examples

n=20; alp=0.05; phi=0.05; f=-2
errWD(n,alp,phi,f)

```

hypotestBAF1

Bayesian Hypothesis testing : Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0

```

Description

Bayesian Hypothesis testing : Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0

Usage

hypotestBAF1(n, th0, a1, b1)

Arguments

- `n` - Number of trials from data
- `th0` - Hypothetical parameter for H0
- `a1` - Priors for hypothesis H1
- `b1` - Priors for hypothesis H1
Details

Computes Bayes factor under Beta-Binomial model for the model: \( p = p_0 \) Vs \( p \neq p_0 \) from the given number of trials \( n \) and for all number of successes \( x = 0, 1, 2, \ldots, n \). We use the following guideline for reporting the results:

- \( 1/3 \leq \text{BaFa}01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq \text{BaFa}01 < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq \text{BaFa}01 < 1/20 \): Evidence against H0 is strong.
- \( \text{BaFa}10 < 1/150 \): Evidence against H0 is very strong.
- \( 1 \leq \text{BaFa}01 < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq \text{BaFa}01 < 20 \): Evidence against H1 is positive.
- \( 20 \leq \text{BaFa}01 < 150 \): Evidence against H1 is strong.
- \( 150 \leq \text{BaFa}01 \): Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{BaFa}01 )</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: \hypotestBAF1, \hypotestBAF2, \hypotestBAF2, \hypotestBAF3, \hypotestBAF3, \hypotestBAF4, \hypotestBAF4, \hypotestBAF5, \hypotestBAF5, \hypotestBAF6, \hypotestBAF6

Examples

\( n=10; \ \theta=0.1; \ \alpha1=1; \ \beta1=1 \)
\hypotestBAF1(n,\theta,\alpha1,\beta1)
Bayesain Hypothesis testing given x: Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0

Usage

`hypotestBAF1x(x, n, thP, aQ, bQ)`

Arguments

- `x` - Number of success
- `n` - Number of trials from data
- `thP` - Hypothetical parameter for H0
- `aQ` - Priors for hypothesis H1
- `bQ` - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p = p_0 \) Vs \( p \neq p_0 \) from the given number of trials \( n \) and and for given number of successes \( x = 0, 1, 2, \ldots, n \) We use the following guideline for reporting the results:

- \( 1/3 \leq BaFa01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq BaFa01 < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq BaFa01 < 1/20 \): Evidence against H0 is strong.
- \( BaFa10 < 1/150 \): Evidence against H0 is very strong.
- \( 1 \leq BaFa01 < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq BaFa01 < 20 \): Evidence against H1 is positive.
- \( 20 \leq BaFa01 < 150 \): Evidence against H1 is strong.
- \( 150 \leq BaFa01 \): Evidence against H1 is very strong.

Value

A dataframe with

- `x` - Number of successes
- `BaFa01` - Bayesian Factor
References


See Also

Other Hypothesis testing: hypotestBAF1, hypotestBAF2, hypotestBAF2x, hypotestBAF3, hypotestBAF3x, hypotestBAF4, hypotestBAF4x, hypotestBAF5, hypotestBAF5x, hypotestBAF6, hypotestBAF6x, hypotestBAF6

Examples

x=682; n=925; th0=0.75; a1=3; b1=3
hypotestBAF1(x, n, th0, a1, b1)

| hypotestBAF2 | Bayesain Hypothesis testing : Hypothesis 2: Theta = Theta0 Vs Theta > Theta0 |

Description

Bayesain Hypothesis testing : Hypothesis 2: Theta = Theta0 Vs Theta > Theta0

Usage

hypotestBAF2(n, th0, a1, b1)

Arguments

n - Number of trials from data
th0 - Hypothetical parameter for H0
a1 - Priors for hypothesis H1
b1 - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: $p = p0$ Vs $p > p0$ from the given number of trials $n$ and for all number of successes $x = 0, 1, 2, \ldots, n$ We use the following guideline for reporting the results:

- $1/3 \leq BaF_{a1} < 1$: Evidence against H0 is not worth more than a bare mention.
- $1/20 \leq BaF_{a1} < 1/3$: Evidence against H0 is positive.
- $1/150 \leq BaF_{a1} < 1/20$: Evidence against H0 is strong.
- $BaF_{a1} < 1/150$: Evidence against H0 is very strong.
• 1 <= BaFa01 < 3: Evidence against H1 is not worth more than a bare mention.
• 3 <= BaFa01 < 20: Evidence against H1 is positive.
• 20 <= BaFa01 < 150: Evidence against H1 is strong.
• 150 <= BaFa01: Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaFa01</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

n=10; th0=0.1; a1=1; b1=1
hypotestBAF2(n, th0, a1, b1)

Bayesian Hypothesis testing given x: Hypothesis 2: Theta = Theta0 Vs Theta > Theta0

Description

Bayesian Hypothesis testing given x: Hypothesis 2: Theta = Theta0 Vs Theta > Theta0

Usage

hypotestBAF2x(x, n, th0, a1, b1)
Arguments

- Number of success
- Number of trials from data
- Hypothetical parameter for H0
- Priors for hypothesis H1
- Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p = p_0 \) Vs \( p > p_0 \) from the given number of trials \( n \) and and for given number of successes \( x = 0, 1, 2, \ldots, n \) We use the following guideline for reporting the results:

- \( 1/3 \leq \text{BaFa01} < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq \text{BaFa01} < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq \text{BaFa01} < 1/20 \): Evidence against H0 is strong.
- \( \text{BaFa10} < 1/150 \): Evidence against H0 is very strong.
- \( 1 \leq \text{BaFa01} < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq \text{BaFa01} < 20 \): Evidence against H1 is positive.
- \( 20 \leq \text{BaFa01} < 150 \): Evidence against H1 is strong.
- \( 150 \leq \text{BaFa01} \): Evidence against H1 is very strong.

Value

A dataframe with

- Number of successes
- Bayesian Factor

References


See Also

Other Hypothesis testing: hypotestBAFx, hypotestBAF1x, hypotestBAF2x, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

\( x=682; n=925; \text{th0}=0.75; \text{a1}=3; \text{b1}=3 \)

\( \text{hypotestBAF2x}(x, n, \text{th0}, \text{a1}, \text{b1}) \)
Bayesian Hypothesis testing: Hypothesis 3: $\Theta = \Theta_0$ Vs $\Theta < \Theta_0$

Usage

`hypotestBAF3(n, th0, a1, b1)`

Arguments

- `n`: Number of trials from data
- `th0`: Hypothetical parameter for $H_0$
- `a1`: Priors for hypothesis $H_1$
- `b1`: Priors for hypothesis $H_1$

Details

Computes Bayes factor under Beta-Binomial model for the model: $p = p_0$ Vs $p < p_0$ from the given number of trials $n$ and for all number of successes $x = 0, 1, 2, \ldots n$ We use the following guideline for reporting the results:

- $1/3 \leq \text{BaFa01} < 1$: Evidence against $H_0$ is not worth more than a bare mention.
- $1/20 \leq \text{BaFa01} < 1/3$: Evidence against $H_0$ is positive.
- $1/150 \leq \text{BaFa01} < 1/20$: Evidence against $H_0$ is strong.
- $\text{BaFa10} < 1/150$: Evidence against $H_0$ is very strong.
- $1 \leq \text{BaFa01} < 3$: Evidence against $H_1$ is not worth more than a bare mention.
- $3 \leq \text{BaFa01} < 20$: Evidence against $H_1$ is positive.
- $20 \leq \text{BaFa01} < 150$: Evidence against $H_1$ is strong.
- $150 \leq \text{BaFa01}$: Evidence against $H_1$ is very strong.

Value

A dataframe with

- `x`: Number of successes
- `BaFa01`: Bayesian Factor
References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

n=10; th0=0.1; a1=1; b1=1
hypotestBAF3(n, th0, a1, b1)

---

hypotestBAF3x
Bayesain Hypothesis testing given x: Hypothesis 3: Theta = Theta0 Vs Theta < Theta0

Description

Bayesian Hypothesis testing given x: Hypothesis 3: Theta = Theta0 Vs Theta < Theta0

Usage

hypotestBAF3x(x, n, th0, a1, b1)

Arguments

x - Number of success
n - Number of trials from data
th0 - Hypothetical parameter for H0
a1 - Priors for hypothesis H1
b1 - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p = p_0 \) Vs \( p < p_0 \) from the given number of trials \( n \) and for given number of successes \( x = 0, 1, 2, \ldots, n \). We use the following guideline for reporting the results:

- \( 1/3 \leq BaFa01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq BaFa01 < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq BaFa01 < 1/20 \): Evidence against H0 is strong.
• BaFa10 < 1/150: Evidence against H0 is very strong.
• 1 <= BaFa01 < 3: Evidence against H1 is not worth more than a bare mention.
• 3 <= BaFa01 < 20: Evidence against H1 is positive.
• 20 <= BaFa01 < 150: Evidence against H1 is strong.
• 150 <= BaFa01: Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaFa01</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

```
x=682; n=925; th=0.75; a=3; b=3
hypotestBAF3x(x,n,th,a,b)

| hypotestBAF4 | Bayesain Hypothesis testing :Hypothesis 4: Theta <= Theta0 Vs Theta > Theta0 |
```

Description

Bayesain Hypothesis testing :Hypothesis 4: Theta <= Theta0 Vs Theta > Theta0

Usage

```
hypotestBAF4(n, th, a0, b0, a, b)
```
Arguments

n - Number of trials from data
th0 - Hypothetical parameter for H0
a0 - Priors for hypothesis H0
b0 - Priors for hypothesis H0
a1 - Priors for hypothesis H1
b1 - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p \leq p_0 \text{ Vs } p > p_0 \) from the given number of trials \( n \) and for all number of successes \( x = 0, 1, 2 \ldots n \). We use the following guideline for reporting the results:

- \( \frac{1}{3} \leq \text{BaFa01} < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( \frac{1}{20} \leq \text{BaFa01} < \frac{1}{3} \): Evidence against H0 is positive.
- \( \frac{1}{150} \leq \text{BaFa01} < \frac{1}{20} \): Evidence against H0 is strong.
- \( \text{BaFa10} < \frac{1}{150} \): Evidence against H0 is very strong.
- \( 1 \leq \text{BaFa01} < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq \text{BaFa01} < 20 \): Evidence against H1 is positive.
- \( 20 \leq \text{BaFa01} < 150 \): Evidence against H1 is strong.
- \( 150 \leq \text{BaFa01} \): Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaFa01</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

```r
n=10; th0=0.1; a0=0.5; b0=0.5; a1=1; b1=1
hypotestBAF4(n, th0, a0, b0, a1, b1)
```
**Description**

Bayesian Hypothesis testing given x: Hypothesis 4: $\theta \leq \theta_0$ Vs $\theta > \theta_0$

**Usage**

```r
hypotestBAF4x(x, n, th0, a0, b0, a1, b1)
```

**Arguments**

- `x` - Number of success
- `n` - Number of trials from data
- `th0` - Hypothetical parameter for H0
- `a0` - Priors for hypothesis H0
- `b0` - Priors for hypothesis H0
- `a1` - Priors for hypothesis H1
- `b1` - Priors for hypothesis H1

**Details**

Computes Bayes factor under Beta-Binomial model for the model: $p \leq p_0$ Vs $p > p_0$ from the given number of trials $n$ and for given number of successes $x = 0, 1, 2, ..., n$ We use the following guideline for reporting the results:

- $1/3 \leq \text{BaFa01} < 1$: Evidence against H0 is not worth more than a bare mention.
- $1/20 \leq \text{BaFa01} < 1/3$: Evidence against H0 is positive.
- $1/150 \leq \text{BaFa01} < 1/20$: Evidence against H0 is strong.
- $\text{BaFa10} < 1/150$: Evidence against H0 is very strong.
- $1 \leq \text{BaFa01} < 3$: Evidence against H1 is not worth more than a bare mention.
- $3 \leq \text{BaFa01} < 20$: Evidence against H1 is positive.
- $20 \leq \text{BaFa01} < 150$: Evidence against H1 is strong.
- $150 \leq \text{BaFa01}$: Evidence against H1 is very strong.

**Value**

A dataframe with

- `x` - Number of successes
- `BaFa01` - Bayesian Factor
References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4, hypotestBAF4x, hypotestBAF5x, hypotestBAF5, hypotestBAF6x, hypotestBAF6

Examples

x=682; n=925; th0=0.75; a0=0.5; b0=0.5; a1=3; b1=3
hypotestBAF4x(x, n, th0, a0, b0, a1, b1)

| hypotestBAF5 | Bayesain Hypothesis testing : Hypothesis 5: Theta >= Theta0 Vs Theta < Theta0 |

Description

Bayesain Hypothesis testing : Hypothesis 5: Theta >= Theta0 Vs Theta < Theta0

Usage

hypotestBAF5(n, th0, a0, b0, a1, b1)

Arguments

n - Number of trials from data
th0 - Hypothetical parameter for H0
a0 - Priors for hypothesis H0
b0 - Priors for hypothesis H0
a1 - Priors for hypothesis H1
b1 - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p \geq p_0 \) Vs \( p < p_0 \) from the given number of trials \( n \) and for all number of successes \( x = 0, 1, 2, \ldots, n \) We use the following guideline for reporting the results:

- \( 1/3 \leq BaFa01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq BaFa01 < 1/3 \): Evidence against H0 is positive.
• 1/150 ≤ BaFa01 < 1/20: Evidence against H0 is strong.
• 1 ≤ BaFa01 < 3: Evidence against H1 is not worth more than a bare mention.
• 3 ≤ BaFa01 < 20: Evidence against H1 is positive.
• 20 ≤ BaFa01 < 150: Evidence against H1 is strong.
• 150 ≤ BaFa01: Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaFa01</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF6x, hypotestBAF6

Examples

n=10; th0=0.1; a0=0.5; b0= 0.5; a1=1; b1=1
hypotestBAF5(n, th0, a0, b0, a1, b1)

Bayesian Hypothesis testing given x: Hypothesis 5: θ ≥ θ0 Vs θ < θ0

Description

Bayesian Hypothesis testing given x: Hypothesis 5: θ ≥ θ0 Vs θ < θ0

Usage

hypotestBAF5x(x, n, th0, a0, b0, a1, b1)
Arguments

- **x** - Number of success
- **n** - Number of trials from data
- **th0** - Hypothetical parameter for H0
- **a0** - Priors for hypothesis H0
- **b0** - Priors for hypothesis H0
- **a1** - Priors for hypothesis H1
- **b1** - Priors for hypothesis H1

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p = p0 \) Vs \( p \neq p0 \) from the given number of trials \( n \) and and for given number of successes \( x = 0, 1, 2, \ldots, n \). We use the following guideline for reporting the results:

- \( 1/3 \leq BaFa01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq BaFa01 < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq BaFa01 < 1/20 \): Evidence against H0 is strong.
- \( BaFa01 < 1/150 \): Evidence against H0 is very strong.
- \( 1 \leq BaFa01 < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq BaFa01 < 20 \): Evidence against H1 is positive.
- \( 20 \leq BaFa01 < 150 \): Evidence against H1 is strong.
- \( 150 \leq BaFa01 \): Evidence against H1 is very strong.

Value

A dataframe with

- **x** - Number of successes
- **BaFa01** - Bayesian Factor

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5, hypotestBAF6x, hypotestBAF6
Examples

\[ x=68; \; n=925; \; \theta_0=0.75; \; \alpha_0=0.5; \; \beta_0=0.5; \; \alpha_1=1; \; \beta_1=1 \]
\[ \text{hypotestBAF6}(x, n, \theta_0, \alpha_0, \beta_0, \alpha_1, \beta_1) \]

Bayesian Hypothesis testing: Hypothesis 6: \( \theta < \theta_1 \) Vs \( \theta > \theta_2 \)

Description

Bayesian Hypothesis testing: Hypothesis 6: \( \theta < \theta_1 \) Vs \( \theta > \theta_2 \)

Usage

\[ \text{hypotestBAF6}(n, \theta_1, \alpha_1, \beta_1, \theta_2, \alpha_2, \beta_2) \]

Arguments

- \( n \): Number of trials from data
- \( \theta_1 \): Hypothetical parameter for H1
- \( \alpha_1 \): Priors for hypothesis H1
- \( \beta_1 \): Priors for hypothesis H1
- \( \theta_2 \): Hypothetical parameter for H2
- \( \alpha_2 \): Priors for hypothesis H2
- \( \beta_2 \): Priors for hypothesis H2

Details

Computes Bayes factor under Beta-Binomial model for the model: \( p < p_1 \) Vs \( p > p_2 \) from the given number of trials \( n \) and for all number of successes \( x = 0, 1, 2, \ldots, n \). We use the following guideline for reporting the results:

- \[ 1/3 \leq \text{BaFa01} < 1 \]: Evidence against H0 is not worth more than a bare mention.
- \[ 1/20 \leq \text{BaFa01} < 1/3 \]: Evidence against H0 is positive.
- \[ 1/150 \leq \text{BaFa01} < 1/20 \]: Evidence against H0 is strong.
- \[ \text{BaFa10} < 1/150 \]: Evidence against H0 is very strong.
- \[ 1 \leq \text{BaFa01} < 3 \]: Evidence against H1 is not worth more than a bare mention.
- \[ 3 \leq \text{BaFa01} < 20 \]: Evidence against H1 is positive.
- \[ 20 \leq \text{BaFa01} < 150 \]: Evidence against H1 is strong.
- \[ 150 \leq \text{BaFa01} \]: Evidence against H1 is very strong.
Value

A dataframe with

- **x**: Number of successes
- **BayesFa01**: Bayesian Factor

References


See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4x, hypotestBAF4, hypotestBAF5x, hypotestBAF5, hypotestBAF6x

Examples

```r
n=10; th1=0.1; a1=1; b1=1; th2=0.9; a2=0.5; b2=0.5
hypotestBAF6(n, th1, a1, b1, th2, a2, b2)
```

```
hypotestBAF6x  | Bayesain Hypothesis testing given x: Hypothesis 6: Theta < Theta1 Vs Theta > Theta2
```

Description

Bayesian hypothesis testing given x: Hypothesis 6: Theta < Theta1 Vs Theta > Theta2

Usage

```r
hypotestBAF6x(x, n, th1, a1, b1, th2, a2, b2)
```

Arguments

- **x**: Number of success
- **n**: Number of trials from data
- **th1**: Hypothetical parameter for H1
- **a1**: Priors for hypothesis H1
- **b1**: Priors for hypothesis H1
- **th2**: Hypothetical parameter for H2
- **a2**: Priors for hypothesis H2
- **b2**: Priors for hypothesis H2
Details

Computes Bayes factor under Beta-Binomial model for the model: \( p < p_1 \) Vs \( p > p_2 \) from the given number of trials \( n \) and and for given number of successes \( x = 0, 1, 2 \ldots n \). We use the following guideline for reporting the results:

- \( 1/3 \leq \text{BaFa}01 < 1 \): Evidence against H0 is not worth more than a bare mention.
- \( 1/20 \leq \text{BaFa}01 < 1/3 \): Evidence against H0 is positive.
- \( 1/150 \leq \text{BaFa}01 < 1/20 \): Evidence against H0 is strong.
- \( \text{BaFa}10 < 1/150 \): Evidence against H0 is very strong.
- \( 1 \leq \text{BaFa}01 < 3 \): Evidence against H1 is not worth more than a bare mention.
- \( 3 \leq \text{BaFa}01 < 20 \): Evidence against H1 is positive.
- \( 20 \leq \text{BaFa}01 < 150 \): Evidence against H1 is strong.
- \( 150 \leq \text{BaFa}01 \): Evidence against H1 is very strong.

Value

A dataframe with

<table>
<thead>
<tr>
<th>x</th>
<th>Number of successes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaFa01</td>
<td>Bayesian Factor</td>
</tr>
</tbody>
</table>

References


See Also

Other Hypothesis testing: hypotestBAFx, hypotestBAFx1, hypotestBAFx2, hypotestBAFx3, hypotestBAFx4, hypotestBAFx5, hypotestBAFx6, hypotestBAFx7, hypotestBAFx8

Examples

\[
x=682; n=925; \text{th}1=0.5; \text{a}1=1; \text{b}1=1; \text{th}2=0.9; \text{a}2=0.5; \text{b}2=0.5
\]
\[
hypotestBAFx(x, n, \text{th}1, \text{a}1, \text{b}1, \text{th}2, \text{a}2, \text{b}2)
\]
lengthAAll

Expected Length summary calculation using 6 adjusted methods
(Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Expected Length summary calculation using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

lengthAAll(n, alp, h, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The sum of length of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp, a, b

Value

A dataframe with

sumlen - The sum of the expected length
extMean - The mean of the expected length
explSD - The Standard Deviation of the expected length
explMax - The max of the expected length
explLL - The Lower limit of the expected length calculated using mean - SD
explUL - The Upper limit of the expected length calculated using mean + SD
method - Name of the method

References

See Also

Other Expected length of adjusted methods: `PlotexplAAS, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD`

Examples

```r
n = 10; alp=0.05; h=2;a=1;b=1;
lengthAAll(n,alp,h,a,b)
```

---

**lengthAAS**

*Expected length and sum of length of Adjusted ArcSine method*

**Description**

Expected length and sum of length of Adjusted ArcSine method

**Usage**

`lengthAAS(n, alp, h, a, b)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

Evaluation of adjusted Wald-type interval for the arcsine transformation of the parameter p using sum of length of the $n + 1$ intervals

**Value**

A dataframe with:

- `sumLen`: The sum of the expected length
- `explMean`: The mean of the expected length
- `explSD`: The Standard Deviation of the expected length
- `explMax`: The max of the expected length
- `explLL`: The Lower limit of the expected length calculated using mean - SD
- `explUL`: The Upper limit of the expected length calculated using mean + SD
References


See Also

Other Expected length of adjusted methods: plotexplAAAS, plotexplAAAll, plotexplALR, plotexplALT, plotexplASC, plotexplATW, plotexplAWD, plotlengthAAAS, plotlengthAAAll, plotlengthALR, plotlengthALT, plotlengthATL, plotlengthASC, plotlengthATW, plotlengthAWD, lengthAAAll, lengthALR, lengthALT, lengthASC, lengthATL, lengthAWD

Examples

n = 10; alp = 0.05; h = 2; a = 1; b = 1;
lengthAAS(n, alp, h, a, b)

lengthAll

Expected Length summary calculation using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Expected Length summary calculation using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

lengthAll(n, alp, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The sum of length for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alpha alp and Beta parameters a, b
Value

A dataframe with

| sumLen | The sum of the expected length |
| explMean | The mean of the expected length |
| explSD | The Standard Deviation of the expected length |
| explMax | The max of the expected length |
| explLL | The Lower limit of the expected length calculated using mean - SD |
| explUL | The Upper limit of the expected length calculated using mean + SD |
| method | The name of the method |

References


See Also

Other Expected length of base methods: plotexplAS, plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplSC, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```r
## Not run:
n=5; alp=0.05;a=1;b=1
lengthAll(n,alp,a,b)

## End(Not run)
```
**lengthALR**

Performs expected length and sum of length of Adjusted Likelihood method

---

**Description**

Performs expected length and sum of length of Adjusted Likelihood method

**Usage**

```r
lengthALR(n, alp, h, a, b)
```

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

**Details**

Evaluation of adjusted Likelihood ratio limits using sum of length of the \( n + 1 \) intervals

**Value**

A dataframe with

- **sumLen** - The sum of the expected length
- **explMean** - The mean of the expected length
- **explSD** - The Standard Deviation of the expected length
- **explMax** - The max of the expected length
- **explLL** - The Lower limit of the expected length calculated using mean - SD
- **explUL** - The Upper limit of the expected length calculated using mean + SD

**References**


See Also

Other Expected length of adjusted methods: `PlotexplAAS`, `PlotexplAAll`, `PlotexplALR`, `PlotexplALT`, `PlotexplASC`, `PlotexplATW`, `PlotexplAWD`, `PlotlengthAAS`, `PlotlengthAAll`, `PlotlengthALR`, `PlotlengthALT`, `PlotlengthASC`, `PlotlengthATW`, `PlotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALT`, `lengthASC`, `lengthATW`, `lengthAWD`

Examples

\[ n = 10; \text{alp} = 0.05; h = 2; a = 1; b = 1; \]
\[ \text{lengthALR}(n, \text{alp}, h, a, b) \]

```
lengthALT(n, alp, h, a, b)  # Performs expected length and sum of length of Adjusted Logit Wald method
```

Description

Performs expected length and sum of length of Adjusted Logit Wald method

Usage

```
lengthALT(n, alp, h, a, b)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Evaluation of adjusted Wald-type interval based on the logit transformation of p using sum of length of the \( n + 1 \) intervals

Value

A dataframe with

- `sumLen` - The sum of the expected length
- `explMean` - The mean of the expected length
- `explSD` - The Standard Deviation of the expected length
- `explMax` - The max of the expected length
- `explLL` - The Lower limit of the expected length calculated using mean - SD
- `explUL` - The Upper limit of the expected length calculated using mean + SD
References


See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthASC, lengthATW, lengthAWD

Examples

n = 10; alp=0.05; h=2;a=1;b=1;
lengthALT(n, alp, h, a, b)

lengthAS

Description

Expected length and sum of length of ArcSine method

Usage

lengthAS(n, alp, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

Evaluation of Wald-type interval for the arcsine transformation of the parameter p using sum of length of the n + 1 intervals
Value

A dataframe with

- `sumLen` The sum of the expected length
- `explMean` The mean of the expected length
- `explSD` The Standard Deviation of the expected length
- `explMax` The max of the expected length
- `explLL` The Lower limit of the expected length calculated using mean - SD
- `explUL` The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplTW`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthAll`, `PlotlengthBA`, `PlotlengthEX`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

Examples

```R
n=5; alp=0.05; a=1; b=1
lengthAS(n, alp, a, b)
```
lengthASC

Performs expected length and sum of length of Adjusted Score method

Description
Performs expected length and sum of length of Adjusted Score method

Usage
lengthASC(n, alp, h, a, b)

Arguments
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details
Evaluation of adjusted score test approach using sum of length of the \( n + 1 \) intervals

Value
A dataframe with

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sumLen</td>
<td>The sum of the expected length</td>
</tr>
<tr>
<td>explMean</td>
<td>The mean of the expected length</td>
</tr>
<tr>
<td>explSD</td>
<td>The Standard Deviation of the expected length</td>
</tr>
<tr>
<td>explMax</td>
<td>The max of the expected length</td>
</tr>
<tr>
<td>explLL</td>
<td>The Lower limit of the expected length calculated using mean - SD</td>
</tr>
<tr>
<td>explUL</td>
<td>The Upper limit of the expected length calculated using mean + SD</td>
</tr>
</tbody>
</table>

References
See Also

Other Expected length of adjusted methods: \texttt{plotexplAAS, plotexplAAI, plotexplALR, plotexplALT, plotexplASC, plotexplATW, plotexplAWD, plotlengthAAS, plotlengthAAI, plotlengthALR, plotlengthALT, plotlengthASC, plotlengthATW, plotlengthAWD, lengthAAS, lengthAAI, lengthALR, lengthALT, lengthATW, lengthAWD}

Examples

\begin{verbatim}
n= 10; alp=0.05; h=2;a=1;b=1;
lengthASC(n,alp,h,a,b)
\end{verbatim}

\begin{verbatim}
lengthATW(n, alp, h, a, b)
\end{verbatim}

Description

Performs expected length and sum of length of Adjusted Wald-T method

Usage

\begin{verbatim}
lengthATW(n, alp, h, a, b)
\end{verbatim}

Arguments

\begin{verbatim}
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
\end{verbatim}

Details

Evaluation of approximate and adjusted method based on a t\_approximation of the standardized point estimator using sum of length of the \( n + 1 \) intervals

Value

A dataframe with

\begin{verbatim}
sumLen   The sum of the expected length
explMean The mean of the expected length
explSD   The Standard Deviation of the expected length
explMax  The max of the expected length
explLL   The Lower limit of the expected length calculated using mean - SD
explUL   The Upper limit of the expected length calculated using mean + SD
\end{verbatim}
References


See Also

Other Expected length of adjusted methods: `plotexplAAS`, `plotexplAAll`, `plotexplALR`, `plotexplALT`, `plotexplASC`, `plotexplATW`, `plotexplAWD`, `plotlengthAAS`, `plotlengthAAll`, `plotlengthALR`, `plotlengthALT`, `plotlengthASC`, `plotlengthATW`, `plotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALR`, `lengthALT`, `lengthASC`, `lengthAWD`

Examples

```r
n= 10; alp=0.05; h=2; a=1; b=1;
lengthATW(n, alp, h, a, b)
```

`lengthAWD`  
Performs expected length and sum of length of Adjusted Wald method

Description

Performs expected length and sum of length of Adjusted Wald method

Usage

```r
lengthAWD(n, alp, h, a, b)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Evaluation of adjusted Wald-type interval using sum of length of the $n + 1$ intervals
LengthBA

Value

A dataframe with

- `sumLen`: The sum of the expected length
- `explMean`: The mean of the expected length
- `explSD`: The Standard Deviation of the expected length
- `explMax`: The max of the expected length
- `explLL`: The Lower limit of the expected length calculated using mean - SD
- `explUL`: The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of adjusted methods: `plotexplAAS`, `plotexplAAll`, `plotexplALR`, `plotexplALT`, `plotexplASC`, `plotexplATW`, `plotexplAWD`, `plotlengthAAS`, `plotlengthAAll`, `plotlengthALR`, `plotlengthALT`, `plotlengthASC`, `plotlengthATW`, `plotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALR`, `lengthALT`, `lengthASC`, `lengthATW`

Examples

```r
n = 10; alp=0.05; h=2; a=1; b=1;
lengthAWD(n, alp, h, a, b)
```

```
# Results
```

```
```

Description

Expected length and sum of length of Bayesian method

Usage

```r
lengthBA(n, alp, a, b, a1, a2)
```

```r
```
Arguments

\- \text{n} - Number of trials
\- \text{alpha} - Alpha value (significance level required)
\- \text{a} - Beta parameters for hypo 'p'
\- \text{b} - Beta parameters for hypo 'p'
\- \text{a1} - Beta Prior Parameters for Bayesian estimation
\- \text{a2} - Beta Prior Parameters for Bayesian estimation

Details

Evaluation of Bayesian Highest Probability Density (HPD) and two tailed intervals using sum of length of the \(n + 1\) intervals for the Beta - Binomial conjugate prior model for the probability of success \(p\)

Value

A dataframe with

\- \text{sumLen} - The sum of the expected length
\- \text{expMean} - The mean of the expected length
\- \text{expSD} - The Standard Deviation of the expected length
\- \text{expMax} - The max of the expected length
\- \text{expLL} - The Lower limit of the expected length calculated using mean - SD
\- \text{expUL} - The Upper limit of the expected length calculated using mean + SD
\- \text{method} - The method used - Quantile and HPD

References

See Also

Other Expected length of base methods: `Plotexp1AS, Plotexp1All, Plotexp1BA, Plotexp1EX, Plotexp1LR, Plotexp1LT, Plotexp1SC, Plotexp1TW, Plotexp1WD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD`

Examples

```r
n=5; alp=0.05; a=1; b=1; a1=1; a2=1
lengthBA(n, alp, a, b, a1, a2)
```

---

### Description

Expected Length summary calculation using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

### Usage

```r
lengthCAll(n, alp, c, a, b)
```

### Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

### Details

The sum of length of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) of `n` given `alp`, `a`, `b`

### Value

A dataframe with

- `sumLen` - The sum of the expected length
- `exp1Mean` - The mean of the expected length
- `exp1SD` - The Standard Deviation of the expected length
- `exp1Max` - The max of the expected length
- `exp1LL` - The Lower limit of the expected length calculated using mean - SD
- `exp1UL` - The Upper limit of the expected length calculated using mean + SD
References


See Also

Other Expected length of continuity corrected methods: `PlotexpcAS, PlotexpcAll, PlotexpcL1T, PlotexpcSC, PlotexpcCTW, PlotexpcCWD, PlotlengthCAS, PlotlengthCA1, PlotlengthC1T, PlotlengthCSC, PlotlengthCTW, PlotothlengthCWD, lengthCAS, lengthCL1T, lengthCSC, lengthCTW, lengthCWD`

Examples

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
lengthCA1(n, alp, c, a, b)
## End(Not run)
```

### lengthCAS

**Expected Length summary of continuity corrected ArcSine method**

**Description**

Expected Length summary of continuity corrected ArcSine method

**Usage**

```
lengthCAS(n, alp, c, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

Evaluation of continuity corrected Wald-type interval for the arcsine transformation of the parameter p using sum of length of the \( n + 1 \) intervals
Value

A dataframe with

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sumLen</td>
<td>The sum of the expected length</td>
</tr>
<tr>
<td>explMean</td>
<td>The mean of the expected length</td>
</tr>
<tr>
<td>explSD</td>
<td>The Standard Deviation of the expected length</td>
</tr>
<tr>
<td>explMax</td>
<td>The max of the expected length</td>
</tr>
<tr>
<td>explLL</td>
<td>The Lower limit of the expected length calculated using mean - SD</td>
</tr>
<tr>
<td>explUL</td>
<td>The Upper limit of the expected length calculated using mean + SD</td>
</tr>
</tbody>
</table>

References


See Also

Other Expected length of continuity corrected methods: plotexplCAS, plotexplCALL, plotexplCLT, plotexplCSC, plotexplCTW, plotexplCWD, plotlengthCAS, plotlengthCALL, plotlengthCLT, plotlengthCSC, plotlengthCTW, plotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

n = 10; alp=0.05; c=(1/(2*n)); a=1; b=1;
lengthCAS(n, alp, c, a, b)

lengthCLT

Expected Length summary of continuity corrected Logit Wald method

Description

Expected Length summary of continuity corrected Logit Wald method

Usage

lengthCLT(n, alp, c, a, b)
**lengthCLT**

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

Details

Evaluation of continuity corrected Wald-type interval based on the logit transformation of p using sum of length of the \( n + 1 \) intervals

Value

A dataframe with

- **sumLen**: The sum of the expected length
- **explMean**: The mean of the expected length
- **explSD**: The Standard Deviation of the expected length
- **explMax**: The max of the expected length
- **explLL**: The Lower limit of the expected length calculated using mean - SD
- **explUL**: The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCALL`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCTW`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCALL`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

Examples

```r
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
lengthCLT(n, alp, c, a, b)
```
Expected Length summary of continuity corrected Score method

Description

Expected Length summary of continuity corrected Score method

Usage

lengthCSC(n, alp, c, a, b)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

Evaluation of continuity corrected score test approach using sum of length of the \( n + 1 \) intervals

Value

A dataframe with

- **sumLen** - The sum of the expected length
- **explMean** - The mean of the expected length
- **explSD** - The Standard Deviation of the expected length
- **explMax** - The max of the expected length
- **explLL** - The Lower limit of the expected length calculated using mean - SD
- **explUL** - The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of continuity corrected methods: `plotexplCAS`, `plotexplCALL`, `plotexplCLT`, `plotexplCSC`, `plotexplCTW`, `plotexplCWD`, `plotexplCAS`, `plotexplCALL`, `plotexplCLT`, `plotexplCSC`, `plotexplCTW`, `plotexplCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

Examples

```r
n = 10; alp = 0.05; c = 1/(2*n); a = 1; b = 1;
lengthCSC(n, alp, c, a, b)
```

---

### Description

Expected Length summary of continuity corrected Wald-T method

### Usage

```r
lengthCTW(n, alp, c, a, b)
```

### Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

### Details

Evaluation of approximate and continuity corrected method based on a \( t \)_approximation of the standardized point estimator using sum of length of the \( n + 1 \) intervals

### Value

A dataframe with

- **sumLen**: The sum of the expected length
- **explMean**: The mean of the expected length
- **explSD**: The Standard Deviation of the expected length
- **explMax**: The max of the expected length
- **explLL**: The Lower limit of the expected length calculated using mean - SD
- **explUL**: The Upper limit of the expected length calculated using mean + SD
References


See Also

Other Expected length of continuity corrected methods: `plotexplCAS, plotexplCALL, plotexplCLT, plotexplCSC, plotexplCTW, plotexplCWD, plotlengthCAS, plotlengthCALL, plotlengthCLT, plotlengthCSC, plotlengthCTW, plotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCWD`

Examples

```r
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
lengthCTW(n, alp, c, a, b)
```

<table>
<thead>
<tr>
<th>lengthCWD</th>
<th>Expected Length summary of continuity corrected Wald method</th>
</tr>
</thead>
</table>

Description

Expected Length summary of continuity corrected Wald method

Usage

`lengthCWD(n, alp, c, a, b)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Evaluation of Wald-type interval with continuity correction using sum of length of the \( n+1 \) intervals.
Value

A dataframe with

- `sumLen` The sum of the expected length
- `explMean` The mean of the expected length
- `explSD` The Standard Deviation of the expected length
- `explMax` The max of the expected length
- `explLL` The Lower limit of the expected length calculated using mean - SD
- `explUL` The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of continuity corrected methods: `plotexplCAS`, `plotexplCALL`, `plotexplCLT`, `plotexplCSC`, `plotexplCTW`, `plotexplCWD`, `plotlengthCAS`, `plotlengthCALL`, `plotlengthCLT`, `plotlengthCSC`, `plotlengthCTW`, `plotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`

Examples

```r
n = 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCWD(n,alp,c,a,b)
```

<table>
<thead>
<tr>
<th>lengthEX</th>
<th>Expected length and sum of length of Exact method</th>
</tr>
</thead>
</table>

Description

Expected length and sum of length of Exact method

Usage

```r
lengthEX(n, alp, e, a, b)
```
Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **e**: Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P. The input can also be a range of values between 0 and 1.
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

Details

Evaluation of Confidence interval for \( p \) based on inverting equal-tailed binomial tests with null hypothesis \( H_0: p = p_0 \) using sum of length of the \( n + 1 \) intervals.

Value

A dataframe with

- **sumLen**: The sum of the expected length
- **explMean**: The mean of the expected length
- **explSD**: The Standard Deviation of the expected length
- **explMax**: The max of the expected length
- **explLL**: The Lower limit of the expected length calculated using mean - SD
- **explUL**: The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of base methods: `plotexplAS, plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplSC, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthAll, lengthBA, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD`

Examples

```r
## Not run:
n=5; alp=0.05; e=0.5; a=1; b=1
lengthEX(n, alp, e, a, b)
n=5; alp=0.05; e=1; a=1; b=1 # Clopper-Pearson
lengthEX(n, alp, e, a, b)
n=5; alp=0.05; e=c(0.1, 0.5, 0.95, 1); a=1; b=1 # Range including Mid-p and Clopper-Pearson
lengthEX(n, alp, e, a, b)

## End(Not run)
```

---

**lengthGEN**  
*Calculates the sum of lengths for a specific LL and UL*

### Description

Calculates the sum of lengths for a specific LL and UL

### Usage

```r
lengthGEN(n, LL, UL, hp)
```

### Arguments

- **n** - Number of trials
- **LL** - Lower limit
- **UL** - Upper limit
- **hp** - Hypothetical "p"

### Details

Evaluation of intervals obtained from any method using sum of the lengths for the \( n + 1 \) intervals
Value
A dataframe with

<table>
<thead>
<tr>
<th>sumLen</th>
<th>The sum of the expected length</th>
</tr>
</thead>
<tbody>
<tr>
<td>explMean</td>
<td>The mean of the expected length</td>
</tr>
<tr>
<td>explSD</td>
<td>The Standard Deviation of the expected length</td>
</tr>
<tr>
<td>explMax</td>
<td>The max of the expected length</td>
</tr>
<tr>
<td>explLL</td>
<td>The Lower limit of the expected length calculated using mean - SD</td>
</tr>
<tr>
<td>explUL</td>
<td>The Upper limit of the expected length calculated using mean + SD</td>
</tr>
</tbody>
</table>

See Also
Other Expected length: `PlotexplGEN, PlotexplSIM, PlotlengthGEN, PlotlengthSIM, lengthSIM`

Examples

```r
n = 5;
LL=c(0,0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
hp=seq(0,1,by=0.01)
lengthGEN(n,LL,UL,hp)
```

---

**lengthLR**

Expected length and sum of length of likelihood Ratio method

Description

Expected length and sum of length of likelihood Ratio method

Usage

`lengthLR(n, alp, a, b)`

Arguments

<table>
<thead>
<tr>
<th>n</th>
<th>- Number of trials</th>
</tr>
</thead>
<tbody>
<tr>
<td>alp</td>
<td>- Alpha value (significance level required)</td>
</tr>
<tr>
<td>a</td>
<td>- Beta parameters for hypo &quot;p&quot;</td>
</tr>
<tr>
<td>b</td>
<td>- Beta parameters for hypo &quot;p&quot;</td>
</tr>
</tbody>
</table>

Details

Evaluation of Likelihood ratio limits using sum of length of the \( n + 1 \) intervals
lengthLR

Value

A dataframe with

- `sumLen`: The sum of the expected length
- `exp1Mean`: The mean of the expected length
- `exp1SD`: The Standard Deviation of the expected length
- `exp1Max`: The max of the expected length
- `exp1LL`: The Lower limit of the expected length calculated using mean - SD
- `exp1UL`: The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of base methods: `plotexplAS`, `plotexplAll`, `plotexplBA`, `plotexplEX`, `plotexplLR`, `plotexplLT`, `plotexplSC`, `plotexplTW`, `plotexplWD`, `plotexplHT`, `plotexplAS`, `plotexplAll`, `plotexplBA`, `plotexplEX`, `plotexplHR`, `plotexplLT`, `plotexplSC`, `plotexplTW`, `plotexplWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthHT`, `lengthSC`, `lengthTW`, `lengthWD`

Examples

```r
n=5; alp=0.05; a=1; b=1
lengthLR(n, alp, a, b)
```
Expected length and sum of length of Logit Wald method

**Description**

Expected length and sum of length of Logit Wald method

**Usage**

```r
lengthLT(n, alp, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

Evaluation of Wald-type interval based on the logit transformation of p using sum of length of the $n + 1$ intervals

**Value**

A dataframe with

- `sumLen` - The sum of the expected length
- `explMean` - The mean of the expected length
- `explSD` - The Standard Deviation of the expected length
- `explMax` - The max of the expected length
- `explLL` - The Lower limit of the expected length calculated using mean - SD
- `explUL` - The Upper limit of the expected length calculated using mean + SD

**References**


Expected length and sum of length of Score method

Description

Expected length and sum of length of Score method

Usage

lengthSC(n, alp, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

Evaluation of score test approach using sum of length of the \( n + 1 \) intervals
Value

A dataframe with

- `sumLen` The sum of the expected length
- `explMean` The mean of the expected length
- `explSD` The Standard Deviation of the expected length
- `explMax` The max of the expected length
- `explLL` The Lower limit of the expected length calculated using mean - SD
- `explUL` The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplTW`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthAll`, `PlotlengthBA`, `PlotlengthEX`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthTW`, `lengthWD`

Examples

```r
n=5; alp=0.05;a=1;b=1
lengthSC(n,alp,a,b)
```
lengthSIM

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of length calculated using simulation method</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>lengthSIM(n, LL, UL, s, a, b)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>n - Number of trials</td>
</tr>
<tr>
<td>LL - Lower limit</td>
</tr>
<tr>
<td>UL - Upper limit</td>
</tr>
<tr>
<td>s - Number of Hypothetical &quot;p&quot;</td>
</tr>
<tr>
<td>a - Beta parameters for hypo &quot;p&quot;</td>
</tr>
<tr>
<td>b - Beta parameters for hypo &quot;p&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>The calculation of the sum of length for n given lower limit LL and upper limit UL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A dataframe with</td>
</tr>
<tr>
<td>sumLen - The sum of the expected length</td>
</tr>
<tr>
<td>explMean - The mean of the expected length</td>
</tr>
<tr>
<td>explSD - The Standard Deviation of the expected length</td>
</tr>
<tr>
<td>explMax - The max of the expected length</td>
</tr>
<tr>
<td>explLL - The Lower limit of the expected length calculated using mean - SD</td>
</tr>
<tr>
<td>explUL - The Upper limit of the expected length calculated using mean + SD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>See Also</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Expected length: PlotexplGEN, PlotexplSIM, PlotlengthGEN, PlotlengthSIM, lengthGEN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL=c(0, 0.01, 0.0734, 0.18237, 0.3344, 0.5492) #Lower and Upper Limits</td>
</tr>
<tr>
<td>UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)</td>
</tr>
<tr>
<td>n= 5; s=5000; a=1; b=1;</td>
</tr>
<tr>
<td>lengthSIM(n, LL, UL, s, a, b)</td>
</tr>
</tbody>
</table>
Expected length and sum of length of Wald-T method

Description

Expected length and sum of length of Wald-T method

Usage

lengthTW(n, alp, a, b)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

Evaluation of approximate method based on a t_approximation of the standardized point estimator using sum of length of the \( n + 1 \) intervals

Value

A dataframe with

- **sumLen** - The sum of the expected length
- **explMean** - The mean of the expected length
- **explSD** - The Standard Deviation of the expected length
- **explMax** - The max of the expected length
- **explLL** - The Lower limit of the expected length calculated using mean - SD
- **explUL** - The Upper limit of the expected length calculated using mean + SD

References

lengthWD


See Also

Other Expected length of base methods: PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthWD

Examples

n=5; alp=0.05; a=1; b=1
lengthTW(n, alp, a, b)

<table>
<thead>
<tr>
<th>lengthWD</th>
<th>Expected length and sum of length of Wald method</th>
</tr>
</thead>
</table>

Description

Expected length and sum of length of Wald method

Usage

lengthWD(n, alp, a, b)

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Evaluation of Wald-type intervals using sum of length of the \( n + 1 \) intervals
Value

A dataframe with

- `sumLen`: The sum of the expected length
- `explMean`: The mean of the expected length
- `explSD`: The Standard Deviation of the expected length
- `explMax`: The max of the expected length
- `explLL`: The Lower limit of the expected length calculated using mean - SD
- `explUL`: The Upper limit of the expected length calculated using mean + SD

References


See Also

Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplTW`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthAll`, `PlotlengthBA`, `PlotlengthEX`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`

Examples

```r
n=5; alp=0.05; a=1; b=1
lengthWD(n, alp, a, b)
```
**pCOpBIAAll**

| pCOpBIAAll | Performs p-Confidence and p-Bias estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) given adding factor |

**Description**

Performs p-Confidence and p-Bias estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) given adding factor

**Usage**

```r
pCOpBIAAll(n, alp, h)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor

**Details**

Evaluation of p-Confidence and p-Bias estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Value**

A dataframe with

- `x1` - Number of successes (positive samples)
- `pconf` - p-Confidence
- `pbias` - p-Bias
- `method` - Method name

**References**


**See Also**

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAW, pCOpBIAAS, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD`
**Examples**

\n
\begin{verbatim}
n=5; alp=0.05; h=2
pCOpBIAAS(n, alp, h)
\end{verbatim}

---

**Description**

p-Confidence and p-Bias estimation for adjusted ArcSine method

**Usage**

\[
pCOpBIAAS(n, \text{alp}, h)
\]

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **h**: Adding factor

**Details**

Evaluation of adjusted Wald-type interval for the arcsine transformation of the parameter \( p \) using p-confidence and p-bias for the \( n + 1 \) intervals

**Value**

A dataframe with

- **x1**: Number of successes (positive samples)
- **pconf**: p-Confidence
- **pbias**: p-Bias

**References**


**See Also**

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD

**Examples**

\n
\begin{verbatim}
n=5; alp=0.05; h=2
pCOpBIAAS(n, alp, h)
\end{verbatim}
Calculates p-confidence and p-bias for a given \( n \) and alpha level for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Usage**

\[
 pcopbiall(n, \text{alp})
 \]

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)

**Details**

Evaluation of p-confidence and p-bias for the \( n + 1 \) intervals using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Value**

A dataframe with:

- `x1`: Number of successes (positive samples)
- `pconf`: p-Confidence
- `pbias`: p-Bias
- `method`: Method

**References**


**See Also**


**Examples**

\[
 \text{n=5; alp=0.05} \\
 pcopbiall(n, alp)
 \]
Description

p-Confidence and p-Bias estimation for adjusted Likelihood method

Usage

pCOpBIALR(n, alp, h)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor

Details

Evaluation of adjusted Likelihood ratio limits using p-confidence and p-bias for the $n + 1$ intervals

Value

A dataframe with

- **x1** - Number of successes (positive samples)
- **pconf** - p-Confidence
- **pbias** - p-Bias

References


See Also

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD`

Examples

```r
n=5; alp=0.05; h=2
pCOpBIALR(n, alp, h)
```
Description

p-Confidence and p-Bias estimation for adjusted Logit-Wald method

Usage

pCOpBIALT(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

Evaluation of adjusted Wald-type interval based on the logit transformation of p using p-confidence and p-bias for the n + 1 intervals

Value

A dataframe with

x1 Number of successes (positive samples)
pconf p-Confidence
pbias p-Bias

References


See Also

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIASC, pCOpBIATW, pCOpBIAWD

Examples

n=5; alp=0.05; h=2
pCOpBIALT(n, alp, h)
Description

p-confidence and p-bias for ArcSine method given n and alpha level

Usage

pcOpBIAS(n, alp)

Arguments

n - Number of trials
alp - Alpha value (significance level required)

Details

Evaluation of Wald-type interval for the arcsine transformation of the parameter \( p \) using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

<table>
<thead>
<tr>
<th>x1</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pconf</td>
<td>p-Confidence</td>
</tr>
<tr>
<td>pbias</td>
<td>p-Bias</td>
</tr>
</tbody>
</table>

References


See Also


Examples

n=5; alp=0.05
pcOpBIAS(n, alp)
Description

p-Confidence and p-Bias estimation for adjusted Score method

Usage

`pCOpBIASC(n, alp, h)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor

Details

Evaluation of adjusted score test approach using p-confidence and p-bias for the n + 1 intervals

Value

A dataframe with

- `x1` - Number of successes (positive samples)
- `pconf` - p-Confidence
- `pbias` - p-Bias

References


See Also

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS, PlotpCOpBIAAl, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAl, pCOpBIALR, pCOpBIALT, pCOpBIATW, pCOpBIAWD`

Examples

```r
n=5; alp=0.05; h=2
pCOpBIASC(n, alp, h)
```
Description

p-Confidence and p-Bias estimation for adjusted Wald-T method

Usage

pcOpBIATW(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

Evaluation of approximate Wald method based on a t_approximation of the standardized point estimator using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- Number of successes (positive samples)
- p-Confidence
- p-Bias

References


See Also

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIAWD

Examples

n=5; alp=0.05; h=2
pcOpBIATW(n, alp, h)
Description

p-Confidence and p-Bias estimation for adjusted Wald method

Usage

```
pcOpBIAWD(n, alp, h)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor

Details

Evaluation of adjusted Wald-type interval using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- `xQ` - Number of successes (positive samples)
- `pconf` - p-Confidence
- `pbias` - p-Bias

References


See Also

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW`

Examples

```
n=5; alp=0.05; h=2
pcOpBIAWD(n, alp, h)
```
Description

p-confidence and p-bias for Bayesian method given n and alpha level and priors a & b

Usage

pCOpBIBA(n, alp, a1, a2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a1 - Shape parameter 1 for prior Beta distribution in Bayesian model
a2 - Shape parameter 2 for prior Beta distribution in Bayesian model

Details

Evaluation of Bayesian Highest Probability Density (HPD) and two tailed intervals using p-confidence and p-bias for the \( n + 1 \) intervals for the Beta - Binomial conjugate prior model for the probability of success \( p \)

Value

A dataframe with

<table>
<thead>
<tr>
<th>x1</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pconfQ</td>
<td>p-Confidence Quantile</td>
</tr>
<tr>
<td>pbiasQ</td>
<td>p-Bias Quantile</td>
</tr>
<tr>
<td>pconfH</td>
<td>p-Confidence HPD</td>
</tr>
<tr>
<td>pbiasH</td>
<td>p-Bias HPD</td>
</tr>
</tbody>
</table>

References


See Also

**pCOpBICAIl**

**Examples**

```
n=5; alp=0.05;a1=1;a2=1
pCOpBIBA(n,alp,a1,a2)
```

**Description**

Performs p-Confidence and p-Bias estimation for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

**Usage**

```
pCOpBICAIl(n, alp, c)
```

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction

**Details**

Evaluation of p-Confidence and p-Bias estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

**Value**

A dataframe with

- **x1** - Number of successes (positive samples)
- **pconf** - p-Confidence
- **pbias** - p-Bias
- **method** - Method name

**References**


**See Also**

Other p-confidence and p-bias of continuity corrected methods: `PlotpCopBICAS, PlotpCOpBICAIl, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD`
**Examples**

\[ n = 5; \ alp = 0.05; c = 1/2n \]
\[ pCOpBICAll(n, alp, c) \]

---

**Description**

p-Confidence and p-Bias estimation for continuity corrected ArcSine method

**Usage**

\[ pCOpBICAS(n, alp, c) \]

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction

**Details**

Evaluation of continuity corrected Wald-type interval for the arcsine transformation of the parameter \( p \) using p-confidence and p-bias for the \( n + 1 \) intervals

**Value**

A dataframe with

- **x1** - Number of successes (positive samples)
- **pconf** - p-Confidence
- **pbias** - p-Bias

**References**


**See Also**

Other p-confidence and p-bias of continuity corrected methods: \texttt{PlotpCOpBICAS, PlotpCOpBICA11, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICA11, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD}
**Examples**

```
n=5; alp=0.05; c=1/(2*n)
pCOpBICAS(n, alp, c)
```

---

**Description**

p-Confidence and p-Bias estimation for continuity corrected Logit Wald method

**Usage**

```
pCOpBICLT(n, alp, c)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

**Details**

Evaluation of continuity corrected Wald-type interval based on the logit transformation of p using p-confidence and p-bias for the \( n + 1 \) intervals

**Value**

A dataframe with

- `x1` - Number of successes (positive samples)
- `pconf` - p-Confidence
- `pbias` - p-Bias

**References**


**See Also**

Other p-confidence and p-bias of continuity corrected methods: `plotpCOpBICAS`, `plotpCOpBICAll`, `plotpCOpBICLT`, `plotpCOpBICSC`, `plotpCOpBICTW`, `plotpCOpBICWD`, `pCOpBICAS`, `pCOpBICAll`, `pCOpBICSC`, `pCOpBICTW`, `pCOpBICWD`
pCopBICSC

Examples

n=5; alp=0.05; c=1/(2*n)
PCopBICLT(n, alp, c)

Description

p-Confidence and p-Bias estimation for continuity corrected Score method

Usage

pCopBICSC(n, alp, c)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Evaluation of continuity corrected score test approach using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

<table>
<thead>
<tr>
<th>x1</th>
<th>Number of successes (positive samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pconf</td>
<td>p-Confidence</td>
</tr>
<tr>
<td>pbias</td>
<td>p-Bias</td>
</tr>
</tbody>
</table>

References


See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICALL, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICALL, pCOpBICLT, pCOpBICTW, pCOpBICWD
pCOpBICTW

Examples

\n\n\text{n=5; alp=0.05; c=1/(2*n)}
\text{pCOpBICSC(n,alp,c)}

\hline
\text{pCOpBICTW} & \text{\textit{p-Confidence and p-Bias estimation for continuity corrected Wald-T method}} \\
\hline
\end{tabular}

Description

p-Confidence and p-Bias estimation for continuity corrected Wald-T method

Usage

\text{pCOpBICTW(n, alp, c)}

Arguments

\begin{itemize}
\item \text{n} - Number of trials
\item \text{alp} - Alpha value (significance level required)
\item \text{c} - Continuity correction
\end{itemize}

Details

Evaluation of continuity corrected Wald method based on a t_approximation of the standardized point estimator using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

\begin{itemize}
\item \text{x1} - Number of successes (positive samples)
\item \text{pconf} - p-Confidence
\item \text{pbias} - p-Bias
\end{itemize}

References


See Also

Other p-confidence and p-bias of continuity corrected methods: \text{PlotpCOpBICAS, PlotpCOpBICall, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICall, pCOpBICLT, pCOpBICSC, pCOpBICWD}
pConfidence and p-Bias estimation for continuity corrected Wald method

Usage

pConfBICWD(n, alp, c)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Evaluation of Wald-type interval with continuity correction using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

x1 Number of successes (positive samples)
pconf p-Confidence
pbias p-Bias

References


See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpConfBICAS, PlotpConfBICAll, PlotpConfBICLT, PlotpConfBICSC, PlotpConfBICTW, PlotpConfBICWD, pConfBICAS, pConfBICAll, pConfBICLT, pConfBICSC, pConfBICTW
**Examples**

```r
n=5; alp=0.05;c=1/(2*n)
pCOpBICWD(n, alp, c)
```

- **Description**
  - p-confidence and p-bias for Exact method given n and alpha level

- **Usage**
  - `pCOpBIEX(n, alp, e)`

- **Arguments**
  - `n` - Number of trials
  - `alp` - Alpha value (significance level required)
  - `e` - Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P. The input can also be a range of values between 0 and 1.

- **Details**
  - Evaluation of Confidence interval for p based on inverting equal-tailed binomial tests with null hypothesis $H_0: p = p_0$ using p-confidence and p-bias for the $n + 1$ intervals

- **Value**
  - A dataframe with
    - `x1` - Number of successes (positive samples)
    - `pconf` - p-Confidence
    - `pbias` - p-Bias
    - `e` - Exact method input

- **References**

- **See Also**
Examples

\[ n=5; \ \text{alp}=0.05; e=0.5 \]
\[ \text{pCoPBIEX}(n, \text{alp}, e) \]

\[ n=5; \ \text{alp}=0.05; e=1 \] #Clopper-Pearson
\[ \text{pCoPBIEX}(n, \text{alp}, e) \]

\[ n=5; \ \text{alp}=0.05; e=c(0.1, 0.5, 0.95, 1) \] #Range including Mid-p and Clopper-Pearson
\[ \text{pCoPBIEX}(n, \text{alp}, e) \]

\begin{center}
\text{pCoPBIEX} \quad \text{Performs p-Confidence and p-Bias estimation only using n, lower limit and upper limit for general method}
\end{center}

Description

Performs p-Confidence and p-Bias estimation only using n, lower limit and upper limit for general method

Usage

\[ \text{pCoPBIEX}(n, \text{LL}, \text{UL}) \]

Arguments

- \( n \) - Number of trials
- \( \text{LL} \) - Lower limit
- \( \text{UL} \) - Upper limit

Details

Evaluation of intervals obtained from any method using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- \( x1 \) Number of successes (positive samples)
- \( \text{pconf} \) p-Confidence
- \( \text{pbias} \) p-Bias

References


pCOpBILR

See Also
Other General methods for p-Confidence and p-Bias: PlotpCOpBIGEN

Examples
```
LL=c(0,0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
n=5;
pCOpBIGEN(n,LL,UL)
```

```
pCOpBILR, p-confidence and p-bias for Likelihood method given n and alpha level

Description
p-confidence and p-bias for Likelihood method given n and alpha level

Usage
```
pCOpBILR(n, alp)
```

Arguments
```
n - Number of trials
alp - Alpha value (significance level required)
```

Details
Evaluation of Likelihood ratio limits using p-confidence and p-bias for the \( n + 1 \) intervals

Value
A dataframe with
```
x1 Number of successes (positive samples)
pconf p-Confidence
pbias p-Bias
```

References

See Also
Description

p-confidence and p-bias for Logit Wald method given n and alpha level

Usage

pCopBILT(n, alp)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)

Details

Evaluation of Wald-type interval based on the logit transformation of p using p-confidence and p-bias for the n + 1 intervals

Value

A dataframe with

x1  Number of successes (positive samples)
pconf  p-Confidence
pbias  p-Bias

References


See Also

Other p-confidence and p-bias of base methods: plotpCopBIAS, plotpCopBIALl, plotpCopBIBA, plotpCopBIEX, plotpCopBILR, plotpCopBILT, plotpCopBISC, plotpCopBITW, plotpCopBIWD, pCopBIAS, pCopBIALl, pCopBIBA, pCopBIEX, pCopBILR, pCopBISC, pCopBITW, pCopBIWD

Examples

n=5; alp=0.05
pCopBILT(n, alp)
Description

p-confidence and p-bias for Score method given n and alpha level

Usage

pCOpBISC(n, alp)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)

Details

Evaluation of score test approach using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- **x1**: Number of successes (positive samples)
- **pconf**: p-Confidence
- **pbias**: p-Bias

References


See Also


Examples

n=5; alp=0.05
pCOpBISC(n, alp)
Description

p-confidence and p-bias for T-Wald method given n and alpha level

Usage

pCOpBITW(n, alp)

Arguments

n
- Number of trials

alp
- Alpha value (significance level required)

Details

Evaluation of approximate method based on a t_approximation of the standardized point estimator using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- Number of successes (positive samples)

- p-Confidence

- p-Bias

References


See Also


Examples

n=5; alp=0.05
pCOpBITW(n, alp)
Description

p-confidence and p-bias for Wald method given n and alpha level

Usage

`pCOpBIWD(n, alp)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

Details

Evaluation of Wald-type intervals using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- `x1` - Number of successes (positive samples)
- `pconf` - p-Confidence
- `pbias` - p-Bias

References


See Also


Examples

```r
n=5; alp=0.05
pCOpBIWD(n, alp)
```
Description

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotciAAll(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

The plots of the Confidence Interval using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp and h

See Also

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAllg, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciAAS, ciAAll, ciALR, ciALT, ciASC, ciATW, ciAWD

Examples

n=5; alp=0.05; h=2
PlotciAAll(n, alp, h)

Description

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

Usage

PlotciAAllg(n, alp, h)
Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adjustment

Details

The plot of Confidence Interval of \( n \) given \( \text{alp} \) and \( h \) grouped by \( x \) for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

See Also

Other Adjusted methods of CI estimation: `plotciaas`, `plotciaall`, `plotcialr`, `plotciat`, `plotciaas`, `plotciawd`, `ciaas`, `ciaall`, `cialr`, `ciat`, `ciASC`, `ciATW`, `ciAWD`

Examples

\[ n=5; \text{alp}=0.05; h=2 \]
\[ \text{PlotciaAllx}(n, \text{alp}, h) \]

Description

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

\[ \text{PlotciaAllx}(x, n, \text{alp}, h) \]

Arguments

- **x** - Number of success
- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor

Details

The plots of confidence intervals of using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for \( n \) given \( \text{alp} \), \( x \) and \( h \)
See Also

Other Adjusted methods of CI estimation given x & n: ciAASx, ciAAllx, ciALRx, ciALTx, ciASCx, ciATWx, ciAWDx

Examples

x=5; n=5; alp=0.05; h=2
PlotciAAllxg(x,n,alp,h)

## PlotciAAllxg

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

**Description**

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

**Usage**

PlotciAAllxg(x, n, alp, h)

**Arguments**

- **x** - Number of success
- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor

**Details**

The plots of confidence intervals of using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x for n given alp, x and h

**Examples**

x=5; n=5; alp=0.5; h=2
PlotciAAllxg(x,n,alp,h)
Description
Plot of CI estimation of adjusted ArcSine

Usage
PlotciAAS(n, alp, h)

Arguments
- n: Number of trials
- alp: Alpha value (significance level required)
- h: Adding factor

Details
The plots of the Confidence Interval using adjusted ArcSine method for n given alp and h

See Also
Other Adjusted methods of CI estimation: PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciaAS, ciaAll, cialR, cialT, ciasC, ciatW, ciatW

Examples
n=5; alp=0.05; h=2
PlotciAAS(n, alp, h)

Description
Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) methods

Usage
PlotciAll(n, alp)
Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)

Details

The plot of Confidence Interval of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for \( n \) given \( alp \).

See Also


Examples

```r
n=5; alp=.05;
PlotciAllg(n, alp)
```

---

**PlotciAllg**

Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

Description

Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

Usage

```r
PlotciAllg(n, alp)
```

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)

Details

The plot of Confidence Interval of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for \( n \) given \( alp \).

See Also

Examples

n=5; alp=0.05;
PlotciAllg(n,alp)

PlotciAllx

Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotciAllx(x, n, alp)

Arguments

x - Number of success
n - Number of trials
alp - Alpha value (significance level required)

Details

Plots of the Confidence Intervals of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp and x

See Also

Other Base methods of CI estimation given x & n: PlotciAllxg, PlotciEXx, cIASx, ciAllx, cIBAx, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx

Examples

x=5; n=5; alp=0.05;
PlotciAllx(x,n,alp)
**PlotciALR**  
*Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value*

**Description**
Plots the CI estimation of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) grouped by x value

**Usage**
`PlotciAllxg(x, n, alp)`

**Arguments**
- **x**: Number of success
- **n**: Number of trials
- **alp**: Alpha value (significance level required)

**Details**
Plots of the Confidence Interval of 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp and x grouped by x

**See Also**
Other Base methods of CI estimation given x & n:  
`PlotciAllx, PlotciEXx, cIASx, cIA1x, cIBAx, ciEXx, ciLRx, ciLTx, ciSCx, ciTWx, ciWDx`

**Examples**
```r
x=5; n=5; alp=0.05;
PlotciAllxg(x,n,alp)
```

---

**PlotciALR**  
*Plot of CI estimation of adjusted Likelihood Ratio*

**Description**
Plot of CI estimation of adjusted Likelihood Ratio

**Usage**
`PlotciALR(n, alp, h)`
Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor

Details

The plots of the Confidence Interval using adjusted Likelihood Ratio method for n given alp and h

See Also

Other Adjusted methods of CI estimation: PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALT, PlotciASC, PlotciATW, PlotciAWD, ciaAS, ciaAAll, ciaALR, ciaLT, ciaASC, ciaATW, ciaAWD

Examples

n=5; alp=0.05; h=2
PlotciALT(n, alp, h)
**PlotciASC**  
*Plots the CI estimation of ArcSine method*

**Description**
Plots the CI estimation of ArcSine method

**Usage**
```
PlotciASC(n, alp)
```

**Arguments**
- `n` - Number of trials
- `alp` - Alpha value (significance level required)

**Details**
The plot of Confidence Interval of n given alp using ArcSine method

**See Also**

**Examples**
```
n=5; alp=0.05
PlotciASC(n, alp)
```

---

**PlotciASC**  
*Plot of CI estimation of adjusted Score*

**Description**
Plot of CI estimation of adjusted Score

**Usage**
```
PlotciASC(n, alp, h)
```

**Arguments**
- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
Details

The plots of the Confidence Interval using adjusted Score method for \( n \) given \( \alpha \) and \( h \)

See Also

Other Adjusted methods of CI estimation: \texttt{plotciaas, plotciAAllg, plotciAAll, plotciALR, plotciALT, plotciATW, plotciAWD, ciaAS, ciaAll, cialR, cialT, ciasc, ciatw, ciaWD}

Examples

\( n=5; \ \alpha=0.05; h=2 \)
\texttt{PlotciASC(n, alp, h)}
### PlotciAWD

**Plot of CI estimation of adjusted Wald**

#### Description

Plot of CI estimation of adjusted Wald

#### Usage

`PlotciAWD(n, alp, h)`

#### Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor

#### Details

The plots of the Confidence Interval using adjusted Wald method for `n` given `alp` and `h`

#### See Also

Other Adjusted methods of CI estimation: `PlotciAAS, PlotciAAllg, PlotciAAll, PlotciALR, PlotciALT, PlotciASC, PlotciATW, ciAAS, ciAAll, ciALR, ciALT, ciASC, ciATW, ciAWD`

#### Examples

```r
n=5; alp=0.05; h=2
PlotciAWD(n, alp, h)
```

---

### PlotciBA

**Plots the CI estimation of Bayesian method**

#### Description

Plots the CI estimation of Bayesian method

#### Usage

`PlotciBA(n, alp, a, b)`
Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Shape parameter 1 for prior Beta distribution in Bayesian model. Can also be a vector of priors.
- `b` - Shape parameter 2 for prior Beta distribution in Bayesian model. Can also be a vector of priors.

Details

The plot of Confidence Interval of `n` given `alp` using Bayesian method

See Also


Examples

```r
n=5; alp=0.05; a=0.5; b=0.5;
plotciBA(n,alp,a,b)
n=5; alp=0.05; a=c(0.5,2,1,1,2,0.5); b=c(0.5,2,1,1,2,0.5)
plotciBA(n,alp,a,b)
```

---

**PlotciCAL**

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) given `n`, `alp` and `c`

**Description**

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, Arc-Sine) given `n`, `alp` and `c`

**Usage**

`PlotciCAL(n, alp, c)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
Details

Plots the Confidence Interval for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for \( n \) given \( \alpha \) along with Continuity correction \( c \)

See Also

Other Continuity correction methods of CI estimation: `PlotciCAS`, `PlotciCAllg`, `PlotciCLT`, `PlotciCSC`, `PlotciCTW`, `PlotciCWD`, `ciCAS`, `ciCAll`, `ciCLT`, `ciCSC`, `ciCTW`, `ciCWD`

Examples

\[ n=5; \ \alpha=0.05; c=1/(2n) \]
\[ \text{PlotciCAll}(n, \alpha, c) \]
PlotciCALLx

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) given n, alp and x with continuity correction c

Description

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) given n, alp and x with continuity correction c

Usage

PlotciCALLx(x, n, alp, c)

Arguments

x - Number of success
n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Plots the Confidence Interval of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for n given alp, x and c

See Also

Other Continuity correction methods of CI estimation given x and n: PlotciCALLxg, ciCALLx, ciCLTx, cicSCx, ciCTWx, ciCWDx

Examples

x=5; n=5; alp=0.05; c=1/(2*n)
PlotciCALLx(x,n,alp,c)
**PlotciCAS**

*Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) given x & n grouped by x value*

---

**Description**

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) given x & n grouped by x value

**Usage**

```r
plotciCAS(x, n, alp, c)
```

**Arguments**

- `x` - Number of success
- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

**Details**

Plots the Confidence Interval of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for `n` given `alp`, `c` and `x` grouped by `x`

**See Also**

Other Continuity correction methods of CI estimation given x and n: `PlotciCAllx, ciCAllx, ciCLTx, ciCSCx, ciCTWx, ciCWDx`

**Examples**

```r
x=5; n=5; alp=0.05; c=1/(2*n)
plotciCAS(x, n, alp, c)
```

---

**PlotciCAS**

*Plots the CI estimation of continuity corrected ArcSine method given n, alp and c*

---

**Description**

Plots the CI estimation of continuity corrected ArcSine method given n, alp and c

**Usage**

```r
PlotciCAS(n, alp, c)
```
Arguments

\- \text{n} - Number of trials
\- \text{alp} - Alpha value (significance level required)
\- \text{c} - Continuity correction

Details

Plots the Confidence Interval for continuity corrected ArcSine method for \( n \) given \( alp \) along with Continuity correction \( c \)

See Also

Other Continuity correction methods of CI estimation: \text{PlotciCAllg}, \text{PlotciCAll}, \text{PlotciCLT}, \text{PlotciCSC}, \text{PlotciCTW}, \text{PlotciCWD}, \text{ciCAS}, \text{ciCAll}, \text{ciCLT}, \text{ciCSC}, \text{ciCTW}, \text{ciCWD}

Examples

\( n=5; \ alp=0.05; c=1/(2*n) \)
\text{PlotciCAS}(n, alp, c)

\begin{verbatim}
PlotciCLT
\end{verbatim}

\textit{Plots the CI estimation of continuity corrected Logit Wald method given \( n, alp \) and \( c \)}

Description

Plots the CI estimation of continuity corrected Logit Wald method given \( n, alp \) and \( c \)

Usage

\text{PlotciCLT}(n, alp, c)

Arguments

\- \text{n} - Number of trials
\- \text{alp} - Alpha value (significance level required)
\- \text{c} - Continuity correction

Details

Plots the Confidence Interval for continuity corrected Logit Wald method for \( n \) given \( alp \) along with Continuity correction \( c \)

See Also

Other Continuity correction methods of CI estimation: \text{PlotciCAS}, \text{PlotciCAllg}, \text{PlotciCAll}, \text{PlotciCSC}, \text{PlotciCTW}, \text{PlotciCWD}, \text{ciCAS}, \text{ciCAll}, \text{ciCLT}, \text{ciCSC}, \text{ciCTW}, \text{ciCWD}
Examples

n=5; alp=0.05; c=1/(2*n)
plotciCIC(n, alp, c)

PlotciCSC  
Plots the CI estimation of continuity corrected Score method given n, alp and c

Description

Plots the CI estimation of continuity corrected Score method given n, alp and c

Usage

PlotciCSC(n, alp, c)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Plots the Confidence Interval for continuity corrected Score method for n given alp along with Continuity correction c

See Also

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCALLg, PlotciCALL, PlotciCLT, PlotciCTW, PlotciCWd, ciCAS, ciCALL, ciCLT, ciCSC, ciCTW, ciCWd

Examples

n=5; alp=0.05; c=1/(2*n)
PlotciCSC(n, alp, c)
Description

Plots the CI estimation of continuity corrected Wald-T method given n, alp and c

Usage

PlotciCTW(n, alp, c)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Plots the Confidence Interval for continuity corrected Wald-T method for n given alp along with Continuity correction c

See Also

Other Continuity correction methods of CI estimation: PlotciCAS, PlotciCallg, PlotciCall, PlotciCLT, PlotciCSC, PlotciCWD, ciCAS, ciCall, ciCLT, ciCSC, ciCTW, ciCWD

Examples

n=5; alp=0.05; c=1/(2*n)
PlotciCTW(n, alp, c)
Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

Plots the Confidence Interval for continuity corrected Wald method for \( n \) given \( \alpha \) along with Continuity correction \( c \)

See Also

Other Continuity correction methods of CI estimation: \texttt{PlotciCAS, PlotciCALlg, PlotciCALL, PlotciCLT, PlotciCSC, PlotciCTW, ciCAS, cICALL, ciCLT, ciCSC, ciCTW, ciCWD}

Examples

\[
\text{n}=5; \ \text{alp}=0.05; \text{c}=1/(2*\text{n})
\]
\text{PlotciCWD(n, alp, c)}

---

Plots the CI estimation of exact methods

Description

Plots the CI estimation of exact methods

Usage

\texttt{PlotciEX(n, alp, e)}

Arguments

n - Number of trials
alp - Alpha value (significance level required)
e - Exact method indicator in \([0, 1]\) 1: Clopper Pearson, 0.5: Mid P, The input can also be a range of values between 0 and 1.

Details

The plot of Confidence Interval of \( n \) given \( \alpha \).

See Also

Examples

```r
# Not run:
n=5; alp=0.05; e=0.5 #Mid-p
PlotciEXx(n,alp,e)

# Clopper-Pearson
n=5; alp=0.05; e=1
PlotciEXx(n,alp,e)

# Range including Mid-p and Clopper-Pearson
n=5; alp=0.05; e=c(0.05,0.1,0.5,0.95,1)
PlotciEXx(n,alp,e)
```

## Description
Plots the CI estimation of the exact method

## Usage
```r
PlotciEXx(x, n, alp, e)
```

## Arguments
- **x**: Number of success
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **e**: Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P

## Details
Plot of the Confidence interval for exact method

## See Also
Other Base methods of CI estimation given x & n: `PlotciAllxg`, `PlotciAllx`, `ciASx`, `ciAllx`, `ciBAX`, `ciEXx`, `ciLRx`, `ciLTx`, `ciSCx`, `ciTWx`, `ciWDx`

## Examples
```r
x=5; n=5; alp=0.05; e=0.5
PlotciEXx(x,n,alp,e) #Mid-p

x=5; n=5; alp=0.05; e=1 #Clopper Pearson
PlotciEXx(x,n,alp,e)

x=5; n=5; alp=0.05; e=c(0.1,0.5,0.95,1) #Range including Mid-p and Clopper-Pearson
PlotciEXx(x,n,alp,e)
```
Description

Plots the CI estimation of Likelihood Ratio method

Usage

plotcilr(n, alp)

Arguments

n - Number of trials
alp - Alpha value (significance level required)

Details

The plot of Confidence Interval of n given alp using Likelihood Ratio method

See Also

Other Basic methods of CI estimation: PlotciAS, PlotciAllg, PlotciAll, PlotciBA, PlotciEX, PlotciLT, PlotciSC, PlotciTW, PlotciWD, cias, ciall, ciBA, ciEX, cilr, cilt, cisC, cITW, cIWD

Examples

n=5; alp=0.05
plotcilr(n, alp)

Description

Plots the CI estimation of Logit Wald method

Usage

plotcilt(n, alp)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
Details
The plot of Confidence Interval of \( n \) given \( \alpha \) using Logit Wald method

See Also

Examples
\[
n=5; \quad \alpha=0.05 \\
\text{PlotciLT}(n, \alpha)
\]
**PlotciWD**

Plots the CI estimation of Wald method

---

### Description

Plots the CI estimation of Wald-T method

### Usage

`PlotciTW(n, alp)`

#### Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)

### Details

The plot of Confidence Interval of `n` given `alp` using Wald-T method

### See Also


### Examples

```r
n=5; alp=0.05
PlotciTW(n, alp)
```

---

**PlotciWD**

Plots the CI estimation of Wald method

---

### Description

Plots the CI estimation of Wald method

### Usage

`PlotciWD(n, alp)`

#### Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
Details
The plot of Confidence Interval of \( n \) given \( \alpha \) using Wald method

See Also

Examples
\[
n=5; \ \alpha=0.05
\]
PlotciWD(n, \alpha)

---

PlotcovpAAAll: Plots the Coverage Probability using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description
Plots the Coverage Probability using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage
PlotcovpAAAll(n, \alpha, h, a, b, t1, t2)

Arguments
\[
\begin{align*}
n & \text{ - Number of trials} \\
\alpha & \text{ - Alpha value (significance level required)} \\
h & \text{ - Adding factor} \\
a & \text{ - Beta parameters for hypo "p"} \\
b & \text{ - Beta parameters for hypo "p"} \\
t1 & \text{ - Lower tolerance limit to check the spread of coverage Probability} \\
t2 & \text{ - Upper tolerance limit to check the spread of coverage Probability}
\end{align*}
\]

Details
The plots of the Coverage Probability of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for \( n \) given \( \alpha, h, a, b, t1, t2 \) using all the methods

See Also
Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpALR, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAAS, covpAAAll, covpALR, covpALT, covpASC, covpATW, covpAWD
Examples

```r
## Not run:
## Not run: plotcovpaas(n, alp, a, b, t1, t2)
```
Description

Graphs of basic Coverage Probability 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotcovpAll(n, alp, a, b, t1, t2)

Arguments

- n - Number of trials
- alp - Alpha value (significance level required)
- a - Beta parameters for hypo "p"
- b - Beta parameters for hypo "p"
- t1 - Lower tolerance limit to check the spread of coverage Probability
- t2 - Upper tolerance limit to check the spread of coverage Probability

Details

The graphs of basic Coverage Probability methods

See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
# Not run:
n = 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
PlotcovpAll(n,alp,a,b,t1,t2)

# End(Not run)
```
PlotcovpALR

Plots the Coverage Probability using adjusted Likelihood Ratio method

Description

Plots the Coverage Probability using adjusted Likelihood Ratio method

Usage

PlotcovpALR(n, alp, h, a, b, t1, t2)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Number of trials</td>
</tr>
<tr>
<td>alp</td>
<td>Alpha value (significance level required)</td>
</tr>
<tr>
<td>h</td>
<td>Adding factor</td>
</tr>
<tr>
<td>a</td>
<td>Beta parameters for hypo &quot;p&quot;</td>
</tr>
<tr>
<td>b</td>
<td>Beta parameters for hypo &quot;p&quot;</td>
</tr>
<tr>
<td>t1</td>
<td>Lower tolerance limit to check the spread of coverage Probability</td>
</tr>
<tr>
<td>t2</td>
<td>Upper tolerance limit to check the spread of coverage Probability</td>
</tr>
</tbody>
</table>

Details

The plots of the Coverage Probability of adjusted Likelihood Ratio method for n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAll, PlotcovpALT, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAAS, covpAAll, covpALR, covpALT, covpASC, covpATW, covpAWD

Examples

```r
## Not run:
n = 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
PlotcovpALR(n, alp, h, a, b, t1, t2)

## End(Not run)
```
Plots the Coverage Probability using adjusted Logistic Wald method

Description
Plots the Coverage Probability using adjusted Logistic Wald method

Usage
plotcovpALT(n, alp, h, a, b, t1, t2)

Arguments
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details
The plots of the Coverage Probability of adjusted Logistic Wald method for n given alp, h, a, b, t1 and t2 using all the methods

See Also
Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAll, PlotcovpALR, PlotcovpASC, PlotcovpATW, PlotcovpAWD, covpAAS, covpAAll, covpALR, covpALT, covpASC, covpATW, covpAWD

Examples
```r
# Not run:
n = 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
plotcovpALT(n, alp, h, a, b, t1, t2)
```
```r
# End(Not run)
```
Description

Plots Coverage Probability for base ArcSine method

Usage

plotcovpas(n, alp, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

Plots Coverage Probability for base ArcSine method

See Also

Other Basic coverage probability methods: plotcovpall, plotcovpba, plotcovpex, plotcovplr, plotcovplt, plotcovpsc, plotcovptw, plotcovpwd, covpas, covpall, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
## Not run:
n = 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
plotcovpas(n, alp, a, b, t1, t2)

## End(Not run)
```
Description

Plots the Coverage Probability using adjusted Score method

Usage

PlotcovpASC(n, alp, h, a, b, t1, t2)

Arguments

- n - Number of trials
- alp - Alpha value (significance level required)
- h - Adding factor
- a - Beta parameters for hypo "p"
- b - Beta parameters for hypo "p"
- t1 - Lower tolerance limit to check the spread of coverage Probability
- t2 - Upper tolerance limit to check the spread of coverage Probability

Details

The plots of the Coverage Probability of adjusted Score method for n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Coverage probability of adjusted methods: PlotcovpAAS, PlotcovpAAI, PlotcovpALR, PlotcovpALT, PlotcovpATW, PlotcovpAWD, covpAAS, covpAAI, covpALR, covpALT, covpASC, covpATW, covpAWD

Examples

```r
## Not run:
n = 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
PlotcovpASC(n,alp,h,a,b,t1,t2)
## End(Not run)
```
PlotcovpATW  
*Plots the Coverage Probability using adjusted Wald-T method*

**Description**

Plots the Coverage Probability using adjusted Wald-T method

**Usage**

PlotcovpATW(n, alp, h, a, b, t1, t2)

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

**Details**

The plots of the Coverage Probability of adjusted Wald-T method for `n` given `alp`, `h`, `a`, `b`, `t1` and `t2` using all the methods

**See Also**

Other Coverage probability of adjusted methods: `PlotcovpAAS`, `PlotcovpAAll`, `PlotcovpALR`, `PlotcovpALT`, `PlotcovpASC`, `PlotcovpAWD`, `covpAAS`, `covpAAll`, `covpALR`, `covpALT`, `covpASC`, `covpATW`, `covpAWD`

**Examples**

```r
## Not run:
n= 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
PlotcovpATW(n, alp,h,a,b,t1,t2)

## End(Not run)
```
**Description**

Plots the Coverage Probability using adjusted Wald method

**Usage**

```r
plotcovpAWD(n, alp, h, a, b, t1, t2)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

**Details**

The plots of the Coverage Probability of adjusted Wald method for `n` given `alp`, `h`, `a`, `b`, `t1` and `t2` using all the methods

**See Also**

Other Coverage probability of adjusted methods: `PlotcovpAAS`, `PlotcovpAAll`, `PlotcovpALR`, `PlotcovpALT`, `PlotcovpASC`, `PlotcovpATW`, `covpAAS`, `covpAAll`, `covpALR`, `covpALT`, `covpASC`, `covpATW`, `covpAWD`

**Examples**

```r
## Not run:
n = 10; alp=0.05; h=2; a=1; b=1; t1=0.93; t2=0.97
plotcovpAWD(n, alp, h, a, b, t1, t2)
## End(Not run)
```
Description

Graphs of Coverage Probability of the Bayesian method

Usage

plotcovpBA(n, alp, a, b, t1, t2, a1, a2)

Arguments

- n               - Number of trials
- alp             - Alpha value (significance level required)
- a               - Beta parameters for hypo "p"
- b               - Beta parameters for hypo "p"
- t1              - Lower tolerance limit to check the spread of coverage Probability
- t2              - Upper tolerance limit to check the spread of coverage Probability
- a1              - Beta Prior Parameters for Bayesian estimation
- a2              - Beta Prior Parameters for Bayesian estimation

Details

The graphs of Coverage Probability of Bayesian method

See Also

Other Basic coverage probability methods: PlotcovpBS, PlotcovpALL, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpALL, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
# Not run:
n= 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97; a1=1; a2=1
plotcovpBA(n, alp, a, b, t1, t2, a1, a2)
```

# End(Not run)
Graphs of Coverage Probability for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Description

Graphs of Coverage Probability for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

plotcovpCAll(n, alp, c, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

The graphs of the Coverage Probability of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for \( n \) given \( \alpha \), \( h \), \( a \), \( b \), \( t1 \) and \( t2 \)

See Also

Other Coverage probability for continuity corrected methods: plotcovpCAS, plotcovpCLT, plotcovpCSC, plotcovpCTW, plotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD

Examples

```r
# Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
plotcovpCAll(n, alp, c, a, b, t1, t2)
```

```r
# End(Not run)
```
Plots of Coverage Probability for continuity corrected ArcSine method

Description

Graphs of Coverage Probability for continuity corrected ArcSine method

Usage

`PlotcovpCAS(n, alp, c, a, b, tQ, tR)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo 'p'
- `b` - Beta parameters for hypo 'p'
- `tQ` - Lower tolerance limit to check the spread of coverage Probability
- `tR` - Upper tolerance limit to check the spread of coverage Probability

Details

The plot of the Coverage Probability of continuity corrected ArcSine method for n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Coverage probability for continuity corrected methods: `PlotcovpCA1`, `PlotcovpCLT`, `PlotcovpCSC`, `PlotcovpCTW`, `PlotcovpCWD`, `covpCAS`, `covpCA1`, `covpCLT`, `covpCSC`, `covpCTW`, `covpCWD`

Examples

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
PlotcovpCAS(n, alp, c, a, b, t1, t2)

## End(Not run)```
**PlotcovpCLT**

*Graphs of Coverage Probability for continuity corrected Logistic Wald method*

**Description**

Graphs of Coverage Probability for continuity corrected Logistic Wald method

**Usage**

`PlotcovpCLT(n, alp, c, a, b, t1, t2)`

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

**Details**

The plot of the Coverage Probability of continuity corrected Logistic Wald method for \( n \) given \( alp, h, a, b, t1 \) and \( t2 \) using all the methods

**See Also**

Other Coverage probability for continuity corrected methods: `PlotcovpCAS, PlotcovpCAll, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD`

**Examples**

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1; t1=0.93; t2=0.97
PlotcovpCLT(n, alp, c, a, b, t1, t2)

## End(Not run)
```
Description

Graphs of Coverage Probability for continuity corrected Score method

Usage

PlotcovpCSC(n, alp, c, a, b, t1, t2)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

Details

The plot of the Coverage Probability of continuity corrected Score method for n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Coverage probability for continuity corrected methods: *PlotcovpCAS, PlotcovpCAL1, PlotcovpCLT, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCA11, covpCLT, covpCSC, covpCTW, covpCWD*

Examples

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n);a=1;b=1; t1=0.93; t2=0.97
PlotcovpCSC(n, alp, c, a, b, t1, t2)

## End(Not run)
```
Description

Graphs of Coverage Probability for continuity corrected Wald-T method

Usage

\[ \text{PlotcovpCTW}(n, \alpha, c, a, b, t_1, t_2) \]

Arguments

- \( n \): Number of trials
- \( \alpha \): Alpha value (significance level required)
- \( c \): Continuity correction
- \( a \): Beta parameters for hypo "p"
- \( b \): Beta parameters for hypo "p"
- \( t_1 \): Lower tolerance limit to check the spread of coverage Probability
- \( t_2 \): Upper tolerance limit to check the spread of coverage Probability

Details

The plot of the Coverage Probability of continuity corrected Wald-T method for \( n \) given \( \alpha \), \( a \), \( b \), \( t_1 \) and \( t_2 \) using all the methods

See Also

Other Coverage probability for continuity corrected methods: \( \text{PlotcovpCAS, PlotcovpCAll, PlotcovpCLT, PlotcovpCSC, PlotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD} \)

Examples

```r
## Not run:
n = 10; \alpha = 0.05; c = 1/(2*n); a = 1; b = 1; t_1 = 0.93; t_2 = 0.97
\text{PlotcovpCTW}(n, \alpha, c, a, b, t_1, t_2)

## End(Not run)```
Description

Graphs of Coverage Probability for continuity corrected Wald method

Usage

`Plotcовымpecwd(n, alp, c, a, b, t1, t2)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"
- `t1` - Lower tolerance limit to check the spread of coverage Probability
- `t2` - Upper tolerance limit to check the spread of coverage Probability

Details

The plot of the Coverage Probability of continuity corrected Wald method for `n` given `alp`, `a`, `b`, `t1` and `t2` using all the methods

See Also

Other Coverage probability for continuity corrected methods: `Plotcовымpecas, Plotcовымpecall, Plotcовымpeclt, Plotcовымpecsc, Plotcовымpetw, covpCAS, covpCALL, covpCLT, covpCSC, covpCTW, covpCWD`

Examples

```r
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1; t1=0.93; t2=0.97
PlotcivementpCWD(n, alp, c, a, b, t1, t2)

## End(Not run)
```
Description

Graphs of Coverage Probability - exact method

Usage

plotcovpex(n, alp, e, a, b, t1, t2)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
e - Exact method indicator (1:Clop-Pear, 0.5:MID-p)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"
t1 - Lower tolerance limit to check the spread of coverage Probability
t2 - Upper tolerance limit to check the spread of coverage Probability

Details

The graphs of basic Coverage Probability methods

See Also

Other Basic coverage probability methods: plotcovpAS, plotcovpAll, plotcovpBA, plotcovpLR, plotcovpLT, plotcovpSC, plotcovpTW, plotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
# Not run:
n= 10; alp=0.05; e=0.5; a=1;b=1; t1=0.93;t2=0.97 # Mid-p
plotcovpex(n,alp,e,a,b,t1,t2)
n= 10; alp=0.05; e=1; a=1;b=1; t1=0.93;t2=0.97 #Clop-Pear
plotcovpex(n,alp,e,a,b,t1,t2)
n=5; alp=0.05;
e=c(0.1,0.5,0.95,1) #Range including Mid-p and Clopper-Pearson
a=1;b=1; t1=0.93;t2=0.97
plotcovpex(n,alp,e,a,b,t1,t2)
```

## End(Not run)
Description
Plot of simulation based Coverage Probability with discrete values for p

Usage
plotcovpgen(n, LL, UL, alp, hp, tQ, tR)

Arguments
- n: Number of trials
- LL: Lower limit
- UL: Upper limit
- alp: Alpha value (significance level required)
- hp: Hypothetical "p"
- tQ: Lower tolerance limit to check the spread of coverage Probability
- tR: Upper tolerance limit to check the spread of coverage Probability

Details
Graphical evaluation of intervals obtained from any method using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage for the \( n + 1 \) intervals and pre-defined space for the parameter p

See Also
Other General methods for coverage probability: covpGEN

Examples
```r
## Not run:
LL=c(0.01, 0.0734, 0.18237, 0.3344, 0.5492)  # Lower and Upper Limits
UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)
hp=seq(0.1, by=0.0001)
n= 5; alp=0.05; tQ=0.93; tR=0.97
plotcovpgen(n, LL, UL, alp, hp, tQ, tR)

## End(Not run)
```
Description

Plots Coverage Probability for base Likelihood Ratio method

Usage

`PlotcovpLR(n, alp, a, b, t1, t2)`

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"
- **t1** - Lower tolerance limit to check the spread of coverage Probability
- **t2** - Upper tolerance limit to check the spread of coverage Probability

Details

Plots Coverage Probability for base Likelihood Ratio method

See Also

Other Basic coverage probability methods: `PlotcovpAS`, `PlotcovpAll`, `PlotcovpBA`, `PlotcovpEX`, `PlotcovpLT`, `PlotcovpSC`, `PlotcovpTW`, `PlotcovpWD`, `covpAS`, `covpAll`, `covpBA`, `covpEX`, `covpLR`, `covpLT`, `covpSC`, `covpTW`, `covpWD`

Examples

```
## Not run:
n= 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
PlotcovpLR(n,alp,a,b,t1,t2)

## End(Not run)
```
PlotcovpLT

Description

Plots Coverage Probability for base Logit Wald method

Usage

PlotcovpLT(n, alp, a, b, t1, t2)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"
- **t1** - Lower tolerance limit to check the spread of coverage Probability
- **t2** - Upper tolerance limit to check the spread of coverage Probability

Details

Plots Coverage Probability for base Logit Wald method

See Also

Other Basic coverage probability methods: `PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpSC, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD`

Examples

```r
## Not run:
n= 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
PlotcovpLT(n,alp,a,b,t1,t2)

## End(Not run)
```
Plots Coverage Probability for base Score method

Description

Plots Coverage Probability for base Score method

Usage

PlotcovpSC(n, alp, a, b, t1, t2)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **tQ**: Lower tolerance limit to check the spread of coverage Probability
- **tR**: Upper tolerance limit to check the spread of coverage Probability

Details

Plots Coverage Probability for base Score method

See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpTW, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
## Not run:
n= 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
PlotcovpSC(n,alp,a,b,t1,t2)
## End(Not run)
```
**PlotcovpSIM**

Plots graph of simulation based Coverage Probability with simulated \( p \) in \([0,1]\)

### Description

Plots graph of simulation based Coverage Probability with simulated \( p \) in \([0,1]\)

### Usage

\[
\text{plotcovpsim}(n, \text{LL}, \text{UL}, \text{alp}, s, a, b, t1, t2)
\]

### Arguments

- **n**: Number of trials
- **LL**: Lower limit
- **UL**: Upper limit
- **alp**: Alpha value (significance level required)
- **s**: Number of hypothetical "p"
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

### Details

Graphical evaluation of intervals obtained from any method using coverage probability, root mean square statistic, and the proportion of proportion lies within the desired level of coverage for the \( n + 1 \) intervals and pre-defined space for the parameter \( p \) using Monte Carle simulation

### See Also

Other Simulated methods for coverage probability: **covpSIM**

### Examples

```r
## Not run:
LL=c(0,0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
n= 5; alp=0.05; s=5000; a=1; b=1; t1=0.93; t2=0.97
plotcovpsim(n,LL,UL,alp,s,a,b,t1,t2)
```

## End(Not run)
Description

Plots Coverage Probability for base Wald-T method

Usage

PlotcovpTW(n, alp, a, b, t1, t2)

Arguments

- \textit{n} - Number of trials
- \textit{alp} - Alpha value (significance level required)
- \textit{a} - Beta parameters for hypo "p"
- \textit{b} - Beta parameters for hypo "p"
- \textit{t1} - Lower tolerance limit to check the spread of coverage Probability
- \textit{t2} - Upper tolerance limit to check the spread of coverage Probability

Details

Plots Coverage Probability for base Wald-T method

See Also

Other Basic coverage probability methods: PlotcovpAS, PlotcovpAll, PlotcovpBA, PlotcovpEX, PlotcovpLR, PlotcovpLT, PlotcovpSC, PlotcovpWD, covpAS, covpAll, covpBA, covpEX, covpLR, covpLT, covpSC, covpTW, covpWD

Examples

```r
# Not run:
n = 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
PlotcovpTW(n,alp,a,b,t1,t2)

# End(Not run)
```
**Description**

Plots Coverage Probability for base Wald method

**Usage**

`plotcovpwd(n, alp, a, b, t1, t2)`

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **t1**: Lower tolerance limit to check the spread of coverage Probability
- **t2**: Upper tolerance limit to check the spread of coverage Probability

**Details**

Plots Coverage Probability for base Wald method

**See Also**

Other Basic coverage probability methods: `plotcovpAS`, `plotcovpAll`, `plotcovpBA`, `plotcovpEX`, `plotcovpLR`, `plotcovpLT`, `plotcovpSC`, `plotcovpTW`, `cavgAS`, `cavgAll`, `cavgBA`, `cavgEX`, `cavgLR`, `cavgLT`, `cavgSC`, `cavgTW`, `covWD`

**Examples**

```r
## Not run:
n = 10; alp=0.05; a=1; b=1; t1=0.93; t2=0.97
plotcovpwd(n, alp, a, b, t1, t2)

## End(Not run)
```
PloterrAAll  

*Plot of error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)*

**Description**

Plot of error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**Usage**

```r
ploterraall(n, alp, h, phi, f)
```

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `h`: Adding factor
- `phi`: Null hypothesis value
- `f`: Failure criterion

**Details**

Calculates error, long term power and pass/fail criteria using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

**See Also**

Other Error for adjusted methods: `PloterrAAS`, `PloterrALR`, `PloterrALT`, `PloterrASC`, `PloterrATW`, `PloterrAWD`, `errAAS`, `errAAll`, `errALR`, `errALT`, `errASC`, `errATW`, `errAWD`

**Examples**

```r
n=20; alp=0.05; h=2; phi=0.99; f=-2
ploterraall(n, alp, h, phi, f)
```
Plots error, long term power and pass/fail criteria using adjusted Arc-Sine method

Description

Plots error, long term power and pass/fail criteria using adjusted ArcSine method

Usage

PloterrAAS(n, alp, h, phi, f)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **h**: Adding factor
- **phi**: Null hypothesis value
- **f**: Failure criterion

Details

Plot of adjusted ArcSine-type interval using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

See Also

Other Error for adjusted methods: PloterrAll, PloterrALR, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAAS, errAll, errALR, errALT, errASC, errATW, errAWD

Examples

\( n=20; \; \text{alp}=0.05; \; h=2; \text{phi}=0.99; \; f=-2 \)

PloterrAAS(n, alp, h, phi, f)

Plots error, long term power and pass/fail criteria using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots error, long term power and pass/fail criteria using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)
Usage

PloterrALR(n, alp, phi, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
f - Failure criterion

Details

Plots of error, long term power and pass/fail criteria using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

See Also


Examples

n=20; alp=0.05; phi=0.05; f=-2
PloterrALR(n, alp, phi, f)
Details

Plot of adjusted Likelihood Ratio-type interval using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

See Also

Other Error for adjusted methods: PloterrAAS, PloterrAAll, PloterrALT, PloterrASC, PloterrATW, PloterrAWD, errAAS, errAAll, errALR, errALT, errASC, errATW, errAWD

Examples

n=20; alp=0.05; h=2; phi=0.99; f=-2
PloterrALR(n,alp,h,phi,f)
**PloterrAS**

Plots error, long term power and pass/fail criteria using ArcSine method

### Description
Plots error, long term power and pass/fail criteria using ArcSine method

### Usage
```
PloterrAS(n, alp, phi, f)
```

### Arguments
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **phi**: Null hypothesis value
- **f**: Failure criterion

### Details
Plots of error, long term power and pass/fail criteria using ArcSine method

### See Also
Other Error for base methods: `PloterrAll, PloterrBA, PloterrEX, PloterrLR, PloterrLT, PloterrSC, PloterrTW, PloterrWD, errAS, errAll, errBA, errEX, errLR, errLT, errSC, errTW, errWD`

### Examples
```
n=20; alp=0.05; phi=0.05; f=-2
PloterrAS(n, alp, phi, f)
```

---

**PloterrASC**

Plots error, long term power and pass/fail criteria using adjusted Score method

### Description
Plots error, long term power and pass/fail criteria using adjusted Score method

### Usage
```
PloterrASC(n, alp, h, phi, f)
```
Arguments

- n: Number of trials
- alp: Alpha value (significance level required)
- h: Adding factor
- phi: Null hypothesis value
- f: Failure criterion

Details

Plot of adjusted Score-type interval using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

See Also

Other Error for adjusted methods: `PloterrAAS`, `PloterrAAll`, `PloterrALR`, `PloterrALT`, `PloterrATW`, `PloterrAWD`, `erraAS`, `erraAll`, `errALR`, `errALT`, `errASC`, `errATW`, `errAWD`

Examples

```
n=20; alp=0.05; h=2; phi=0.99; f=-2
PloterrASC(n, alp, h, phi, f)
```

Description

Plots error, long term power and pass/fail criteria using adjusted Wald-T method

Usage

```
PloterrATW(n, alp, h, phi, f)
```

Arguments

- n: Number of trials
- alp: Alpha value (significance level required)
- h: Adding factor
- phi: Null hypothesis value
- f: Failure criterion

Details

Plot of adjusted Wald-T-type interval using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals
See Also

Other Error for adjusted methods: ploterrAAS, ploterrAAll, ploterrALR, ploterrALT, ploterrASC,
ploterrAWD, errAAS, errAAll, errALR, errALT, errASC, errATW, errAWD

Examples

n=20; alp=0.05; h=2; phi=0.99; f=-2
ploterrAWD(n, alp, h, phi, f)
Description

Plots error, long term power and pass/fail criteria using Bayesian method

Usage

```r
ploterrBA(n, alp, phi, f, a, b)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Plot of Bayesian Highest Probability Density (HPD) and two tailed intervals using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals for the Beta - Binomial conjugate prior model for the probability of success \( p \)

See Also

Other Error for base methods: `ploterras`, `ploterrall`, `ploterrex`, `ploterrlr`, `ploterrlt`, `ploterrsc`, `ploterrtw`, `ploterrwd`, `erras`, `errall`, `errba`, `errex`, `errlr`, `errlt`, `errsc`, `errtw`, `errwd`

Examples

```r
n=20; alp=0.05; phi=0.05; f=-2; a=0.5; b=0.5
ploterrBA(n,alp,phi,f,a,b)
```
PloterrCall

Plots the calculated error, long term power and pass/fail criteria using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Description

Plots the calculated error, long term power and pass/fail criteria using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

PloterrCall(n, alp, phi, c, f)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
phi - Null hypothesis value
c - Continuity correction
f - Failure criterion

Details

Plots the error, long term power and pass/fail criteria calculated using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCall, errCLT, errCSC, errCTW, errCWD

Examples

n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
PloterrCall(n, alp, phi, c, f)
**PloterrCAS**

*Plots the error, long term power and pass/fail criteria for continuity corrected ArcSine method*

**Description**

Plots the error, long term power and pass/fail criteria for continuity corrected ArcSine method

**Usage**

`PloterrCAS(n, alp, phi, c, f)`

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **phi**: Null hypothesis value
- **c**: Continuity correction
- **f**: Failure criterion

**Details**

Plot of continuity corrected Wald-type interval for the arcsine transformation of the parameter $p$ using error due to the difference of achieved and nominal level of significance for the $n+1$ intervals

**See Also**

Other Error for continuity corrected methods: `PloterrCAll`, `PloterrCLT`, `PloterrCSC`, `PloterrCTW`, `PloterrCWD`, `errCAS`, `errCAll`, `errCLT`, `errCSC`, `errCTW`, `errCWD`

**Examples**

```r
n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
PloterrCAS(n, alp, phi, c, f)
```

---

**PloterrCLT**

*Plots the error, long term power and pass/fail criteria for continuity corrected Logit Wald method*

**Description**

Plots the error, long term power and pass/fail criteria for continuity corrected Logit Wald method

**Usage**

`PloterrCLT(n, alp, phi, c, f)`
Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `c` - Continuity correction
- `f` - Failure criterion

Details

Plot of continuity corrected Wald-type interval based on the logit transformation of $p$ using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals.

See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCALL, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCALL, errCLT, errCSC, errCTW, errCWD

Examples

```r
n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
PloterrCLT(n, alp, phi, c, f)
```

PloterrCSC

Plots the error, long term power and pass/fail criteria for continuity corrected Score method

Description

Plots the error, long term power and pass/fail criteria for continuity corrected Score method

Usage

```r
PloterrCSC(n, alp, phi, c, f)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `c` - Continuity correction
- `f` - Failure criterion

Details

Plot of continuity corrected score test approach using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals.
See Also

Other Error for continuity corrected methods: `ploterrCAS`, `ploterrCALL`, `ploterrCLT`, `ploterrCTW`, `ploterrCWD`, `errCAS`, `errCALL`, `errCLT`, `errCSC`, `errCTW`, `errCWD`

Examples

```r
n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
ploterrCSC(n,alp,phi,c,f)
```

----------

**ploterrCTW**

Plots the error, long term power and pass/fail criteria for continuity corrected Wald-t method

Description

Plots the error, long term power and pass/fail criteria for continuity corrected Wald-t method

Usage

```r
ploterrCTW(n, alp, phi, c, f)
```

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>n</code></td>
<td>- Number of trials</td>
</tr>
<tr>
<td><code>alp</code></td>
<td>- Alpha value (significance level required)</td>
</tr>
<tr>
<td><code>phi</code></td>
<td>- Null hypothesis value</td>
</tr>
<tr>
<td><code>c</code></td>
<td>- Continuity correction</td>
</tr>
<tr>
<td><code>f</code></td>
<td>- Failure criterion</td>
</tr>
</tbody>
</table>

Details

Plot of approximate and continuity corrected method based on a t_approximation of the standardized point estimator using error due to the difference of achieved and nominal level of significance for the $n + 1$ intervals

See Also

Other Error for continuity corrected methods: `ploterrCAS`, `ploterrCALL`, `ploterrCLT`, `ploterrCSC`, `ploterrCWD`, `errCAS`, `errCALL`, `errCLT`, `errCSC`, `errCTW`, `errCWD`

Examples

```r
n=5; alp=0.05; phi=0.05; c=1/(2*n); f=-2
ploterrCTW(n,alp,phi,c,f)
```
**Description**

Plots the error, long term power and pass/fail criteria for continuity corrected Wald method

**Usage**

PloterrCWD(n, alp, phi, c, f)

**Arguments**

- **n**  - Number of trials
- **alp**  - Alpha value (significance level required)
- **phi**  - Null hypothesis value
- **c**  - Continuity correction
- **f**  - Failure criterion

**Details**

Plot of Wald-type interval with continuity correction using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

**See Also**

Other Error for continuity corrected methods: PloterrCAS, PloterrCAL, PloterrCLT, PloterrCSC, PloterrCTW, errCAS, errCAL, errCLT, errCSC, errCTW, errCWD

**Examples**

\[ n=5; \ alp=0.05; \ \phi=0.05; c=1/(2*n); \ \beta=-2 \]

PloterrCWD(n, alp, phi, c, f)

**Description**

Plots error, long term power and pass/fail criteria using Exact method

**Usage**

PloterrEX(n, alp, phi, f, e)

**Description**

Plots error, long term power and pass/fail criteria using Exact method

**Usage**

PloterrEX(n, alp, phi, f, e)
Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion
- `e` - Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P The input can also be a range of values between 0 and 1.

Details

Plots of Confidence interval for \( p \) based on inverting equal-tailed binomial tests with null hypothesis \( H_0 : p = p_0 \) using error due to the difference of achieved and nominal level of significance for the \( n + 1 \) intervals

See Also

Other Error for base methods: `ploterras`, `ploterrall`, `ploterrba`, `ploterrlr`, `ploterrlt`, `ploterrsc`, `ploterrtw`, `ploterrwd`, `erras`, `errall`, `errba`, `errEX`, `errLR`, `errLT`, `errSC`, `errTW`, `errWD`

Examples

```r
n=20; alp=0.05; phi=0.05; f=-2; e=0.5  # Mid-p
ploterrEX(n, alp, phi, f, e)
n=20; alp=0.05; phi=0.05; f=-2; e=1    # Clopper-Pearson
ploterrEX(n, alp, phi, f, e)
n=20; alp=0.05; phi=0.05; f=-2; e=0:1 # Range including Mid-p and Clopper-Pearson
ploterrEX(n, alp, phi, f, e)
```

Description

Plots error, long term power and pass/fail criteria using Likelihood Ratio method

Usage

`ploterrLR(n, alp, phi, f)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `phi` - Null hypothesis value
- `f` - Failure criterion
Details

Plots of error, long term power and pass/fail criteria using Likelihood Ratio method

See Also

Other Error for base methods: PloterrAS, PloterrAll, PloterrBA, PloterrEX, PloterrLT, PloterrSC, PloterrTW, PloterrWD, errAS, errAll, errBA, errEX, errLR, errLT, errSC, errTW, errWD

Examples

n=20; alp=0.05; phi=0.05; f=-2
PloterrLT(n, alp, phi, f)
PloterrSC

*Plots error, long term power and pass/fail criteria using Score method*

**Description**

Plots error, long term power and pass/fail criteria using Score method

**Usage**

\[ \text{PloterrSC}(n, \text{alp}, \text{phi}, f) \]

**Arguments**

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **phi**: Null hypothesis value
- **f**: Failure criterion

**Details**

Plots of error, long term power and pass/fail criteria using Score method

**See Also**

Other Error for base methods: `PloterrAS, PloterrAll, PloterrBA, PloterrEX, PloterrLR, PloterrLT, PloterrTW, PloterrWD, errAS, errAll, errBA, errEX, errLR, errLT, errSC, errTW, errWD`

**Examples**

\[ n=20; \text{alp}=0.05; \text{phi}=0.05; f=-2 \]
\[ \text{PloterrSC}(n, \text{alp}, \text{phi}, f) \]

---

PloterrTW

*Plots error, long term power and pass/fail criteria using Wald-T method*

**Description**

Plots error, long term power and pass/fail criteria using Wald-T method

**Usage**

\[ \text{PloterrTW}(n, \text{alp}, \text{phi}, f) \]
**Arguments**

- *n* - Number of trials
- *alp* - Alpha value (significance level required)
- *phi* - Null hypothesis value
- *f* - Failure criterion

**Details**

Plots of error, long term power and pass/fail criteria using Wald-T method

**See Also**

Other Error for base methods: `PloterrAS`, `PloterrAll`, `PloterrBA`, `PloterrEX`, `PloterrLR`, `PloterrLT`, `PloterrSC`, `PloterrWD`, `erras`, `errAll`, `errBA`, `errEX`, `errLR`, `errLT`, `errSC`, `errTW`, `errWD`

**Examples**

```r
n=20; alp=0.05; phi=0.05; f=-2
ploterrTW(n, alp, phi, f)
```

---

**Description**

Plots error, long term power and pass/fail criteria using Wald method

**Usage**

```r
PloterrWD(n, alp, phi, f)
```

**Arguments**

- *n* - Number of trials
- *alp* - Alpha value (significance level required)
- *phi* - Null hypothesis value
- *f* - Failure criterion

**Details**

Plots of error, long term power and pass/fail criteria using Wald method

**See Also**

Other Error for base methods: `PloterrAS`, `PloterrAll`, `PloterrBA`, `PloterrEX`, `PloterrLR`, `PloterrLT`, `PloterrSC`, `PloterrWD`, `erras`, `errAll`, `errBA`, `errEX`, `errLR`, `errLT`, `errSC`, `errTW`, `errWD`
PlotexplAAll

Plots the Expected length using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots the Expected length using 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotexplAAll(n, alp, h, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

details

The plots of the Expected length of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAA1, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAA1, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```r
## Not run:
n = 20; alp = 0.05; phi = 0.05; f = -2
PloterrWD(n, alp, phi, f)
```

```r
PlotexplAAll(n, alp, h, a, b)
```

## End(Not run)
PlotexplAAS

Plots the Expected length using adjusted ArcSine method

Description

Plots the Expected length using adjusted ArcSine method

Usage

PlotexplAAS(n, alp, h, a, b)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
h  - Adding factor
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"

Details

The plots of the Expected length of adjusted ArcSine method

See Also

Other Expected length of adjusted methods: PlotexplAA1, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAA1, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAA1, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```r
## Not run:
n= 10; alp=0.05; h=2; a=1; b=1;
PlotexplAAS(n,alp,h,a,b)
## End(Not run)
```


PlotexplAll

Plots the Expected length using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots the Expected length using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotexplAll(n, alp, a, b)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"

Details

The plots using 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) for the expected length of n given alp, h, a, b, t1 and t2 using all the methods

See Also

Other Expected length of base methods: PlotexplAS, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

## Not run:
n= 10; alp=0.05; a=1; b=1;
PlotexplAll(n, alp, a, b)

## End(Not run)
**Plots the Expected length using adjusted Likelihood Ratio method**

**Description**

Plots the Expected length using adjusted Likelihood Ratio method

**Usage**

```r
plotexplalr(n, alp, h, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

The plots of the Expected length of adjusted Likelihood Ratio method

**See Also**

Other Expected length of adjusted methods: `plotexplaas`, `plotexplaall`, `plotexplalt`, `plotexplasc`, `plotexplatw`, `plotexplawd`, `plotlengthaas`, `plotlengthaall`, `plotlengthalr`, `plotlengthALT`, `plotlengthASC`, `plotlengthATW`, `plotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALR`, `lengthALT`, `lengthASC`, `lengthATW`, `lengthAWD`

**Examples**

```r
## Not run:
n = 10; alp = 0.05; h = 2; a = 1; b = 1;
plotexplalr(n, alp, h, a, b)

## End(Not run)```
PlotexplALT

Plots the Expected length using adjusted Logit Wald method

Description

Plots the Expected length using adjusted Logit Wald method

Usage

PlotexplALT(n, alp, h, a, b)

Arguments

n       - Number of trials
alp     - Alpha value (significance level required)
h       - Adding factor
a       - Beta parameters for hypo "p"
b       - Beta parameters for hypo "p"

Details

The plots of the Expected length of adjusted Wald method

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAll, PlotexplALAR, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALAR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALAR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```r
## Not run:
n= 10; alp=0.05; h=2;a=1;b=1;
PlotexplALT(n,alp,h,a,b)

## End(Not run)
```
Description

Plots ArcSine method of expected length

Usage

plotexplAS(n, alp, a, b)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

Details

Plot of Wald-type interval for the arcsine transformation of the parameter p using sum of length of the n + 1 intervals

See Also

Other Expected length of base methods: plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplSC, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```r
## Not run:
n=5; alp=0.05; a=1; b=1
plotexplAS(n, alp, a, b)

## End(Not run)
```
Description

Plots the Expected length using adjusted Score method

Usage

plotexplASC(n, alp, h, a, b)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
h  - Adding factor
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"

Details

The plots of the Expected length of adjusted Score method

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAAll, PlotexplALR, PlotexplALT, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```r
## Not run:
n 10; alp=0.05; h=2; a=1; b=1;
plotexplASC(n, alp, h, a, b)

## End(Not run)
```
**PlotexplATW**

Plots the Expected length using adjusted Wald-T method

**Description**

Plots the Expected length using adjusted Wald-T method

**Usage**

```r
plotexplATW(n, alp, h, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

The plots of the Expected length of adjusted Wald method

**See Also**

Other Expected length of adjusted methods: `plotexplAAS, plotexplAAll, plotexplALR, plotexplALT, plotexplASC, plotexplAWD, plotlengthAAS, plotlengthAAll, plotlengthALR, plotlengthALT, plotlengthASC, plotlengthATW, plotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD`

**Examples**

```r
## Not run:
n = 10; alp = 0.05; h = 2; a = 1; b = 1;
plotexplATW(n, alp, h, a, b)
```

```r
## End(Not run)```


PlotexplAWD

Plots the Expected length using adjusted Wald method

Description

Plots the Expected length using adjusted Wald method

Usage

PlotexplAWD(n, alp, h, a, b)

Arguments

n   - Number of trials
alp - Alpha value (significance level required)
h   - Adding factor
a   - Beta parameters for hypo "p"
b   - Beta parameters for hypo "p"

Details

The plots of the Expected length of adjusted Wald method

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAI, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotlengthAAS, PlotlengthAAI, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAI, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```R
## Not run:
n=10; alp=0.05; h=2; a=1; b=1;
PlotexplAWD(n, alp, h, a, b)
```

## End(Not run)
Plot the Bayesian method of expected length calculation

Description

Plot the Bayesian method of expected length calculation

Usage

plotexplBA(n, alp, a, b, a1, a2)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
a  - Beta parameters for hypo "p"
b  - Beta parameters for hypo "p"
a1 - Beta Prior Parameters for Bayesian estimation
a2 - Beta Prior Parameters for Bayesian estimation

Details

Plots of Bayesian Highest Probability Density (HPD) and two tailed intervals using expected length of the \( n + 1 \) intervals for the Beta - Binomial conjugate prior model for the probability of success \( p \)

See Also

Other Expected length of base methods: plotexplAS, plotexplAll, plotexplEX, plotexplLR, plotexplLT, plotexplSC, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```r
# Not run:
n=5; alp=0.05; a=1; b=1; a1=1; a2=1
plotexplBA(n, alp, a, b, a1, a2)

# End(Not run)
```
Plots the Expected length using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Description

Plots the Expected length using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

PlotexplCAll(n, alp, c, a, b)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

Details

The plots of the expected length of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) for \( n \) given \( n \), \( alp \), \( a \), \( b \), \( t1 \) and \( t2 \) using all the methods

See Also

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCTW`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCALL`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

Examples

```r
# Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
PlotexplCAll(n,alp,c,a,b)

# End(Not run)
```
Description

Plots the Expected length using continuity corrected ArcSine method

Usage

PlotexplCAS(n, alp, c, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The plots of the expected length of continuity corrected ArcSine method

See Also

Other Expected length of continuity corrected methods: PlotexplCALL, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCALL, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```r
## Not run:
n= 10; alp= 0.05; c= 1/(2*n); a= 1; b= 1;
PlotexplCAS(n, alp, c, a, b)

## End(Not run)
```
PlotexplCLT

Plots the Expected length using continuity corrected Logit Wald method

Description

Plots the Expected length using continuity corrected Logit Wald method

Usage

PlotexplCLT(n, alp, c, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The plots of the expected length of continuity corrected Logit Wald method

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCALL, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCALL, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
PlotexplCLT(n,alp,c,a,b)

## End(Not run)
```
**Description**

Plots the Expected length using continuity corrected Score method

**Usage**

`plotexplCSC(n, alp, c, a, b)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

The plots of the expected length of continuity corrected Score method

**See Also**

Other Expected length of continuity corrected methods: `plotexplCAS, plotexplCALL, plotexplCLT, plotexplCTW, plotexplCWD, plotlengthCAS, plotlengthCALL, plotlengthCLT, plotlengthCSC, plotlengthCTW, plotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD`

**Examples**

```r
## Not run:
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
plotexplCSC(n, alp, c, a, b)

## End(Not run)```
**Plots the Expected length using continuity corrected Wald-T method**

**Description**

Plots the Expected length using continuity corrected Wald-T method

**Usage**

`plotexplCTW(n, alp, c, a, b)`

**Arguments**

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `c`: Continuity correction
- `a`: Beta parameters for hypo "p"
- `b`: Beta parameters for hypo "p"

**Details**

The plots of the expected length of continuity corrected Wald-T method

**See Also**

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCALL`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCALL`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

**Examples**

```r
## Not run:
n= 10; alp=0.05; c=1/(2*n); a=1; b=1;
plotexplCTW(n,alp,c,a,b)
## End(Not run)
```
Plots the Expected length using continuity corrected Wald method

Description

Plots the Expected length using continuity corrected Wald method

Usage

PlotexplCWD(n, alp, c, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correctecion
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The plots of the expected length of continuity corrected Wald method

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCALL, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotlengthCAS, PlotlengthCALL, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```r
## Not run:
n= 10; alp=0.05; c=1/(2*n); a=1; b=1;
PlotexplCWD(n,alp,c,a,b)

## End(Not run)
```
PlotexplEX

Plot for Exact method of expected length calculation

Description

Plot for Exact method of expected length calculation

Usage

PlotexplEX(n, alp, e, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
e - Exact method indicator in [0, 1] 1: Clopper Pearson, 0.5: Mid P The input can also be a range of values between 0 and 1.
a - Beta parameters for hypo 'p'
b - Beta parameters for hypo 'p'

Details

Plot of Confidence interval for \( p \) based on inverting equal-tailed binomial tests with null hypothesis \( H_0 : p = p_0 \) using expected length of the \( n + 1 \) intervals.

See Also

Other Expected length of base methods: PlotexplAS, PlotexplAll, PlotexplBA, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```r
## Not run:
n=5; alp=0.05; e=0.5; a=1; b=1
PlotexplEX(n,alp,e,a,b)
n=5; alp=0.05; e=1; a=1; b=1 # Clopper-Pearson
PlotexplEX(n,alp,e,a,b)
n=5; alp=0.05; e=c(0.1, 0.5, 0.95, 1); a=1; b=1 # Range including Mid-p and Clopper-Pearson
PlotexplEX(n,alp,e,a,b)
```

## End(Not run)
Description

Plot the expected length given hypothetical "p"

Usage

plotexplGEN(n, LL, UL, hp)

Arguments

n - Number of trials
LL - Lower limit
UL - Upper limit
hp - Hypothetical "p"

Details

The plot of the expected length for n given lower limit LL and upper limit UL

See Also

Other Expected length: plotexplSIM, PlotlengthGEN, PlotlengthSIM, lengthGEN, lengthSIM

Examples

n= 5;
LL=c(0.0,0.0.01,0.0734,0.13237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
hp=seq(0.1,by=0.01)
plotexplGEN(n,LL,UL,hp)

Description

Plots likelihood Ratio method of expected length

Usage

plotexplLR(n, alp, a, b)
Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Plot of Likelihood ratio limits using sum of length of the \(n + 1\) intervals

See Also

Other Expected length of base methods: `PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD`

Examples

```r
## Not run:
n=5; alp=0.05; a=1; b=1
PlotexplLR(n, alp, a, b)
```

Description

Plots Logit Wald method of expected length

Usage

`PlotexplLT(n, alp, a, b)`

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Plot of Wald-type interval based on the logit transformation of \(p\) using sum of length of the \(n + 1\) intervals
See Also

Other Expected length of base methods: plotexplAS, plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

## Not run

n=5; alp=0.05; a=1; b=1
plotexplLT(n, alp, a, b)

## End(Not run)

---

**PlotexplSC**

Plots the expected length for Score method

Description

Plots the expected length for Score method

Usage

PlotexplSC(n, alp, a, b)

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Plot of score test approach using sum of length of the $n + 1$ intervals

See Also

Other Expected length of base methods: plotexplAS, plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, plotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD
Examples

```r
## Not run:
n=5; alp=0.05; a=1; b=1
PlotexplSC(n,alp,a,b)

## End(Not run)
```

---

**PlotexplSIM**

Plots the expected length using calculated using simulation

### Description

Plots the expected length using calculated using simulation

### Usage

```r
PlotexplSIM(n, LL, UL, s, a, b)
```

### Arguments

- **n**: Number of trials
- **LL**: Lower limit
- **UL**: Upper limit
- **s**: Number of Hypothetical "p"
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

### Details

The plot of the expected length for \(n\) given lower limit \(LL\) and upper limit \(UL\)

### See Also

Other Expected length: `PlotexplGEN`, `PlotlengthGEN`, `PlotlengthSIM`, `lengthGEN`, `lengthSIM`

### Examples

```r
LL=c(0.01, 0.18237, 0.3344, 0.5492) # Lower and Upper Limits
UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)
n= 5; s=5000; a=1; b=1;
PlotexplSIM(n,LL,UL,s,a,b)
```
**PlotexplTW**

*Plots Wald-T method of expected length*

**Description**

Plots Wald-T method of expected length

**Usage**

```r
PlotexplTW(n, alp, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

Plot of approximate method based on a t_approximation of the standardized point estimator using sum of length of the $n + 1$ intervals

**See Also**

Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthAll`, `PlotlengthBA`, `PlotlengthEX`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

**Examples**

```r
### Not run:
n=5; alp=0.05; a=1; b=1
PlotexplTW(n, alp, a, b)

### End(Not run)
```
PlotexplWD

Plots the expected length for Wald method

Description

Plots the expected length for Wald method

Usage

```
plotexplWD(n, alp, a, b)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

Details

Evaluation of Wald-type intervals using sum of length of the \( n + 1 \) intervals

See Also

Other Expected length of base methods: `PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD`

Examples

```
## Not run:
n=5; alp=0.05; a=1; b=1
PlotexplWD(n,alp,a,b)

## End(Not run)
```
PlotlengthAAAll

Plots the length summary for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots the length summary for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotlengthAAAll(n, alp, h, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The plots for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine). Sum of
the length is shown as bar graph.

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

## Not run:
n= 10; alp=0.05; h=2; a=1; b=1;
PlotlengthAAAll(n, alp, h, a, b)

## End(Not run)
PlotlengthAAS  

Plots the summary length using adjusted ArcSine method

Description

Plots the summary length using adjusted ArcSine method

Usage

PlotlengthAAS(n, alp, h, a, b)

Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **h**: Adding factor
- **a**: Beta parameters for hypo 'p'
- **b**: Beta parameters for hypo 'p'

Details

The plots of the summary length of adjusted ArcSine method

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

n = 10; alp=0.05; h=2; a=1; b=1;
PlotlengthAAS(n, alp, h, a, b)
PlotlengthAll

Plots the length summary for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Description

Plots the length summary for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotlengthAll(n, alp, a, b)

Arguments

- n - Number of trials
- alp - Alpha value (significance level required)
- a - Beta parameters for hypo "p"
- b - Beta parameters for hypo "p"

Details

The plots for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine). Sum of the length is shown as bar graph.

See Also

Other Expected length of base methods: PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```R
## Not run:
n = 10; alp=0.05; a=1; b=1;
PlotlengthAll(n,alp,a,b)

## End(Not run)
```
PlotlengthALR

Plots the summary length using adjusted Likelihood Ratio method

Description

Plots the summary length using adjusted Likelihood Ratio method

Usage

PlotlengthALR(n, alp, h, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor
a - Beta parameters for hypo 'p'
b - Beta parameters for hypo 'p'

Details

The plots of the summary length of adjusted Likelihood Ratio method

See Also

Other Expected length of adjusted methods: PlotexplAAS, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

n= 10; alp=0.05; h=2;a=1;b=1;
PlotlengthALR(n,alp,h,a,b)
**PlotlengthALT**

*Plots the summary length using adjusted Logit Wald method*

**Description**

Plots the summary length using adjusted Logit Wald method

**Usage**

```
PlotlengthALT(n, alp, h, a, b)
```

**Arguments**

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **a** - Beta parameters for hypo 'p'
- **b** - Beta parameters for hypo 'p'

**Details**

The plots of the summary length of adjusted Wald method

**See Also**

Other Expected length of adjusted methods: `PlotexplAAS, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD`

**Examples**

```
n= 10; alp=0.05; h=2; a=1; b=1;
PlotlengthALT(n, alp, h, a, b)
```
PlotlengthASC

Plots ArcSine method of sum of length calculation

Description

Plots ArcSine method of sum of length calculation

Usage

PlotlengthASC(n, alp, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

Plot of Wald-type interval for the arcsine transformation of the parameter p using sum of length of the n + 1 intervals

See Also

Other Expected length of base methods: PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

n=5; alp=0.05; a=1; b=1
PlotlengthASC(n, alp, a, b)

PlotlengthASC

Plots the summary length using adjusted Score method

Description

Plots the summary length using adjusted Score method

Usage

PlotlengthASC(n, alp, h, a, b)
Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

The plots of the summary length of adjusted Score method

See Also

Other Expected length of adjusted methods: `plotexplAAS`, `plotexplAAll`, `plotexplALR`, `plotexplALT`, `plotexplASC`, `plotexplATW`, `plotexplAWD`, `plotlengthAAS`, `plotlengthAAll`, `plotlengthALR`, `plotlengthALT`, `plotlengthATW`, `plotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALR`, `lengthALT`, `lengthASC`, `lengthATW`, `lengthAWD`

Examples

```r
n = 10; alp=0.05; h=2; a=1; b=1;
plotlengthASC(n,alp,h,a,b)
```

---

**PlotlengthATW**

*Plots the summary length using adjusted Wald-T method*

Description

Plots the summary length using adjusted Wald-T method

Usage

```r
PlotlengthATW(n, alp, h, a, b)
```

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **h** - Adding factor
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

The plots of the summary length of adjusted Wald method
See Also

Other Expected length of adjusted methods: `PlotexplAAS`, `PlotexplAAll`, `PlotexplALR`, `PlotexplALT`, `PlotexplASC`, `PlotexplATW`, `PlotexplAWD`, `PlotlengthAAS`, `PlotlengthAAll`, `PlotlengthALR`, `PlotlengthALT`, `PlotlengthASC`, `PlotlengthAWD`, `lengthAAS`, `lengthAAll`, `lengthALR`, `lengthALT`, `lengthASC`, `lengthATW`, `lengthAWD`

Examples

```r
n = 10; alp = 0.05; h = 2; a = 1; b = 1;
PlotlengthAWD(n, alp, h, a, b)
```
Plot length summary using the Bayesian method.

### Description
Plot the Bayesian method of length summary.

### Usage
`plotlengthBA(n, alp, a, b, a1, a2)`

### Arguments
- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"
- **a1**: Beta Prior Parameters for Bayesian estimation
- **a2**: Beta Prior Parameters for Bayesian estimation

### Details
Plots of Bayesian Highest Probability Density (HPD) and two tailed intervals using expected length of the \( n + 1 \) intervals for the Beta - Binomial conjugate prior model for the probability of success \( p \).

### Value
A dataframe with

### See Also
Other Expected length of base methods: `plotexplAS`, `plotexplAll`, `plotexplBA`, `plotexplEX`, `plotexplLR`, `plotexplLT`, `plotexplSC`, `plotexplTW`, `plotexplWD`, `plotlengthAS`, `plotlengthAll`, `plotlengthEX`, `plotlengthLR`, `plotlengthLT`, `plotlengthSC`, `plotlengthTW`, `plotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

### Examples
```r
n=5; alp=0.05; a=1; b=1; a=1; a=1; a2=1
plotlengthBA(n, alp, a, b, a1, a2)
```
Plots the sum of length for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

### Description

Plots the sum of length for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

### Usage

```r
PlotlengthCAll(n, alp, c, a, b)
```

### Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction
- **a**: Beta parameters for hypo "p"
- **b**: Beta parameters for hypo "p"

### Details

The plots for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine). Sum of the length is shown as bar graph.

### See Also

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCALL`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCTW`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

### Examples

```r
## Not run
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
PlotlengthCAll(n,alp,c,a,b)

## End(Not run)```
Plots the sum of length using continuity corrected ArcSine method

Description

Plots the sum of length using continuity corrected ArcSine method

Usage

plotlengthcas(n, alp, c, a, b)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction
a - Beta parameters for hypo 'p'
b - Beta parameters for hypo 'p'

Details

The plots of the expected length of continuity corrected ArcSine method

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCALL, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCALL, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

n= 10; alp=0.05; c=1/(2*n); a=1; b=1; PlotlengthCAS(n, alp, c, a, b)
PlotlengthCLT

Plots the sum of length using continuity corrected Logit Wald method

Description

Plots the sum of length using continuity corrected Logit Wald method

Usage

PlotlengthCLT(n, alp, c, a, b)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

The plots of the expected length of continuity corrected Logit Wald method

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCALL, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCALL, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```r
n = 10; alp=0.05; c=1/(2*n); a=1; b=1;
PlotlengthCLT(n, alp, c, a, b)
```
Description

Plots the sum of length using continuity corrected Score method

Usage

PlotlengthCSC(n, alp, c, a, b)

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **c** - Continuity correction
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

The plots of the expected length of continuity corrected Score method

See Also

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCALL`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCTW`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCALL`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCALL`, `lengthCLT`, `lengthCSC`, `lengthCTW`, `lengthCWD`

Examples

```r
n = 10; alp = 0.05; c = 1/(2*n); a = 1; b = 1;
PlotlengthCSC(n, alp, c, a, b)
```
Description

Plots the sum of length using continuity corrected Wald-T method

Usage

\texttt{PlotlengthCTW(n, alp, c, a, b)}

Arguments

- \texttt{n} - Number of trials
- \texttt{alp} - Alpha value (significance level required)
- \texttt{c} - Continuity correction
- \texttt{a} - Beta parameters for hypo 'p'
- \texttt{b} - Beta parameters for hypo 'p'

Details

The plots of the expected length of continuity corrected Wald-T method

See Also

Other Expected length of continuity corrected methods: \texttt{PlotexplCAS, PlotexplCALL, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCALL, PlotlengthCLT, PlotlengthCSC, PlotlengthCWD, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD}

Examples

\texttt{n= 10; alp=0.05; c=1/(2*n);a=1; b=1; PlotlengthCTW(n,alp,c,a,b)}
**Plots the sum of length using continuity corrected Wald method**

**Description**

Plots the sum of length using continuity corrected Wald method

**Usage**

```
plengthcwd(n, alp, c, a, b)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

The plots of the expected length of continuity corrected Wald method

**See Also**

Other Expected length of continuity corrected methods: `plotexplCAS, plotexplCALL, plotexplCLT, plotexplCSC, plotexplCTW, plotexplCWD, plotlengthCAS, plotlengthCALL, plotlengthCLT, plotlengthCSC, plotlengthCTW, lengthCAS, lengthCALL, lengthCLT, lengthCSC, lengthCTW, lengthCWD`

**Examples**

```
n= 10; alp=0.05; c=1/(2*n); a=1; b=1;
plengthcwd(n, alp, c, a, b)
```
### Description
Plots the length summary for exact method

### Usage
```
PlotlengthEX(n, alp, e, a, b)
```

### Arguments
- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **e** - Exact method indicator in [0, 1]: 1: Clopper Pearson, 0.5: Mid P. The input can also be a range of values between 0 and 1.
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

### Details
Plot of Confidence interval for \( p \) based on inverting equal-tailed binomial tests with null hypothesis \( H_0 : p = p_0 \) using expected length of the \( n + 1 \) intervals.

### See Also
Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplTW`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthBA`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

### Examples
```r
## Not run:
n=5; alp=0.05; e=0.5; a=1; b=1 # Mid-p
PlotlengthEX(n, alp, e, a, b)
n=5; alp=0.05; e=1; a=1; b=1 # Clopper-Pearson
PlotlengthEX(n, alp, e, a, b)
n=5; alp=0.05; e=c(0.1, 0.5, 0.95, 1); a=1; b=1 # Range including Mid-p and Clopper-Pearson
PlotlengthEX(n, alp, e, a, b)

## End(Not run)
```
\begin{verbatim}
PlotlengthGEN

\textit{Plots the sum of lengths for a specific \textit{LL} and \textit{UL}}

\textbf{Description}

Plots the sum of lengths for a specific \textit{LL} and \textit{UL}

\textbf{Usage}

\texttt{PlotlengthGEN(n, LL, UL, hp)}

\textbf{Arguments}

\begin{itemize}
  \item \texttt{n} - Number of trials
  \item \texttt{LL} - Lower limit
  \item \texttt{UL} - Upper limit
  \item \texttt{hp} - Hypothetical "p"
\end{itemize}

\textbf{Details}

Plot of intervals obtained from any method using sum of the lengths for the \textit{n} + 1 intervals

\textbf{See Also}

Other Expected length: \texttt{PlotexplGEN, PlotexplSIM, PlotlengthSIM, lengthGEN, lengthSIM}

\textbf{Examples}

\begin{verbatim}
n= 5;
LL=c(0, 0.01, 0.0734, 0.18237, 0.3344, 0.5492) #Lower and Upper Limits
UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)
hp=seq(0,1,by=0.01)
PlotlengthGEN(n,LL,UL,hp)
\end{verbatim}
\end{verbatim}

\begin{verbatim}
PlotlengthLR

\textit{Plots likelihood Ratio method of sum of length calculation}

\textbf{Description}

Plots likelihood Ratio method of sum of length calculation

\textbf{Usage}

\texttt{PlotlengthLR(n, alp, a, b)}
\end{verbatim}
Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

Plot of Likelihood ratio limits using sum of length of the \( n + 1 \) intervals

See Also

Other Expected length of base methods: `plotexplAS`, `plotexplAll`, `plotexplBA`, `plotexplEX`, `plotexplLR`, `plotexplLT`, `plotexplSC`, `plotexplTW`, `plotexplWD`, `plotexplAS`, `plotexplAll`, `plotexplBA`, `plotlengthEX`, `plotlengthLT`, `plotlengthSC`, `plotlengthTW`, `plotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

Examples

```r
n=5; alp=0.05; a=1; b=1
plotlengthLR(n, alp, a, b)
```

```
\begin{tabular}{ll}
\textbf{PlotlengthLT} & \textit{Plots Logit Wald method of sum of length calculation} \\
\end{tabular}
```

Description

Plots Logit Wald method of sum of length calculation

Usage

```r
PlotlengthLT(n, alp, a, b)
```

Arguments

- **n** - Number of trials
- **alp** - Alpha value (significance level required)
- **a** - Beta parameters for hypo "p"
- **b** - Beta parameters for hypo "p"

Details

Plot of Wald-type interval based on the logit transformation of \( p \) using sum of length of the \( n + 1 \) intervals
**Description**

Plots the length summary for Score method

**Usage**

`plotlengthsc(n, alp, a, b)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `a` - Beta parameters for hypo "p"
- `b` - Beta parameters for hypo "p"

**Details**

Plot of score test approach using sum of length of the $n + 1$ intervals

**See Also**

Other Expected length of base methods: `PlotexplAS`, `PlotexplAll`, `PlotexplBA`, `PlotexplEX`, `PlotexplLR`, `PlotexplLT`, `PlotexplSC`, `PlotexplTW`, `PlotexplWD`, `PlotlengthAS`, `PlotlengthAll`, `PlotlengthBA`, `PlotlengthEX`, `PlotlengthLR`, `PlotlengthLT`, `PlotlengthSC`, `PlotlengthTW`, `PlotlengthWD`, `lengthAS`, `lengthAll`, `lengthBA`, `lengthEX`, `lengthLR`, `lengthLT`, `lengthSC`, `lengthTW`, `lengthWD`

**Examples**

```r
n=5; alp=0.05;a=1;b=1
plotlengthLT(n,alp,a,b)
```
PlotlengthSIM

Plots the sum of length using calculated using simulation

Description

Plots the sum of length using calculated using simulation

Usage

PlotlengthSIM(n, LL, UL, s, a, b)

Arguments

n - Number of trials
LL - Lower limit
UL - Upper limit
s - Number of Hypothetical "p"
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

The plot of the expected length for n given lower limit LL and upper limit UL

See Also

Other Expected length: PlotexplGEN, PlotexplSIM, PlotlengthGEN, lengthGEN, lengthSIM

Examples

LL=c(0.01, 0.0734, 0.18237, 0.3344, 0.5492) # Lower and Upper Limits
UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)
n= 5; s=5000; a=1; b=1;
PlotlengthSIM(n,LL,UL,s,a,b)
Description

Plots Wald-T method of sum of length calculation

Usage

\texttt{PlotlengthTW(n, alp, a, b)}

Arguments

- \texttt{n} - Number of trials
- \texttt{alp} - Alpha value (significance level required)
- \texttt{a} - Beta parameters for hypo "p"
- \texttt{b} - Beta parameters for hypo "p"

Details

Plot of approximate method based on a t\textunderscore approximation of the standardized point estimator using sum of length of the \texttt{n + 1} intervals

See Also

Other Expected length of base methods: \texttt{PlotexplAS, PlotexplAll, PlotexplBA, PlotexplEX, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD}

Examples

\texttt{n=5; alp=0.05;a=1;b=1}
\texttt{PlotlengthTW(n,alp,a,b)}

Description

Plots the length summary for Wald method

Usage

\texttt{PlotlengthWD(n, alp, a, b)}
Arguments

n - Number of trials
alp - Alpha value (significance level required)
a - Beta parameters for hypo "p"
b - Beta parameters for hypo "p"

Details

Evaluation of Wald-type intervals using sum of length of the $n + 1$ intervals

See Also

Other Expected length of base methods: plotexplAS, plotexplAll, plotexplBA, plotexplEX, plotexplLR, plotexplLT, plotexplSC, plotexplTW, plotexplWD, plotlengthAS, plotlengthAll, plotlengthBA, plotlengthEX, plotlengthLR, plotlengthLT, plotlengthSC, plotlengthTW, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

n=5; alp=0.05; a=1; b=1
PlotlengthWD(n, alp, a, b)

Description

Plots p-confidence and p-bias for a given n and alpha level for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotpCOpBIAAll(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

Plots of p-confidence and p-bias for 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)
See Also

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD

Examples

```r
n=5; alp=0.05; h=2
PlotpCOpBIAAll(n, alp, h)
```

```
PlotpCOpBIAAS  Plots p-confidence and p-bias for adjusted ArcSine method

Description

Plots p-confidence and p-bias for adjusted ArcSine method

Usage

PlotpCOpBIAAS(n, alp, h)

Arguments

n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details

p-confidence and p-bias plots for adjusted ArcSine method

See Also

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD

Examples

```r
n=5; alp=0.05; h=2
PlotpCOpBIAAS(n, alp, h)
```
PlotpCOpBIAll

Plots p-confidence and p-bias for a given n and alpha level for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine) 

Description

Plots p-confidence and p-bias for a given n and alpha level for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

PlotpCOpBIAll(n, alp)

Arguments

n - Number of trials
alp - Alpha value (significance level required)

Details

p-confidence and p-bias plots for 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

References


See Also


Examples

```r
## Not run:
n=5; alp=0.05
PlotpCOpBIAll(n,alp)

## End(Not run)```
Description

Plots p-confidence and p-bias for adjusted Likelihood Ratio method

Usage

```
plotpcopbialr(n, alp, h)
```

Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `h`: Adding factor

Details

p-confidence and p-bias plots for adjusted Likelihood Ratio method

See Also

Other p-confidence and p-bias of adjusted methods: `plotpcopbiaas`, `plotpcopbiaall`, `plotpcopbialt`, `plotpcopbiasc`, `plotpcopbiatw`, `plotpcopbiawd`, `pcopbiaas`, `pcopbiaall`, `pcopbialr`, `pcopbialt`, `pcopbiasc`, `pcopbiatw`, `pcopbiawd`

Examples

```
n=5; alp=0.05; h=2
plotpcopbialr(n, alp, h)
```

Description

Plots p-confidence and p-bias for adjusted Logit Wald method

Usage

```
plotpcopbialt(n, alp, h)
```
Arguments

n  - Number of trials
alp - Alpha value (significance level required)
h  - Adding factor

Details

p-confidence and p-bias plots for adjusted Logit Wald method

See Also

Other p-confidence and p-bias of adjusted methods: \texttt{PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIAASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIAASC, pCOpBIATW, pCOpBIAWD}

Examples

\begin{verbatim}
n=5; alp=0.05; h=2
PlotpCOpBIALT(n, alp, h)
\end{verbatim}

\begin{verbatim}
PlotpCOpBIAS: Plots p-confidence and p-bias for base ArcSine method
\end{verbatim}

Description

Plots p-confidence and p-bias for base ArcSine method

Usage

\texttt{PlotpCOpBIAS(n, alp)}

Arguments

n  - Number of trials
alp - Alpha value (significance level required)

Details

p-confidence and p-bias plots for base ArcSine method

References

See Also


Examples

```r
n=5; alp=0.05
PlotpCOpBIAS(n, alp)
```

---

`PlotpCOpBIASC`  
Plots p-confidence and p-bias for adjusted Score method

**Description**

Plots p-confidence and p-bias for adjusted Score method

**Usage**

```r
PlotpCOpBIASC(n, alp, h)
```

**Arguments**

- `n`: Number of trials  
- `alp`: Alpha value (significance level required)  
- `h`: Adding factor

**Details**

p-confidence and p-bias plots for adjusted Score method

**See Also**


**Examples**

```r
n=5; alp=0.05; h=2
PlotpCOpBIASC(n, alp, h)
```
### Description

Plots p-confidence and p-bias for adjusted Wald-T method

### Usage

```R
plotpcopbiatw(n, alp, h)
```

### Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `h` - Adding factor

### Details

p-confidence and p-bias plots for adjusted Wald-T method

### See Also

Other p-confidence and p-bias of adjusted methods: `plotpcopbiaas`, `plotpcopbiaall`, `plotpcopbialr`, `plotpcopbialt`, `plotpcopbiasc`, `plotpcopbiawd`, `pcopbiaas`, `pcopbiaall`, `pcopbialr`, `pcopbialt`, `pcopbiasc`, `pcopbiawd`

### Examples

```R
n=5; alp=0.05; h=2
plotpcopbiatw(n, alp, h)
```
Arguments
n - Number of trials
alp - Alpha value (significance level required)
h - Adding factor

Details
p-confidence and p-bias plots for adjusted Wald method

See Also
Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIAAL, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIAASC, PlotpCOpBIATW, pCOpBIAAS, pCOpBIAAL, pCOpBIALR, pCOpBIALT, pCOpBIAASC, pCOpBIATW, pCOpBIAWD

Examples
n=5; alp=0.05; h=2
PlotpCOpBIAWD(n, alp, h)

Description
Plots p-confidence and p-bias for Bayesian method given n and alpha level and priors a & b

Usage
PlotpCOpBIBA(n, alp, a1, a2)

Arguments
n - Number of trials
alp - Alpha value (significance level required)
a1 - Shape parameter 1 for prior Beta distribution in Bayesian model
a2 - Shape parameter 2 for prior Beta distribution in Bayesian model

Details
Evaluation of Bayesian Highest Probability Density (HPD) and two tailed intervals using p-confidence and p-bias for the $n + 1$ intervals for the Beta - Binomial conjugate prior model for the probability of success $p$
References


See Also


Examples

```r
n=5; alp=0.05; a1=1; a2=1
PlotpCOpBIBA(n, alp, a1, a2)
```

---

**Plots p-confidence and p-bias for a given n and alpha level for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)**

Description

Plots p-confidence and p-bias for a given n and alpha level for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

```r
PlotpCOpBICAll(n, alp, c)
```

Arguments

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

Details

Plots of p-Confidence and p-Bias estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

See Also

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAS`, `PlotpCOpBICLT`, `PlotpCOpBISC`, `PlotpCOpBICTW`, `PlotpCOpBICWD`, `pCOpBICAS`, `pCOpBICAll`, `pCOpBICLT`, `pCOpBISC`, `pCOpBICTW`, `pCOpBICWD`
Examples

## Not run:

```r
n = 5; alp = 0.05; c = 1/(2*n)
plotpCOpBICAS(n, alp, c)
```

## End(Not run)

---

### Description

Plots p-confidence and p-bias for continuity corrected ArcSine method

### Usage

```r
plotpCOpBICAS(n, alp, c)
```

### Arguments

- **n**: Number of trials
- **alp**: Alpha value (significance level required)
- **c**: Continuity correction

### Details

p-confidence and p-bias plots for continuity corrected ArcSine method

### See Also

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAll`, `PlotpCOpBICLT`, `PlotpCOpBICSC`, `PlotpCOpBICTW`, `PlotpCOpBICWD`, `pCOpBICAS`, `pCOpBICAll`, `pCOpBICLT`, `pCOpBICSC`, `pCOpBICTW`, `pCOpBICWD`

### Examples

```r
n = 5; alp = 0.05; c = 1/(2*n)
plotpCOpBICAS(n, alp, c)
```
PlotpCOpBICLT

Plots p-confidence and p-bias for continuity corrected Logit Wald method

Arguments

n - Number of trials
alp - Alpha value (significance level required)
c - Continuity correction

Details

p-confidence and p-bias plots for continuity corrected Logit Wald method

See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICAIL, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAIL, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD

Examples

n=5; alp=0.05; c=1/(2*n)
PlotpCOpBICLT(n, alp, c)

PlotpCOpBICSC

Plots p-confidence and p-bias for continuity corrected Score method

Description

Plots p-confidence and p-bias for continuity corrected Score method

Usage

PlotpCOpBICSC(n, alp, c)
Arguments

n  - Number of trials
alp - Alpha value (significance level required)
c  - Continuity correction

Details

p-confidence and p-bias plots for continuity corrected Score method

See Also

Other p-confidence and p-bias of continuity corrected methods: \texttt{PlotpCOpBICAS}, \texttt{PlotpCOpBICAll}, \texttt{PlotpCOpBICLT}, \texttt{PlotpCOpBICTW}, \texttt{PlotpCOpBICWD}, \texttt{pCOpBICAS}, \texttt{pCOpBICAll}, \texttt{pCOpBICLT}, \texttt{pCOpBICSC}, \texttt{pCOpBICTW}, \texttt{pCOpBICWD}

Examples

\begin{verbatim}
n=5; alp=0.05; c=1/(2*n)
PlotpCOpBICSC(n, alp, c)
\end{verbatim}

\begin{verbatim}
PlotpCOpBICTW

Plots p-confidence and p-bias for continuity corrected Wald-T method

Description

Plots p-confidence and p-bias for continuity corrected Wald-T method

Usage

\texttt{PlotpCOpBICTW(n, alp, c)}

Arguments

n  - Number of trials
alp - Alpha value (significance level required)
c  - Continuity correction

Details

p-confidence and p-bias plots for continuity corrected Wald-T method

See Also

Other p-confidence and p-bias of continuity corrected methods: \texttt{PlotpCOpBICAS}, \texttt{PlotpCOpBICAll}, \texttt{PlotpCOpBICLT}, \texttt{PlotpCOpBICSC}, \texttt{PlotpCOpBICWD}, \texttt{pCOpBICAS}, \texttt{pCOpBICAll}, \texttt{pCOpBICLT}, \texttt{pCOpBICSC}, \texttt{pCOpBICTW}, \texttt{pCOpBICWD}
Examples

\[ n=5; \; \alpha=0.05; c=\frac{1}{2n} \]

PlotpCOpBICWD(n, alp, c)

---

**PlotpCOpBICWD**

*Plots p-confidence and p-bias for continuity corrected Wald method*

**Description**

Plots p-confidence and p-bias for continuity corrected Wald method

**Usage**

`PlotpCOpBICWD(n, alp, c)`

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)
- `c` - Continuity correction

**Details**

P-confidence and p-bias plots for continuity corrected Wald method

**See Also**

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAS, PlotpCOpBICALL, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, pCOpBICAS, pCOpBICALL, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD`

**Examples**

\[ n=5; \; \alpha=0.05; c=\frac{1}{2n} \]

PlotpCOpBICWD(n, alp, c)
Description

Plots of p-confidence and p-bias of Exact method given \( n \) and alpha level

Usage

```r
plotpcopBIEX(n, alp, e)
```

Arguments

- `n`: Number of trials
- `alp`: Alpha value (significance level required)
- `e`: Exact method indicator in \([0, 1]\) 1: Clopper Pearson, 0.5: Mid P The input can also be a range of values between 0 and 1.

Details

Evaluation of Confidence interval for \( p \) based on inverting equal-tailed binomial tests with null hypothesis \( H_0 : p = p_0 \) using p-confidence and p-bias for the \( n + 1 \) intervals

Value

A dataframe with

- `x1`: Number of successes (positive samples)
- `pconf`: p-Confidence
- `pbias`: p-Bias

References


See Also

Other p-confidence and p-bias of base methods: `plotpcopBIAS`, `plotpcopBIALl`, `plotpcopBIBA`, `plotpcopBILR`, `plotpcopBILT`, `plotpcopBISC`, `plotpcopBITW`, `plotpcopBIRD`, `pCOpBIAS`, `pCOpBIALl`, `pCOpBIBA`, `pCOpBIEX`, `pCOpBILR`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`, `pCOpBIRD`
Example

```r
n=5; alpha=0.05; e=0.5; # Mid-p
PlotpcopBIEX(n, alpha, e)
```

```r
n=5; alpha=0.05; e=1; # Clopper-Pearson
PlotpcopBIEX(n, alpha, e)
```

```r
n=5; alpha=0.05; e=c(0.1, 0.5, 0.95, 1); # Range including Mid-p and Clopper-Pearson
PlotpcopBIEX(n, alpha, e)
```

---

**Plots p-Confidence and p-Bias estimation for general method**

**Description**

Plots p-Confidence and p-Bias estimation for general method

**Usage**

```r
PlotpcopBIGEN(n, LL, UL)
```

**Arguments**

- `n` - Number of trials
- `LL` - Lower limit
- `UL` - Upper limit

**Details**

Plot of the general method - intervals obtained from any method using p-confidence and p-bias for the `n + 1` intervals

**See Also**

Other General methods for p-Confidence and p-Bias: `pCopBIGEN`

**Examples**

```r
LL=c(0.01, 0.0734, 0.18237, 0.3344, 0.5492) # Lower and Upper Limits
UL=c(0.4507, 0.6655, 0.8176, 0.9265, 0.9899, 1)
n=5;
PlotpcopBIGEN(n, LL, UL)
```
Description

Plots p-confidence and p-bias for base Likelihood Ratio method

Usage

PlotpCopBILR(n, alp)

Arguments

- n - Number of trials
- alp - Alpha value (significance level required)

Details

p-confidence and p-bias plots for base Likelihood Ratio method

References


See Also

Other p-confidence and p-bias of base methods: PlotpCopBIAS, PlotpCopBIALl, PlotpCopBIBA, PlotpCopBIEX, PlotpCopBILT, PlotpCopBISC, PlotpCopBITW, PlotpCopBIWD, pCopBIAS, pCopBIALl, pCopBIBA, pCopBIEX, pCopBILR, pCopBILT, pCopBISC, pCopBITW, pCopBIWD

Examples

n=5; alp=0.05
PlotpCopBILR(n,alp)
Description

Plots p-confidence and p-bias for base Logit Wald method

Usage

PlotpCopBILT(n, alp)

Arguments

n  - Number of trials
alp - Alpha value (significance level required)

Details

p-confidence and p-bias plots for base Logit Wald method

References


See Also

Other p-confidence and p-bias of base methods: PlotpCopBIAS, PlotpCopBIAll, PlotpCopBIBA, PlotpCopBIEX, PlotpCopBILR, PlotpCopBISC, PlotpCopBITW, PlotpCopBIWD, pCopBIAS, pCopBIAll, pCopBIBA, pCopBIEX, pCopBILR, pCopBILT, pCopBISC, pCopBITW, pCopBIWD

Examples

n=5; alp=0.05
PlotpCopBILT(n, alp)
Description

Plots p-confidence and p-bias for base Score method

Usage

PlotpCOpBISC(n, alp)

Arguments

n - Number of trials
alp - Alpha value (significance level required)

Details

p-confidence and p-bias plots for base Score method

References


See Also


Examples

n=5; alp=0.05
PlotpCOpBISC(n,alp)
Plot p-confidence and p-bias for base Wald-T method

**Description**

Plots p-confidence and p-bias for base Wald-T method

**Usage**

```r
PlotpCOpBITW(n, alp)
```

**Arguments**

- `n` - Number of trials
- `alp` - Alpha value (significance level required)

**Details**

p-confidence and p-bias plots for base Wald-T method

**References**


**See Also**


**Examples**

```r
n=5; alp=0.05
PlotpCOpBITW(n,alp)
```
Description

Plots p-confidence and p-bias for base Wald method

Usage

\texttt{PlotpCOpBIWD(n, alp)}

Arguments

\begin{itemize}
  \item \texttt{n} - Number of trials
  \item \texttt{alp} - Alpha value (significance level required)
\end{itemize}

Details

p-confidence and p-bias plots for base Wald method

References


See Also


Examples

\begin{verbatim}
n=5; alp=0.05
PlotpCOpBIWD(n,alp)
\end{verbatim}
**Bayesian posterior Probabilities**

**Description**

Bayesian posterior Probabilities

**Usage**

\[
\text{probPOS}(n, a, b, \text{th})
\]

**Arguments**

- **n**: Number of trials
- **a**: Prior Parameters
- **b**: Prior Parameters
- **th**: Theta value seeking \(\text{Pr}(\text{Theta}/X < \text{th})\)

**Details**

Computes probability of the event \(p < p^0\) (\(p^0\) is specified in \([0, 1]\)) based on posterior distribution of Beta-Binomial model with given parameters for prior Beta distribution for all \(x = 0, 1, 2, \ldots, n\) where \(n\) is the number of trials

**Value**

A dataframe with

- **x**: Number of successes
- **posprob**: Posterior probability

**References**


**See Also**

Other Miscellaneous functions for Bayesian method: `empiricalBAx`, `empiricalBA`, `probPOSx`, `probPREx`, `probPRE`

**Examples**

\[
n = 5; \ a = 0.5; \ b = 0.5; \ \text{th} = 0.5;
\text{probPOS}(n, a, b, \text{th})
\]
probPOSx  Bayesian posterior Probabilities

Description
Bayesian posterior Probabilities

Usage
probPOSx(x, n, a, b, th)

Arguments
x - Number of successes
n - Number of trials
a - Prior Parameters
b - Prior Parameters
th - Theta value seeking Pr(Theta/X < th)

Details
Computes probability of the event \( p < p0 \) (\( p0 \) is specified in [0, 1]) based on posterior distribution of Beta-Binomial model with given parameters for prior Beta distribution for all \( x = 0, 1, 2 \ldots n \) where \( n \) is the number of trials

Value
A dataframe with
x Number of successes
PosProb Posterior probability

References

See Also
Other Miscellaneous functions for Bayesian method: empiricalBAx, empiricalBA, probPOS, probPREx, probPRE

Examples
x=5; n=5; a=0.5; b=0.5; th=0.5;
probPOSx(x,n,a,b,th)
DESCRIPTION

The Predicted probability - Bayesian approach

Usage

probPRE(n, m, a1, a2)

Arguments

n - Number of trials from data
m - Future : Number of trials
a1 - Beta Prior Parameters for Bayesian estimation
a2 - Beta Prior Parameters for Bayesian estimation

Details

Computes posterior predictive probabilities for the required size of number of trials \( m \) from the given number of trials \( n \) for the given parameters for Beta prior distribution

Value

A matrix of probability values between [0,1]

predicted_probability
  - The predicted probability

0:n The number of columns based on the value of \( n \)

References


See Also

Other Miscellaneous functions for Bayesian method: empiricalBAx, empiricalBA, probPOSx, probPOS, probPREx

Examples

\( n=10; \ m=5; \ a1=0.5; \ a2=0.5 \)
probPRE(n,m,a1,a2)
The Predicted probability - Bayesian approach

Description

The Predicted probability - Bayesian approach

Usage

probPREx(x, n, xnew, m, a1, a2)

Arguments

- x: Number of successes
- n: Number of trials from data
- xnew: Required size of number of success
- m: Future :Number of trials
- a1: Beta Prior Parameters for Bayesian estimation
- a2: Beta Prior Parameters for Bayesian estimation

Details

Computes posterior predictive probability for the required size of number of successes for xnew of m trials from the given number of successes x of n trials for the given parameters for Beta prior distribution

Value

A dataframe with x,n,xnew,m,preprb

- x: Number of successes
- n: Number of trials
- xnew: Required size of number of success
- m: Future - success, trails
- preprb: The predicted probability

References


See Also

Other Miscellaneous functions for Bayesian method: empiricalBAx, empiricalBA, probPOSx, probPOS, probPRE
Examples

\[ x=0; \ n=1; \ x_{\text{new}}=10; \ m=10; \ a_1=1; \ a_2=1 \]
\[ \text{probPREx}(x,n,x_{\text{new}},m,a_1,a_2) \]
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