Package ‘proportion’

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Title Inference on Single Binomial Proportion and Bayesian Computations

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Author M.Subbiah, V.Rajeswaran

Maintainer Rajeswaran Viswanathan <v.rajeswaran@gmail.com>

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.

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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

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R topics documented:

`A package for binomial proportion` *Proportion: Let x denote the number of successes in n independent Bernoulli trials with X ~ Binomial (n, p) then phat = x/n denotes the sample proportion.*

Description

Proportion: Let x denote the number of successes in n independent Bernoulli trials with X ~ Binomial (n, p) then 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 intrvals** (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 H0 : p = p0,
- 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 know 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 `ciASx(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, corrosponding plot function is implemented, which plots the output in an apporiate 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 reporduce 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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez. M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

[8] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

[9] 2005 Joseph L and Reinhold C. Statistical Inference for Proportions American Journal of Radiologists 184; 1057 - 1064

[10] 2008 Zhou, X. H., Li, C.M. and Yang, Z. Improving interval estimation of binomial proportions. Phil. Trans. R. Soc. A, 366, 2405-2418

[11] 2012 Wei Yu, Xu Guo and Wangli Xua. An improved score interval with a modified midpoint for a binomial proportion, Journal of Statistical Computation and Simulation, 84, 5, 1-17

[12] 2008 Tuyl F, Gerlach R and Mengersen K . A comparison of Bayes-Laplace, Jeffreys, and Other Priors: The case of zero events. The American Statistician: 62; 40 - 44.

`ciAAll` *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

```
ciAAll(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	- 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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; alp=0.05;h=2
ciAAllx(x,n,alp,h)
```

`ciAAS` *Adjusted ArcSine method of CI estimation*

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 $n + (2 * h)$, 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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, ciAAll, ciALR, ciALT, ciASC, ciATW, ciAWD

Examples

```
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

```
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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

---

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

Description

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

Usage

```
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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciBA`, `ciEX`, `ciLR`, `ciLT`, `ciSC`, `ciTW`, `ciWD`

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 sucess
`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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciBAx`, `ciEXx`, `ciLRx`, `ciLTx`, `ciSCx`, `ciTWx`, `ciWDx`

Examples

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

`ciALR` *Adjusted Likelihood method of CI estimation*

Description

Adjusted Likelihood method of CI estimation

Usage

```
ciALR(n, alp, h)
```

Arguments

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

Details

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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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
ciALR(n,alp,h)
```

---

ciALRx *AdjustedLikelyhood Ratio method of CI estimation*

Description

AdjustedLikelyhood 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 $n + (2 * h)$ instead of the given x and n, where h is a positive integer $(1, 2.)$ 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

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

Description

Adjusted Logit-Wald method of CI estimation

Usage

```
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 $n+(2*h)$, 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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 $n+(2*h)$, where $h>0$ and the given `x` and `n`.

Value

A dataframe with

`x`	Number of successes (positive samples)
`LALTx`	Logit Wald Lower limit
`UALTx`	Logit Wald Upper Limit
`LABB`	Logit Wald Lower Abberation
`UABB`	Logit Wald Upper Abberation
`ZWI`	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
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

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

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciAll`, `ciBA`, `ciEX`, `ciLR`, `ciLT`, `ciSC`, `ciTW`, `ciWD`

Examples

```
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, alp, h)
```

Arguments

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 all $x = 0, 1, 2..n$.

Value

A dataframe with

x	Number of successes (positive samples)
LASC	Adjusted Score Lower limit
UASC	Adjusted Score Upper Limit
LABB	Adjusted Score Lower Abberation
UABB	Adjusted Score Upper Abberation
ZWI	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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, ciATW, ciAWD

Examples

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

---

ciASCx *Adjusted Score method of CI estimation*

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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)
`LASx`	ArcSine Lower limit
`UASx`	ArcSine Upper Limit
`LABB`	ArcSine Lower Abberation
`UABB`	ArcSine Upper Abberation
`ZWI`	Zero Width Interval

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciAllx`, `ciBAx`, `ciEXx`, `ciLRx`, `ciLTx`, `ciSCx`, `ciTWx`, `ciWDx`

Examples

```
x=5; n=5; alp=0.05
ciASx(x,n,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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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`, `ciAWD`

Examples

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

`ciATWx` *AdjustedWALD-T method of CI estimation*

Description

AdjustedWALD-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

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

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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`, `ciASCx`, `ciAWDx`

Examples

```
x=5; n=5; alp=0.05;h=2
ciATWx(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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

---

ciAWDx *Adjusted Wald method of CI estimation*

Description

Adjusted Wald method of CI estimation

Usage

```
ciAWDx(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 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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`, `ciASCx`, `ciATWx`

Examples

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

`ciBA` *Bayesian method of CI estimation with different or same parameteric values for Beta prior distribution*

Description

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)
`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

[1] 2002 Gelman A, Carlin JB, Stern HS and Dunson DB Bayesian Data Analysis, Chapman & Hall/CRC [2] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

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`, `ciEX`, `ciLR`, `ciLT`, `ciSC`, `ciTW`, `ciWD`

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)
```

`ciBAx` *Bayesian method of CI estimation with Beta prior distribution*

Description

Bayesian method of CI estimation with Beta prior distribution

Usage

```
ciBAx(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

x	- Number of successes (positive samples)
LBAQx	- Lower limits of Quantile based intervals
UBAQx	- Upper limits of Quantile based intervals
LBAHx	- Lower limits of HPD intervals
UBAHx	- Upper limits of HPD intervals

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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=0.5;b=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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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/(2*n)
ciCAll(n,alp,c)
```

---

ciCAllx — *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

```
ciCAllx(x, n, alp, c)
```

Arguments

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

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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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 $(abs(sin^(-1)phat-sin^(-1)p)-c)/SE$ 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

---

ciCASx *Continuity corrected ArcSine method of CI estimation*

Description

Continuity corrected ArcSine method of CI estimation

Usage

```
ciCASx(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 arcsine transformation using the test statistic $(abs(sin^(-1)phat-sin^(-1)p)-c)/SE$ 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)
LCAx	ArcSine Lower limit
UCAx	ArcSine Upper Limit
LABB	ArcSine Lower Abberation
UABB	ArcSine Upper Abberation
ZWI	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
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 $(abs(L(phat)-L(p)) - c)/SE$ 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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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 $(abs(L(phat)-L(p)) - c)/SE$ 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

x	Number of successes (positive samples)
LCLTx	Logit Wald Lower limit
UCLTx	Logit Wald Upper Limit
LABB	Logit Wald Lower Abberation
UABB	Logit Wald Upper Abberation
ZWI	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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`, `ciCSCx`, `ciCTWx`, `ciCWDx`

Examples

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

`ciCSC` *Continuity corrected Score method of CI estimation*

Description

Continuity corrected Score method of CI estimation

Usage

```
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 $(abs(phat - p) - c)/SE$ where $c > 0$ is a constant for continuity correction for all $x = 0, 1, 2..n$

Value

A dataframe with

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

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

---

ciCSCx *Continuity corrected Score method of CI estimation*

Description

Continuity corrected Score method of CI estimation

Usage

```
ciCSCx(x, 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 $(abs(phat - p) - c)/SE$ where $c > 0$ is a constant for continuity correction for all $x = 0, 1, 2..n$

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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)
```

ciCTW *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 $(abs(phat - p) - c)/SE$ 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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)
```

---

ciCTWx *Continuity corrected Wald-T method of CI estimation*

Description

Continuity corrected Wald-T method of CI estimation

Usage

```
ciCTWx(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 $(abs(phat - p) - c)/SE$ 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)
LCTWx	T-Wald Lower limit
UCTWx	T-Wald Upper Limit
LABB	T-Wald Lower Abberation
UABB	T-Wald Upper Abberation
ZWI	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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 $(abs(phat - p) - c)/SE$ 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

---

ciCWDx *Continuity corrected Wald method of CI estimation*

Description

Continuity corrected Wald method of CI estimation

Usage

```
ciCWDx(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 all $x = 0, 1, 2..n$) using the test statistic $(abs(phat - p) - c)/SE$ where $c > 0$ is a constant for continuity correction

Value

A dataframe with

x	Number of successes (positive samples)
LCWx	CC-Wald Lower limit
UCWx	CC-Wald Upper Limit
LABB	CC-Wald Lower Abberation
UABB	CC-Wald Upper Abberation
ZWI	Zero Width Interval

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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, ciCTWx

Examples

```
x= 5; n=5; alp=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
- `UABB` - Likelihood Ratio Upper Abberation
- `ZWI` - Zero Width Interval
- `e` - Exact method input

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciLR`, `ciLT`, `ciSC`, `ciTW`, `ciWD`

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)
```

`ciEXx` *Exact method of CI estimation*

Description

Exact method of CI estimation

Usage

```
ciEXx(x, n, alp, e)
```

Arguments

x	- Number of sucess
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

Confidence interval for p (for the given x and 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 $0 <= e <= 1$.

Value

A dataframe with

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

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

---

ciLR *Likelihood Ratio method of CI estimation*

Description

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

LABB	- Likelihood Ratio Lower Abberation
UABB	- Likelihood Ratio Upper Abberation
ZWI	- Zero Width Interval

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciLT`, `ciSC`, `ciTW`, `ciWD`

Examples

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

---

ciLRx *Likelihood Ratio method of CI estimation*

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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, ciLTx, ciSCx, ciTWx, ciWDx

Examples

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

---

ciLT *Logit Wald method of CI estimation*

Description

Logit Wald method of CI estimation

Usage

```
ciLT(n, alp)
```

Arguments

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

Details

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

Value

A dataframe with

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

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciSC`, `ciTW`, `ciWD`

Examples

```
n=5; alp=0.05
ciLT(n,alp)
```

---

ciLTx *Logit Wald method of CI estimation*

Description

Logit Wald method of CI estimation

Usage

```
ciLTx(x, n, alp)
```

Arguments

x	- Number of successes
n	- Number of trials
alp	- 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)
LLTx	- Logit Wald Lower limit
ULTx	- Logit Wald Upper Limit
LABB	- Logit Wald Lower Abberation
UABB	- Logit Wald Upper Abberation
ZWI	- Zero Width Interval

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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
ciLTx(x,n,alp)
```

`ciSC` *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 ..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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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
ciSC(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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciLTx`, `ciTWx`, `ciWDx`

Examples

```
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,

$$\hat{p} = \frac{(x+2)}{(n+4)}$$

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciSC`, `ciWD`

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 $x = 0orn$,

$$\hat{p} = \frac{(x+2)}{(n+4)} phat = (x+2)/(n+4)$$

Value

A dataframe with

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

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciLTx`, `ciSCx`, `ciWDx`

Examples

```
x=5; n=5; alp=0.05
ciTWx(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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciSC`, `ciTW`

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)
LWDx	Wald Lower limit
UWDx	Wald Upper Limit
LABB	Wald Lower Abberation
UABB	Wald Upper Abberation
ZWI	Zero Width Interval

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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`, `ciLTx`, `ciSCx`, `ciTWx`

Examples

```
x=5; n=5; alp=0.05;
ciWDx(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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
## 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
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)
```

---

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, ArcSine)

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
## 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

Value

A dataframe with

mcpAL	Adjusted Likelihood Coverage Probability
micpAL	Adjusted 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

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

---

covpALT — *Coverage Probability of Adjusted Logit Wald method for given n*

Description

Coverage Probability of Adjusted Logit Wald method for given n

Usage

```
covpALT(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 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

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

`covpAS` *Coverage Probability of ArcSine method*

Description

Coverage Probability of ArcSine method

Usage

```
covpAS(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 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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

---

covpASC — *Coverage Probability of Adjusted Score method for given n*

Description

Coverage Probability of Adjusted Score method for given n

Usage

```
covpASC(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 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`	Adjusted Score Coverage Probability
`micpAS`	Adjusted 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
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)
```

`covpATW` *Coverage Probability of Adjusted Wald-T method for given n*

Description

Coverage Probability of Adjusted Wald-T method for given n

Usage

```
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
`micpATW`	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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
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)
```

covpAWD *Coverage Probability of Adjusted Wald method for given n*

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

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

---

covpBA *Coverage Probability of Bayesian method*

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

Description

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

Usage

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

Arguments

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

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

---

covpCLT — *Coverage Probability of Continuity corrected Logit Wald method*

Description

Coverage Probability of Continuity corrected Logit Wald method

Usage

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

Arguments

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
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, t1, t2)
```

Arguments

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

Other Coverage probability for continuity corrected methods: PlotcovpCAS, PlotcovpCAll, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCAll, 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	- Continiuty 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
micpATW	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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1; t1=0.93;t2=0.97
covpCTW(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	- Continiuty 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

Value

A dataframe with

`mcpCW`	Continuity corrected Wald Coverage Probability
`micpCW`	Continuity corrected 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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

Examples

```
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

```
covpEX(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). 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"
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 Confidence interval for p based on inverting equal-tailed binomial tests with null hypothesis $H0 : p = p0$ 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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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 #Clop-Pear
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

```
## 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)
```

---

covpLR *Coverage Probability of likelihood method*

Description

Coverage Probability of likelihood method

Usage

```
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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

covpLT *Coverage Probability of Logit Wald method*

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
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

```
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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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
micpW	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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

`empericalBA` *The empirical Bayesian approach for Beta-Binomial model*

Description

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 $x = 0, 1, 2..n$ 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

[1] 1998 Lehmann EL and Casella G Theory of Point Estimation, 2nd ed Springer, New York

See Also

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

Examples

```
sL=runif(1,0,2) #Lower and upper of Support for MLE optimization
sU=runif(1,sL,10)
n= 5; alp=0.05
empericalBA(n,alp,sL,sU)
```

`empericalBAx` *The empirical Bayesian approach for Beta-Binomial model given x*

Description

The empirical Bayesian approach for Beta-Binomial model given x

Usage

```
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)
`pomean`	- 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

[1] 1998 Lehmann EL and Casella G Theory of Point Estimation, 2nd ed Springer, New York

See Also

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

Examples

```
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

```
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

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

---

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

Description

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

Usage

```
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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

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

---

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

Description

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

Usage

```
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

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

```
n=20; alp=0.05; phi=0.05; f=-2
errAll(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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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
errALR(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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

```
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

```
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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

---

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

Description

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

Usage

```
errASC(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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

```
n=20; alp=0.05; h=2;phi=0.99; f=-2
errASC(n,alp,h,phi,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

```
errATW(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 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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

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

---

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

Description

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

Usage

```
errAWD(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 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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

```
n=20; alp=0.05; h=2;phi=0.99; 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

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 method - Quantile or HPD

References

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

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

---

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

Description

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

Usage

```
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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

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

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

`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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

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

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

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCAll, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCAll, 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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

Other Error for continuity corrected methods: PloterrCAS, PloterrCAll, PloterrCLT, PloterrCSC, PloterrCTW, PloterrCWD, errCAS, errCAll, 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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

errCWD *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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

See Also

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

Examples

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

---

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

Description

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

Usage

```
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 $H0 : p = p0$ 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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

errGEN *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

```
errGEN(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

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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; alp=0.05;phi=0.05; f=-2
errGEN(n,LL,UL,alp,phi,f)
```

---

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

Description

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

Usage

```
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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
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

```
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

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
n=20; alp=0.05; phi=0.05; f=-2
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

```
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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

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

[1] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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 — *Bayesain Hypothesis testing : Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0*

Description

Bayesain 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: $p = p0$ Vs $p \neq p0$ from the given number of trials `n` and for all number of successes $x = 0, 1, 2......n$. We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
n=10; th0=0.1; a1=1; b1=1
hypotestBAF1(n,th0,a1,b1)
```

`hypotestBAF1x` *Bayesain Hypothesis testing given x: Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0*

Description

Bayesain Hypothesis testing given x: Hypothesis 1: Theta = Theta0 Vs Theta <> Theta0

Usage

```
hypotestBAF1x(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: $p = p0$ Vs $p \neq p0$ from the given number of trials `n` and and for given number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
x=682; n=925; th0=0.75; a1=3; b1=3
hypotestBAF1x(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 $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

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)
```

---

hypotestBAF2x   *Bayesain Hypothesis testing given x: Hypothesis 2: Theta = Theta0 Vs Theta > Theta0*

Description

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

Usage

```
hypotestBAF2x(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: $p = p0$ Vs $p > p0$ from the given number of trials `n` and and for given number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
x=682; n=925; th0=0.75; a1=3; b1=3
hypotestBAF2x(x,n,th0,a1,b1)
```

---

hypotestBAF3 *Bayesain Hypothesis testing : Hypothesis 3: Theta = Theta0 Vs Theta < Theta0*

Description

Bayesain Hypothesis testing : Hypothesis 3: Theta = Theta0 Vs Theta < Theta0

Usage

```
hypotestBAF3(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 $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

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

Bayesain 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: $p = p0$ Vs $p < p0$ from the given number of trials `n` and and for given number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

x	Number of successes
BaFa01	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
x=682; n=925; th0=0.75; a1=3; b1=3
hypotestBAF3x(x,n,th0,a1,b1)
```

---

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, 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: $p <= p0$ Vs $p > p0$ from the given number of trials `n` and for all number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

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

`hypotestBAF4x` *Bayesain Hypothesis testing given x: Hypothesis 4: Theta <= Theta0 Vs Theta > Theta0*

Description

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

Usage

```
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: $p <= p0$ Vs $p > p0$ 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 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

Other Hypothesis testing: hypotestBAF1x, hypotestBAF1, hypotestBAF2x, hypotestBAF2, hypotestBAF3x, hypotestBAF3, hypotestBAF4, 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: $p >= p0$ Vs $p < p0$ from the given number of trials n and for all number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.

- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

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)
```

`hypotestBAF5x` *Bayesain Hypothesis testing given x: Hypothesis 5: Theta >= Theta0 Vs Theta < Theta0*

Description

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

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 $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

x	Number of successes
BaFa01	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
x=682; n=925; th0=0.75; a0=0.5; b0= 0.5;a1=1; b1=1
hypotestBAF5x(x,n,th0,a0,b0,a1,b1)
```

`hypotestBAF6` *Bayesain Hypothesis testing : Hypothesis 6: Theta < Theta1 Vs Theta > Theta2*

Description

Bayesain Hypothesis testing : Hypothesis 6: Theta < Theta1 Vs Theta > Theta2

Usage

```
hypotestBAF6(n, th1, a1, b1, th2, a2, b2)
```

Arguments

`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: $p < p1$ Vs $p > p2$ from the given number of trials `n` and for all number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
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

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

Usage

```
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: $p < p1$ Vs $p > p2$ from the given number of trials n and and for given number of successes $x = 0, 1, 2......n$ We use the following guideline for reporting the results:

- 1/3 <= BaFa01 < 1: Evidence against H0 is not worth more than a bare mention.
- 1/20 <= BaFa01 < 1/3: Evidence against H0 is positive.
- 1/150 <= 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

`x`	Number of successes
`BaFa01`	Bayesian Factor

References

[1] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

[2] 2014 Sakthivel S, Subbiah M and Ramakrishnan R Default prior approach for Bayesian testing of hypotheses involving single binomial proportion International Journal of Statistics and Analysis, 4 (2), 139 - 153

See Also

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

Examples

```
x=682; n=925; th1=0.5; a1=1; b1=1; th2=0.9; a2=0.5; b2=0.5
hypotestBAF6x(x,n,th1,a1,b1,th2,a2,b2)
```

`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
`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`	Name of the method

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
## 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 Performs expected length and sum of length of Adjusted Likelihood method*

Description

Performs expected length and sum of length of Adjusted Likelihood method Performs expected length and sum of length of Adjusted Likelihood method

Usage

```
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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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; alp=0.05; h=2;a=1;b=1;
lengthALR(n,alp,h,a,b)
```

---

lengthALT — *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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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, lengthATW, lengthAWD

Examples

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

---

lengthATW *Performs expected length and sum of length of Adjusted Wald-T method*

Description

Performs expected length and sum of length of Adjusted Wald-T method

Usage

```
lengthATW(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 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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
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

```
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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

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

---

lengthBA *Expected length and sum of length of Bayesian method*

Description

Expected length and sum of length of Bayesian method

Usage

```
lengthBA(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

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

`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 method used - Quantile and HPD

References

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1;a1=1;a2=1
lengthBA(n,alp,a,b,a1,a2)
```

---

lengthCAll — *Expected Length summary calculation using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)*

Description

Expected Length summary calculation using 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

```
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
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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCAll, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCAll, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCAll(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

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCAll, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCAll, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, 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)
```

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

Other Expected length of continuity corrected methods: `PlotexplCAS`, `PlotexplCAll`, `PlotexplCLT`, `PlotexplCSC`, `PlotexplCTW`, `PlotexplCWD`, `PlotlengthCAS`, `PlotlengthCAll`, `PlotlengthCLT`, `PlotlengthCSC`, `PlotlengthCTW`, `PlotlengthCWD`, `lengthCAS`, `lengthCAll`, `lengthCSC`, `lengthCTW`, `lengthCWD`

Examples

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCLT(n,alp,c,a,b)
```

lengthCSC	*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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

See Also

Other Expected length of continuity corrected methods: PlotexplCAS, PlotexplCAll, PlotexplCLT, PlotexplCSC, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCAll, PlotlengthCLT, PlotlengthCSC, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCAll, lengthCLT, lengthCTW, lengthCWD

Examples

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCSC(n,alp,c,a,b)
```

---

lengthCTW *Expected Length summary of continuity corrected Wald-T method*

Description

Expected Length summary of continuity corrected Wald-T method

Usage

```
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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCTW(n,alp,c,a,b)
```

---

lengthCWD *Expected Length summary of continuity corrected Wald method*

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

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
lengthCWD(n,alp,c,a,b)
```

---

lengthEX — *Expected length and sum of length of Exact method*

Description

Expected length and sum of length of Exact method

Usage

```
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 $H0 : p = p0$ 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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
## 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

```
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

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

See Also

Other Expected length: PlotexplGEN, PlotexplSIM, PlotlengthGEN, PlotlengthSIM, lengthSIM

Examples

```
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

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 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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1
lengthLR(n,alp,a,b)
```

lengthLT	*Expected length and sum of length of Logit Wald method*

Description

Expected length and sum of length of Logit Wald method

Usage

```
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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1
lengthLT(n,alp,a,b)
```

`lengthSC` *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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
n=5; alp=0.05;a=1;b=1
lengthSC(n,alp,a,b)
```

`lengthSIM` *Sum of length calculated using simulation method*

Description

Sum of length calculated using simulation method

Usage

```
lengthSIM(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 calculation of the sum of length for `n` given lower limit `LL` and upper limit `UL`

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

See Also

Other Expected length: `PlotexplGEN`, `PlotexplSIM`, `PlotlengthGEN`, `PlotlengthSIM`, `lengthGEN`

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; s=5000; a=1; b=1;
lengthSIM(n,LL,UL,s,a,b)
```

lengthTW *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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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)
```

---

lengthWD *Expected length and sum of length of Wald method*

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

[1] 1993 Vollset SE. Confidence intervals for a binomial proportion. Statistics in Medicine: 12; 809 - 824.

[2] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[3] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[4] 2001 Brown LD, Cai TT and DasGupta A. Interval estimation for a binomial proportion. Statistical Science: 16; 101 - 133.

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

[6] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

[7] 2014 Martin Andres, A. and Alvarez Hernandez, M. Two-tailed asymptotic inferences for a proportion. Journal of Applied Statistics, 41, 7, 1516-1529

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

```
n=5; alp=0.05;a=1;b=1
lengthWD(n,alp,a,b)
```

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

```
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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS`, `PlotpCOpBIAAll`, `PlotpCOpBIALR`, `PlotpCOpBIALT`, `PlotpCOpBIASC`, `PlotpCOpBIATW`, `PlotpCOpBIAWD`, `pCOpBIAAS`, `pCOpBIALR`, `pCOpBIALT`, `pCOpBIASC`, `pCOpBIATW`, `pCOpBIAWD`

Examples

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

---

pCOpBIAAS *p-Confidence and p-Bias estimation for adjusted ArcSine method*

Description

p-Confidence and p-Bias estimation for adjusted ArcSine method

Usage

```
pCOpBIAAS(n, 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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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

---

pCOpBIAll — *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)*

Description

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, 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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIBA, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05
pCOpBIAll(n,alp)
```

pCOpBIALR — *p-Confidence and p-Bias estimation for adjusted Likelihood method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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

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

`pCOpBIALT` *p-Confidence and p-Bias estimation for adjusted Logit-Wald method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

`pCOpBIAS` *p-confidence and p-bias for ArcSine method given n and alpha level*

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

`x1`	Number of successes (positive samples)
`pconf`	p-Confidence
`pbias`	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: `PlotpCOpBIAS`, `PlotpCOpBIAll`, `PlotpCOpBIBA`, `PlotpCOpBIEX`, `PlotpCOpBILR`, `PlotpCOpBILT`, `PlotpCOpBISC`, `PlotpCOpBITW`, `PlotpCOpBIWD`, `pCOpBIAll`, `pCOpBIBA`, `pCOpBIEX`, `pCOpBILR`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`, `pCOpBIWD`

Examples

```
n=5; alp=0.05
pCOpBIAS(n,alp)
```

`pCOpBIASC` *p-Confidence and p-Bias estimation for adjusted Score method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of adjusted methods: `PlotpCOpBIAAS`, `PlotpCOpBIAAll`, `PlotpCOpBIALR`, `PlotpCOpBIALT`, `PlotpCOpBIASC`, `PlotpCOpBIATW`, `PlotpCOpBIAWD`, `pCOpBIAAS`, `pCOpBIAAll`, `pCOpBIALR`, `pCOpBIALT`, `pCOpBIATW`, `pCOpBIAWD`

Examples

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

pCOpBIATW *p-Confidence and p-Bias estimation for adjusted Wald-T method*

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

x1	Number of successes (positive samples)
pconf	p-Confidence
pbias	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

`pCOpBIAWD` *p-Confidence and p-Bias estimation for adjusted Wald method*

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

`x1`	Number of successes (positive samples)
`pconf`	p-Confidence
`pbias`	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

pCOpBIBA	*p-confidence and p-bias for Bayesian method given n and alpha level and priors a & b*

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

x1	Number of successes (positive samples)
pconfQ	p-Confidence Quantile
pbiasQ	p-Bias Quantile
pconfH	p-Confidence HPD
pbiasH	p-Bias HPD

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05;a1=1;a2=1
pCOpBIBA(n,alp,a1,a2)
```

---

pCOpBICAll	*Performs p-Confidence and p-Bias estimation for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)*

Description

Performs p-Confidence and p-Bias estimation for 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine)

Usage

```
pCOpBICAll(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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAS`, `PlotpCOpBICAll`, `PlotpCOpBICLT`, `PlotpCOpBICSC`, `PlotpCOpBICTW`, `PlotpCOpBICWD`, `pCOpBICAS`, `pCOpBICLT`, `pCOpBICSC`, `pCOpBICTW`, `pCOpBICWD`

Examples

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

---

pCOpBICAS *p-Confidence and p-Bias estimation for continuity corrected ArcSine method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD

Examples

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

---

pCOpBICLT — *p-Confidence and p-Bias estimation for continuity corrected Logit Wald method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAS`, `PlotpCOpBICAll`, `PlotpCOpBICLT`, `PlotpCOpBICSC`, `PlotpCOpBICTW`, `PlotpCOpBICWD`, `pCOpBICAS`, `pCOpBICAll`, `pCOpBICSC`, `pCOpBICTW`, `pCOpBICWD`

Examples

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

`pCOpBICSC` *p-Confidence and p-Bias estimation for continuity corrected Score method*

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

`x1`	Number of successes (positive samples)
`pconf`	p-Confidence
`pbias`	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: `PlotpCOpBICAS`, `PlotpCOpBICAll`, `PlotpCOpBICLT`, `PlotpCOpBICSC`, `PlotpCOpBICTW`, `PlotpCOpBICWD`, `pCOpBICAS`, `pCOpBICAll`, `pCOpBICLT`, `pCOpBICTW`, `pCOpBICWD`

Examples

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

---

pCOpBICTW *p-Confidence and p-Bias estimation for continuity corrected Wald-T method*

Description

p-Confidence and p-Bias estimation for continuity corrected Wald-T method

Usage

```
pCOpBICTW(n, alp, c)
```

Arguments

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

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

x1	Number of successes (positive samples)
pconf	p-Confidence
pbias	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICWD

Examples

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

---

pCOpBICWD *p-Confidence and p-Bias estimation for continuity corrected Wald method*

Description

p-Confidence and p-Bias estimation for continuity corrected Wald method

Usage

```
pCOpBICWD(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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICTW

Examples

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

---

pCOpBIEX — *p-confidence and p-bias for Exact method given n and alpha level*

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 $H0 : p = p0$ 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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

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

`pCOpBIGEN` *Performs p-Confidence and p-Bias estimation only using n, lower limit and upper limit for general method*

Description

Performs p-Confidence and p-Bias estimation only using n, lower limit and upper limit for general method

Usage

```
pCOpBIGEN(n, LL, UL)
```

Arguments

`n`	- Number of trials
`LL`	- Lower limit
`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)

pconf p-Confidence

pbias p-Bias

References

[1] 1998 Agresti A and Coull BA. Approximate is better than "Exact" for interval estimation of binomial proportions. The American Statistician: 52; 119 - 126.

[2] 1998 Newcombe RG. Two-sided confidence intervals for the single proportion: Comparison of seven methods. Statistics in Medicine: 17; 857 - 872.

[3] 2008 Pires, A.M., Amado, C. Interval Estimators for a Binomial Proportion: Comparison of Twenty Methods. REVSTAT - Statistical Journal, 6, 165-197.

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBIEX, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05
pCOpBILR(n,alp)
```

---

pCOpBILT *p-confidence and p-bias for Logit Wald method given n and alpha level*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

`pCOpBISC` *p-confidence and p-bias for Score method given n and alpha level*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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`, `pCOpBILT`, `pCOpBITW`, `pCOpBIWD`

Examples

```
n=5; alp=0.05
pCOpBISC(n,alp)
```

`pCOpBITW` *p-confidence and p-bias for T-Wald method given n and alpha level*

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

`x1`	Number of successes (positive samples)
`pconf`	p-Confidence
`pbias`	p-Bias

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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`, `pCOpBILT`, `pCOpBISC`, `pCOpBIWD`

Examples

```
n=5; alp=0.05
pCOpBITW(n,alp)
```

`pCOpBIWD` *p-confidence and p-bias for Wald method given n and alpha level*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`

Examples

```
n=5; alp=0.05
pCOpBIWD(n,alp)
```

PlotciAAll — *Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)*

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)
```

PlotciAAllg — *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

```
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 `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`, `PlotciALT`, `PlotciASC`, `PlotciATW`, `PlotciAWD`, `ciAAS`, `ciAAll`, `ciALR`, `ciALT`, `ciASC`, `ciATW`, `ciAWD`

Examples

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

PlotciAAllx — *Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)*

Description

Plots the CI estimation of 6 adjusted methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)

Usage

```
PlotciAAllx(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) for `n` given `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
PlotciAAllx(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)
```

PlotciAAS *Plot of CI estimation of adjusted ArcSine*

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, ciAWD

Examples

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

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

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

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

Examples

```
n=5; alp=0.05;
PlotciAll(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

```
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

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

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 sucess
`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)
```

PlotciAllxg — *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 sucess
`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`, `ciAllx`, `ciBAx`, `ciEXx`, `ciLRx`, `ciLTx`, `ciSCx`, `ciTWx`, `ciWDx`

Examples

```
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, ciAAll, ciALR, ciALT, ciASC, ciATW, ciAWD

Examples

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

PlotciALT — *Plot of CI estimation of adjusted Logit Wald*

Description

Plot of CI estimation of adjusted Logit Wald

Usage

```
PlotciALT(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 Logit Wald method for n given alp and h

See Also

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

Examples

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

PlotciAS	*Plots the CI estimation of ArcSine method*

Description

Plots the CI estimation of ArcSine method

Usage

```
PlotciAS(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

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

Examples

```
n=5; alp=0.05
PlotciAS(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 `alp` and `h`

See Also

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

Examples

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

`PlotciATW` — *Plot of CI estimation of adjusted Wald-T*

Description

Plot of CI estimation of adjusted Wald-T

Usage

```
PlotciATW(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-T method for `n` given `alp` and `h`

See Also

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

Examples

```
n=5; alp=0.05;h=2
PlotciATW(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

```
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

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

Examples

```
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)
```

PlotciCAll — *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, ArcSine) given n, alp and c

Usage

```
PlotciCAll(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 `alp` 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; alp=0.05;c=1/(2*n)
PlotciCAll(n,alp,c)
```

PlotciCAllg — *Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) grouped by x value*

Description

Plots the CI estimation of 5 continuity corrected methods (Wald, Wald-T, Score, Logit-Wald, ArcSine) grouped by x value

Usage

```
PlotciCAllg(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) grouped by x for `n` given `alp` along with Continuity correction `c`

See Also

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

Examples

```
n=5; alp=0.05; c=1/(2*n)
PlotciCAllg(n,alp,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 sucess
`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 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)
```

PlotciCAllxg — *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

```
PlotciCAllxg(x, n, alp, c)
```

Arguments

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

Details

Plots he 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

```
x=5; n=5; alp=0.05;c=1/(2*n)
PlotciCAllxg(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

```
PlotciCAS(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 ArcSine method for `n` given `alp` along with Continuity correction `c`

See Also

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

Examples

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

PlotciCLT — *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

```
PlotciCLT(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 Logit Wald method for `n` given `alp` along with Continuity correction `c`

See Also

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

Examples

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

PlotciCTW — *Plots the CI estimation of continuity corrected Wald-T method given n, alp and 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)
```

PlotciCWD — *Plots the CI estimation of continuity corrected Wald method given n, alp and c*

Description

Plots the CI estimation of continuity corrected Wald method given n, alp and c

Usage

```
PlotciCWD(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 `alp` along with Continuity correction `c`

See Also

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

Examples

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

`PlotciEX` *Plots the CI estimation of exact methods*

Description

Plots the CI estimation of exact methods

Usage

```
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 `alp`.

See Also

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

Examples

```
## Not run:
n=5; alp=0.05; e=0.5 #Mid-p
PlotciEX(n,alp,e)
n=5; alp=0.05;e=1 #Clopper-Pearson
PlotciEX(n,alp,e)
n=5; alp=0.05;e=c(0.05,0.1,0.5,0.95,1) #Range including Mid-p and Clopper-Pearson
PlotciEX(n,alp,e)

## End(Not run)
```

`PlotciEXx` *Plots the CI estimation of the exact method*

Description

Plots the CI estimation of the exact method

Usage

```
PlotciEXx(x, n, alp, e)
```

Arguments

x	- Number of sucess
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

```
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)
```

PlotciLR — *Plots the CI estimation of Likelihood Ratio method*

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)
```

PlotciLT — *Plots the CI estimation of Logit Wald method*

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 alp using Logit Wald method

See Also

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

Examples

```
n=5; alp=0.05
PlotciLT(n,alp)
```

PlotciSC *Plots the CI estimation of Score method*

Description

Plots the CI estimation of Score method

Usage

```
PlotciSC(n, alp)
```

Arguments

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

Details

The plot of Confidence Interval of n given alp using Score method

See Also

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

Examples

```
n=5; alp=0.05
PlotciSC(n,alp)
```

PlotciTW *Plots the CI estimation of Wald-T 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

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

Examples

```
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 `alp` using Wald method

See Also

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

Examples

```
n=5; alp=0.05
PlotciWD(n,alp)
```

`PlotcovpAAll` *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

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

Examples

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

## End(Not run)
```

`PlotcovpAAS` *Plots the Coverage Probability using adjusted ArcSine method*

Description

Plots the Coverage Probability using adjusted ArcSine method

Usage

```
PlotcovpAAS(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 ArcSine method for `n` given `alp`, `h`, `a`, `b`, `t1` and `t2` using all the methods

See Also

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

Examples

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

## End(Not run)
```

`PlotcovpAll` *Graphs of basic Coverage Probability 6 base methods (Wald, Wald-T, Likelihood, Score, Logit-Wald, ArcSine)*

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

```
## 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

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 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

```
## 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)
```

PlotcovpALT — *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

```
## 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)

## End(Not run)
```

`PlotcovpAS` *Plots Coverage Probability for base ArcSine method*

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

```
## 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)
```

PlotcovpASC *Plots the Coverage Probability using adjusted Score method*

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`, `PlotcovpAAll`, `PlotcovpALR`, `PlotcovpALT`, `PlotcovpATW`, `PlotcovpAWD`, `covpAAS`, `covpAAll`, `covpALR`, `covpALT`, `covpASC`, `covpATW`, `covpAWD`

Examples

```
## 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

```
## 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)
```

PlotcovpAWD *Plots the Coverage Probability using adjusted Wald method*

Description

Plots the Coverage Probability using adjusted Wald method

Usage

```
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

```
## 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)
```

`PlotcovpBA` *Graphs of Coverage Probability of the Bayesian method*

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: PlotcovpAS, PlotcovpAll, PlotcovpEX, PlotcovpLR, 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;a1=1;a2=1
PlotcovpBA(n,alp,a,b,t1,t2,a1,a2)

## End(Not run)
```

`PlotcovpCAll` *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`	- Continiuty 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 `alp`, `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

```
## 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)

## End(Not run)
```

PlotcovpCAS *Graphs 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, t1, t2)
```

Arguments

n	- Number of trials
alp	- Alpha value (significance level required)
c	- Continiuty 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 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: PlotcovpCAll, PlotcovpCLT, PlotcovpCSC, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD

Examples

```
## 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	- Continiuty 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

```
## 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)
```

PlotcovpCSC *Graphs of Coverage Probability for continuity corrected Score method*

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	- Continiuty 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, PlotcovpCAll, PlotcovpCLT, PlotcovpCTW, PlotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD

Examples

```
## 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)
```

PlotcovpCTW *Graphs of Coverage Probability for continuity corrected Wald-T method*

Description

Graphs of Coverage Probability for continuity corrected Wald-T method

Usage

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

Arguments

n	- Number of trials
alp	- Alpha value (significance level required)
c	- Continiuty 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-T 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, PlotcovpCLT, PlotcovpCSC, PlotcovpCWD, covpCAS, covpCAll, covpCLT, covpCSC, covpCTW, covpCWD

Examples

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

## End(Not run)
```

PlotcovpCWD *Graphs of Coverage Probability for continuity corrected Wald method*

Description

Graphs of Coverage Probability for continuity corrected Wald method

Usage

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

Arguments

n	- Number of trials
alp	- Alpha value (significance level required)
c	- Continiuty 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, h, a, b, t1 and t2 using all the methods

See Also

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

Examples

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

## End(Not run)
```

`PlotcovpEX` *Graphs of Coverage Probability - exact method*

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

```
## 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)
```

PlotcovpGEN *Plot of simulation based Coverage Probability with discrete values for p*

Description

Plot of simulation based Coverage Probability with discrete values for p

Usage

```
PlotcovpGEN(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

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

```
## 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
PlotcovpGEN(n,LL,UL,alp,hp,t1,t2)

## End(Not run)
```

PlotcovpLR *Plots Coverage Probability for base Likelihood Ratio method*

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` *Plots Coverage Probability for base Logit Wald method*

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

```
## 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)
```

`PlotcovpSC` *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"
`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 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

```
## 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

```
PlotcovpSIM(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

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

```
## 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)
```

PlotcovpTW *Plots Coverage Probability for base Wald-T method*

Description

Plots Coverage Probability for base Wald-T method

Usage

```
PlotcovpTW(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-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

```
## 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)
```

PlotcovpWD *Plots Coverage Probability for base Wald method*

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`, `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
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

```
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

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

PloterrAAS *Plots error, long term power and pass/fail criteria using adjusted ArcSine 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: `PloterrAAll`, `PloterrALR`, `PloterrALT`, `PloterrASC`, `PloterrATW`, `PloterrAWD`, `errAAS`, `errAAll`, `errALR`, `errALT`, `errASC`, `errATW`, `errAWD`

Examples

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

PloterrAll *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

```
PloterrAll(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

Other Error for base methods: PloterrAS, 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
PloterrAll(n,alp,phi,f)
```

PloterrALR — *Plots error, long term power and pass/fail criteria using adjusted Likelihood Ratio method*

Description

Plots error, long term power and pass/fail criteria using adjusted Likelihood Ratio method

Usage

```
PloterrALR(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 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)
```

PloterrALT — *Plots error, long term power and pass/fail criteria using adjusted Logit Wald method*

Description

Plots error, long term power and pass/fail criteria using adjusted Logit Wald method

Usage

```
PloterrALT(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 Logit Wald-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, PloterrASC, PloterrATW, PloterrAWD, errAAS, errAAll, errALR, errALT, errASC, errATW, errAWD

Examples

```
n=20; alp=0.05; h=2;phi=0.99; f=-2
PloterrALT(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)
```

PloterrATW *Plots error, long term power and pass/fail criteria using adjusted Wald-T method*

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
PloterrATW(n,alp,h,phi,f)
```

PloterrAWD — *Plots error, long term power and pass/fail criteria using adjusted Wald method*

Description

Plots error, long term power and pass/fail criteria using adjusted Wald method

Usage

```
PloterrAWD(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-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, PloterrATW, 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)
```

PloterrBA *Plots error, long term power and pass/fail criteria using Bayesian method*

Description

Plots error, long term power and pass/fail criteria using Bayesian method

Usage

```
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

```
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 calculaed 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

```
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

```
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

```
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

```
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

```
PloterrCTW(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 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

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

PloterrCWD	*Plots the error, long term power and pass/fail criteria for continuity corrected Wald method*

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, PloterrCAll, PloterrCLT, PloterrCSC, PloterrCTW, errCAS, errCAll, errCLT, errCSC, errCTW, errCWD

Examples

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

PloterrEX	*Plots error, long term power and pass/fail criteria using Exact method*

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 $H0 : p = p0$ 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

```
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=c(0.1,0.5,0.95,1) #Range including Mid-p and Clopper-Pearson
PloterrEX(n,alp,phi,f,e)
```

PloterrLR — *Plots error, long term power and pass/fail criteria using Likelihood Ratio method*

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
PloterrLR(n,alp,phi,f)
```

PloterrLT *Plots error, long term power and pass/fail criteria using Logit Wald method*

Description

Plots error, long term power and pass/fail criteria using Logit Wald method

Usage

```
PloterrLT(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 Logit Wald method

See Also

Other Error for base methods: PloterrAS, PloterrAll, PloterrBA, PloterrEX, PloterrLR, 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

```
PloterrSC(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 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; alp=0.05; phi=0.05; f=-2
PloterrSC(n,alp,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

```
PloterrTW(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-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

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

`PloterrWD` *Plots error, long term power and pass/fail criteria using Wald method*

Description

Plots error, long term power and pass/fail criteria using Wald method

Usage

```
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`, `PloterrTW`, `errAS`, `errAll`, `errBA`, `errEX`, `errLR`, `errLT`, `errSC`, `errTW`, `errWD`

Examples

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

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, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## Not run:
n= 10; alp=0.05; h=2;a=1;b=1;
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: PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## 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)
```

PlotexplALR *Plots the Expected length using adjusted Likelihood Ratio method*

Description

Plots the Expected length using adjusted Likelihood Ratio method

Usage

```
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

```
## 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, PlotexplALR, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## Not run:
n= 10; alp=0.05; h=2;a=1;b=1;
PlotexplALT(n,alp,h,a,b)

## End(Not run)
```

PlotexplAS *Plots ArcSine method of expected length*

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

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

## End(Not run)
```

PlotexplASC *Plots the Expected length using adjusted Score method*

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, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## 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

```
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

```
## Not run:
n= 10; alp=0.05; h=2;a=1;b=1;
PlotexplATW(n,alp,h,a,b)

## 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, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotlengthAAS, PlotlengthAAll, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## Not run:
n= 10; alp=0.05; h=2;a=1;b=1;
PlotexplAWD(n,alp,h,a,b)

## End(Not run)
```

PlotexplBA *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

```
## 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)
```

`PlotexplCAll` *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 correctection
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 `alp`, `h`, `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

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotexplCAll(n,alp,c,a,b)

## End(Not run)
```

PlotexplCAS — *Plots the Expected length using continuity corrected ArcSine method*

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 correctection
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

```
## 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 correctection
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

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotexplCLT(n,alp,c,a,b)

## End(Not run)
```

PlotexplCSC *Plots the Expected length using continuity corrected Score method*

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 correctection
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

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotexplCSC(n,alp,c,a,b)

## End(Not run)
```

PlotexplCTW *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 correctection
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

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotexplCTW(n,alp,c,a,b)

## End(Not run)
```

`PlotexplCWD` *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 correctection
`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

```
## 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 $H0 : p = p0$ 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

```
## 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)
```

PlotexplGEN — *Plot the expected length given hypothetical "p"*

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(0,0.01,0.0734,0.18237,0.3344,0.5492) #Lower and Upper Limits
UL=c(0.4507,0.6655,0.8176,0.9265,0.9899,1)
hp=seq(0,1,by=0.01)
PlotexplGEN(n,LL,UL,hp)
```

PlotexplLR — *Plots likelihood Ratio method of expected length*

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

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

## End(Not run)
```

PlotexplLT *Plots Logit Wald method of expected length*

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, 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=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

```
## 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

```
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

```
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; 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

```
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

```
## 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)
```

PlotlengthAAll	*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

```
PlotlengthAAll(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, PlotexplAAll, PlotexplALR, PlotexplALT, PlotexplASC, PlotexplATW, PlotexplAWD, PlotlengthAAS, PlotlengthALR, PlotlengthALT, PlotlengthASC, PlotlengthATW, PlotlengthAWD, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

```
## Not run:
n= 10; alp=0.05; h=2; a=1;b=1;
PlotlengthAAll(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

```
## 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, 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)
```

PlotlengthAS — *Plots ArcSine method of sum of length calculation*

Description

Plots ArcSine method of sum of length calculation

Usage

```
PlotlengthAS(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
PlotlengthAS(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

```
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

```
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

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

PlotlengthAWD *Plots the summary length using adjusted Wald method*

Description

Plots the summary length using adjusted Wald method

Usage

```
PlotlengthAWD(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, lengthAAS, lengthAAll, lengthALR, lengthALT, lengthASC, lengthATW, lengthAWD

Examples

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

`PlotlengthBA` *Plot the Bayesian method of length summary*

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

```
n=5; alp=0.05;a=1;b=1;a1=1;a2=1
PlotlengthBA(n,alp,a,b,a1,a2)
```

PlotlengthCAll *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

```
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

```
## Not run:
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotlengthCAll(n,alp,c,a,b)

## End(Not run)
```

`PlotlengthCAS` *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 correctection
`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 correctection
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

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotlengthCLT(n,alp,c,a,b)
```

PlotlengthCSC *Plots the sum of length using continuity corrected Score method*

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 correctection
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, PlotlengthCTW, PlotlengthCWD, lengthCAS, lengthCAll, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotlengthCSC(n,alp,c,a,b)
```

PlotlengthCTW *Plots the sum of length using continuity corrected Wald-T method*

Description

Plots the sum of length using continuity corrected Wald-T method

Usage

```
PlotlengthCTW(n, alp, c, a, b)
```

Arguments

n	- Number of trials
alp	- Alpha value (significance level required)
c	- Continuity correctection
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, PlotexplCTW, PlotexplCWD, PlotlengthCAS, PlotlengthCAll, PlotlengthCLT, PlotlengthCSC, PlotlengthCWD, lengthCAS, lengthCAll, lengthCLT, lengthCSC, lengthCTW, lengthCWD

Examples

```
n= 10; alp=0.05; c=1/(2*n);a=1;b=1;
PlotlengthCTW(n,alp,c,a,b)
```

PlotlengthCWD *Plots the sum of length using continuity corrected Wald method*

Description

Plots the sum of length using continuity corrected Wald method

Usage

```
PlotlengthCWD(n, alp, c, a, b)
```

Arguments

n	- Number of trials
alp	- Alpha value (significance level required)
c	- Continuity correctection
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;
PlotlengthCWD(n,alp,c,a,b)
```

PlotlengthEX *Plots the length summary for exact method*

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 $H0 : p = p0$ 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, PlotlengthAll, PlotlengthBA, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
## 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)
```

PlotlengthGEN *Plots the sum of lengths for a specific LL and UL*

Description

Plots the sum of lengths for a specific LL and UL

Usage

```
PlotlengthGEN(n, LL, UL, hp)
```

Arguments

n	- Number of trials
LL	- Lower limit
UL	- Upper limit
hp	- Hypothetical "p"

Details

Plot of intervals obtained from any method using sum of the lengths for the $n + 1$ intervals

See Also

Other Expected length: PlotexplGEN, PlotexplSIM, PlotlengthSIM, lengthGEN, lengthSIM

Examples

```
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)
```

PlotlengthLR *Plots likelihood Ratio method of sum of length calculation*

Description

Plots likelihood Ratio method of sum of length calculation

Usage

```
PlotlengthLR(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, PlotexplLR, PlotexplLT, PlotexplSC, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLT, PlotlengthSC, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1
PlotlengthLR(n,alp,a,b)
```

PlotlengthLT *Plots Logit Wald method of sum of length calculation*

Description

Plots Logit Wald method of sum of length calculation

Usage

```
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

See Also

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

Examples

```
n=5; alp=0.05;a=1;b=1
PlotlengthLT(n,alp,a,b)
```

PlotlengthSC — *Plots the length summary for Score method*

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, PlotlengthTW, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1
PlotlengthSC(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(0,0.01,0.0734,0.18237,0.3344,0.5492) #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)
```

`PlotlengthTW` *Plots Wald-T method of sum of length calculation*

Description

Plots Wald-T method of sum of length calculation

Usage

```
PlotlengthTW(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, PlotexplTW, PlotexplWD, PlotlengthAS, PlotlengthAll, PlotlengthBA, PlotlengthEX, PlotlengthLR, PlotlengthLT, PlotlengthSC, PlotlengthWD, lengthAS, lengthAll, lengthBA, lengthEX, lengthLR, lengthLT, lengthSC, lengthTW, lengthWD

Examples

```
n=5; alp=0.05;a=1;b=1
PlotlengthTW(n,alp,a,b)
```

`PlotlengthWD` *Plots the length summary for Wald method*

Description

Plots the length summary for Wald method

Usage

```
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)
```

PlotpCOpBIAAll — *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)*

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

```
## Not run:
n=5; alp=0.05;h=2
PlotpCOpBIAAll(n,alp,h)

## End(Not run)
```

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

```
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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: `PlotpCOpBIAS`, `PlotpCOpBIBA`, `PlotpCOpBIEX`, `PlotpCOpBILR`, `PlotpCOpBILT`, `PlotpCOpBISC`, `PlotpCOpBITW`, `PlotpCOpBIWD`, `pCOpBIAS`, `pCOpBIAll`, `pCOpBIBA`, `pCOpBIEX`, `pCOpBILR`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`, `pCOpBIWD`

Examples

```
## Not run:
n=5; alp=0.05
PlotpCOpBIAll(n,alp)

## End(Not run)
```

PlotpCOpBIALR *Plots p-confidence and p-bias for adjusted Likelihood Ratio method*

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)
```

PlotpCOpBIALT *Plots p-confidence and p-bias for adjusted Logit Wald method*

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: PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIASC, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD

Examples

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

PlotpCOpBIAS *Plots p-confidence and p-bias for base ArcSine method*

Description

Plots p-confidence and p-bias for base ArcSine method

Usage

```
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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
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

```
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

Other p-confidence and p-bias of adjusted methods: PlotpCOpBIAAS, PlotpCOpBIAAll, PlotpCOpBIALR, PlotpCOpBIALT, PlotpCOpBIATW, PlotpCOpBIAWD, pCOpBIAAS, pCOpBIAAll, pCOpBIALR, pCOpBIALT, pCOpBIASC, pCOpBIATW, pCOpBIAWD

Examples

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

PlotpCOpBIATW *Plots p-confidence and p-bias for adjusted Wald-T method*

Description

Plots p-confidence and p-bias for adjusted Wald-T method

Usage

```
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, pCOpBIATW, pCOpBIAWD

Examples

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

PlotpCOpBIAWD *Plots p-confidence and p-bias for adjusted Wald method*

Description

Plots p-confidence and p-bias for adjusted Wald method

Usage

```
PlotpCOpBIAWD(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`, `PlotpCOpBIAAll`, `PlotpCOpBIALR`, `PlotpCOpBIALT`, `PlotpCOpBIASC`, `PlotpCOpBIATW`, `pCOpBIAAS`, `pCOpBIAAll`, `pCOpBIALR`, `pCOpBIALT`, `pCOpBIASC`, `pCOpBIATW`, `pCOpBIAWD`

Examples

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

`PlotpCOpBIBA` *Plots p-confidence and p-bias for Bayesian method given n and alpha level and priors a & b*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05;a1=1;a2=1
PlotpCOpBIBA(n,alp,a1,a2)
```

PlotpCOpBICAll *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

```
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, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD

Examples

```
## Not run:
n=5; alp=0.05;c=1/(2*n)
PlotpCOpBICAll(n,alp,c)

## End(Not run)
```

PlotpCOpBICAS *Plots p-confidence and p-bias for continuity corrected ArcSine method*

Description

Plots p-confidence and p-bias for continuity corrected ArcSine method

Usage

```
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

```
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*

Description

Plots p-confidence and p-bias for continuity corrected Logit Wald method

Usage

```
PlotpCOpBICLT(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 Logit Wald method

See Also

Other p-confidence and p-bias of continuity corrected methods: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICSC, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, 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: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICLT, PlotpCOpBICTW, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD

Examples

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

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

```
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: PlotpCOpBICAS, PlotpCOpBICAll, PlotpCOpBICLT, PlotpCOpBICSC, PlotpCOpBICWD, pCOpBICAS, pCOpBICAll, pCOpBICLT, pCOpBICSC, pCOpBICTW, pCOpBICWD

Examples

```
n=5; alp=0.05;c=1/(2*n)
PlotpCOpBICTW(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; alp=0.05;c=1/(2*n)
PlotpCOpBICWD(n,alp,c)
```

`PlotpCOpBIEX` *Plots of p-confidence and p-bias of Exact method given n and alpha level*

Description

Plots of p-confidence and p-bias of Exact method given n and alpha level

Usage

```
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 $H0 : p = p0$ 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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: `PlotpCOpBIAS`, `PlotpCOpBIAll`, `PlotpCOpBIBA`, `PlotpCOpBILR`, `PlotpCOpBILT`, `PlotpCOpBISC`, `PlotpCOpBITW`, `PlotpCOpBIWD`, `pCOpBIAS`, `pCOpBIAll`, `pCOpBIBA`, `pCOpBIEX`, `pCOpBILR`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`, `pCOpBIWD`

Examples

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

PlotpCOpBIGEN *Plots p-Confidence and p-Bias estimation for general method*

Description

Plots p-Confidence and p-Bias estimation for general method

Usage

```
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

```
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;
PlotpCOpBIGEN(n,LL,UL)
```

PlotpCOpBILR *Plots p-confidence and p-bias for base Likelihood Ratio method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

PlotpCOpBILT *Plots p-confidence and p-bias for base Logit Wald method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

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)
```

PlotpCOpBISC *Plots p-confidence and p-bias for base Score method*

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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBITW, PlotpCOpBIWD, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05
PlotpCOpBISC(n,alp)
```

`PlotpCOpBITW` *Plots p-confidence and p-bias for base Wald-T method*

Description

Plots p-confidence and p-bias for base Wald-T method

Usage

```
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

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: `PlotpCOpBIAS`, `PlotpCOpBIAll`, `PlotpCOpBIBA`, `PlotpCOpBIEX`, `PlotpCOpBILR`, `PlotpCOpBILT`, `PlotpCOpBISC`, `PlotpCOpBIWD`, `pCOpBIAS`, `pCOpBIAll`, `pCOpBIBA`, `pCOpBIEX`, `pCOpBILR`, `pCOpBILT`, `pCOpBISC`, `pCOpBITW`, `pCOpBIWD`

Examples

```
n=5; alp=0.05
PlotpCOpBITW(n,alp)
```

PlotpCOpBIWD *Plots p-confidence and p-bias for base Wald method*

Description

Plots p-confidence and p-bias for base Wald method

Usage

```
PlotpCOpBIWD(n, alp)
```

Arguments

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

Details

p-confidence and p-bias plots for base Wald method

References

[1] 2005 Vos PW and Hudson S. Evaluation Criteria for Discrete Confidence Intervals: Beyond Coverage and Length. The American Statistician: 59; 137 - 142.

See Also

Other p-confidence and p-bias of base methods: PlotpCOpBIAS, PlotpCOpBIAll, PlotpCOpBIBA, PlotpCOpBIEX, PlotpCOpBILR, PlotpCOpBILT, PlotpCOpBISC, PlotpCOpBITW, pCOpBIAS, pCOpBIAll, pCOpBIBA, pCOpBIEX, pCOpBILR, pCOpBILT, pCOpBISC, pCOpBITW, pCOpBIWD

Examples

```
n=5; alp=0.05
PlotpCOpBIWD(n,alp)
```

probPOS	*Bayesian posterior Probabilities*

Description

Bayesian posterior Probabilities

Usage

```
probPOS(n, a, b, th)
```

Arguments

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 $x = 0, 1, 2......n$ where n is the number of trials

Value

A dataframe with

x	Number of successes
PosProb	Posterior probability

References

[1] 2002 Gelman A, Carlin JB, Stern HS and Dunson DB Bayesian Data Analysis, Chapman & Hall/CRC [2] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

See Also

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

Examples

```
n=5;  a=0.5; b=0.5; th=0.5;
probPOS(n,a,b,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 $x = 0, 1, 2......n$ where n is the number of trials

Value

A dataframe with

x	Number of successes
PosProb	Posterior probability

References

[1] 2002 Gelman A, Carlin JB, Stern HS and Dunson DB Bayesian Data Analysis, Chapman & Hall/CRC [2] 2006 Ghosh M, Delampady M and Samanta T. An introduction to Bayesian analysis: Theory and Methods. Springer, New York

See Also

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

Examples

```
x=5; n=5;  a=0.5; b=0.5; th=0.5;
probPOSx(x,n,a,b,th)
```

probPRE *The Predicted probability - Bayesian approach*

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

[1] 2002 Gelman A, Carlin JB, Stern HS and Dunson DB Bayesian Data Analysis, Chapman & Hall/CRC

See Also

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

Examples

```
n=10; m=5; a1=0.5; a2=0.5
probPRE(n,m,a1,a2)
```

probPREx — *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

[1] 2002 Gelman A, Carlin JB, Stern HS and Dunson DB Bayesian Data Analysis, Chapman & Hall/CRC

See Also

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

Examples

```
x=0; n=1; xnew=10; m=10; a1=1; a2=1
probPREx(x,n,xnew,m,a1,a2)
```

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