

Package ‘HierO’

February 19, 2015

Type Package

Title A graphical user interface for calculating power and sample size for hierarchical data

Version 0.2

Date 2015-01-13

Author Kari Tokola

Maintainer Kari Tokola <kari.tokola@gmail.com>

Description HierO is a graphical user interface (GUI) tool for calculating optimal statistical power and sample size for hierarchical data structure. HierO constructs a user defined sample size optimization problem to GAMS (General Algebraic Modeling System) form and uses Rneos package to send the problem to NEOS server for solving.

License GPL-2

Depends methods, rneos

Imports RCurl, bitops, XML, tcltk, tcltk2

Suggests XMLRPC

Additional_repositories <http://www.omegahat.org/R>

NeedsCompilation no

Repository CRAN

Date/Publication 2015-01-13 13:58:40

R topics documented:

HierO-package	2
calcPower	2
delta2	3
HierO	4
hieroClass-class	4
hieroEnv	5

Index	6
--------------	----------

HierO-package	<i>GUI for optimizing hierarchical data structure</i>
---------------	---

Description

HierO is a tcltk based graphical user interface (GUI) for optimizing hierarchical data structure. HierO constructs a user defined optimization problem to GAMS (General Algebraic Modeling System) form and uses Rneos package to send the problem to NEOS server for solving.

Details

Package: HierO
 Type: Package
 Version: 0.1
 Date: 2014-09-12
 License: GPL-2
 Depends: methods, rneos, RCurl, XMLRPC, bitops, XML, tcltk, tcltk2

Author(s)

Kari Tokola
 Maintainer: Kari Tokola <kari.tokola@gmail.com>

calcPower	<i>Statistical power calculator</i>
-----------	-------------------------------------

Description

Calculates statistical power for given type I error (alpha), effect size (Delta) and noncentrality parameter (ncpar) of a non-central chi-square distribution

Usage

```
calcPower(alpha = hieroEnv$res.alpha,  
Delta = hieroEnv$res.Delta,ncpar = hieroEnv$res.con)
```

Arguments

alpha	Type I error
Delta	Effect size
ncpar	Effect size ² / Noncentrality parameter of a non-central chi-square distribution

Value

Returns statistical power for given constants.

Author(s)

Kari Tokola

See Also

[delta2](#)

Examples

```
## Not run:  
calcPower(alpha=0.05, Delta=5, ncp=3.185)  
  
## End(Not run)
```

delta2

Noncentrality parameter calculator

Description

Calculates noncentrality parameter of a non-central chi-square distribution for given type I error (alpha, size) and type II error (power, 1-beta).

Usage

```
delta2(size = size, power = power)
```

Arguments

size	type I error
power	1 - type II error (beta)

Value

Returns noncentrality parameter value

Author(s)

Kari Tokola

See Also

[calcPower](#)

Examples

```

## Not run:
  delta2(0.05, 0.8)

## End(Not run)

```

 HierO

GUI for hierarchical data

Description

HierO is a graphical user interface (GUI) tool for calculating optimal statistical power and sample size for hierarchical data structure.

Usage

```
HierO()
```

Details

HierO constructs a user defined sample size optimization problem to GAMS (General Algebraic Modeling System) form and uses Rneos package to send the problem to NEOS server for solving.

Author(s)

Kari Tokola

References

<http://onlinelibrary.wiley.com/doi/10.1111/stan.12026/abstract>

 hieroClass-class

Class "hieroClass"

Description

A class for HierO objects

Objects from the Class

A virtual Class: No objects may be created from it.

Slots

.S3Class: Object of class "character"

Methods

No methods defined with class "hierClass" in the signature.

Author(s)

Kari Tokola

Examples

```
showClass("hierClass")
```

hierEnv

HierO environment

Description

Environment for HierO objects.

Format

The format is: <environment: 0x075454d8>

Index

*Topic **\textasciitildemath**

calcPower, [2](#)

*Topic **classes**

hieroClass-class, [4](#)

*Topic **datasets**

hieroEnv, [5](#)

*Topic **math**

delta2, [3](#)

*Topic **package**

Hier0-package, [2](#)

calcPower, [2](#), [3](#)

delta2, [3](#), [3](#)

Hier0, [4](#)

Hier0-package, [2](#)

hieroClass-class, [4](#)

hieroEnv, [5](#)