Package ‘robsel’

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Author Chau Tran [aut, cre],
        Sang-Yun Oh [aut],
        Pedro Cisneros-Velarde [aut],
        Alexander Petersen [aut]
Maintainer Chau Tran <chautran@ucsb.edu>
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Description

Robust Selection algorithm for estimation of the regularization parameter for Graphical Lasso

Usage

robsel(x, alpha = 0.9, B = 200)

Arguments

x A n-by-p data matrix
alpha Prespecified confidence level. Default 0.9
B Number of bootstrap sample. Default 200

Value

lambda Estimation of the regularization parameter for Graphical Lasso. A vector of lambda will be return if more than 1 value of alpha is provided.

References


See Also

robsel.glasso for using Graphical Lasso algorithm with estimate regularization parameter lambda from Robust Selection.

Examples

```r
set.seed(17)
library(robsel)
x <- matrix(rnorm(50*20), ncol=20)
#Compute estimation of lambda at confidence level alpha
lambda <- robsel(x = x, alpha = 0.9, B = 200)
```
Description
Fit Graphical Lasso with estimate regularization parameter from Robust Selection

Usage
robsel.glasso(x, alpha = 0.9, B = 200, ...)

Arguments
- x: A n-by-p data matrix
- alpha: Prespecified confidence level. Default 0.9
- B: Number of bootstrap sample. Default 200
- ...: Optional arguments passed on to glasso.

Value
A list with components:
- alpha: A list of prespecified confidence level
- lambda: A list of estimate regularization parameter for Graphical Lasso
- Omega: A list of estimated inverse covariance matrix
- Sigma: A list of estimated covariance matrix

Note
Each item in each component corresponds to a prespecified level alpha.

References
See Also

robsel for Robust Selection algorithm, glasso for Graphical Lasso algorithm.

Examples

```r
set.seed(17)
library(robsel)
x <- matrix(rnorm(50*20), ncol=20)

# Use Graphical Lasso with estimate regularization parameter lambda from RobSel
fit <- robsel.glasso(x = x, alpha = 0.9, B = 200)
```
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