Package 'equalCovs'

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Type Package

Title Testing the Equality of Two Covariance Matrices

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Suggests mvtnorm

Description Tests the equality of two covariance matrices, used in paper ``Two sample tests for high dimensional covariance matrices." Li and Chen (2012) <arXiv:1206.0917>.

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R topics documented:

`equalCovs` *Testing the equality of two covariance matrices.*

Description

R code for testing the equality of two covariance matrices, used in paper "Two sample tests for high dimensional covariance matrices".

Usage

```
equalCovs(sam1, sam2, size1, size2)
```

Arguments

sam1	First sample, it must be array with structure size1*p, p is the dimension of data.
sam2	Second sample, it must be array with structure size2*p, p is the dimension of data.
size1	sample size of first sample
size2	sample size of second sample

Value

test statistics and p-values

test_stat	test statistics
pvalue	p-values

Author(s)

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Examples

```
library(mvtnorm)
p<-700 # the dimension of multivariate

theta1<-2
theta2<-1
mat1<-diag(theta1,p-1)
mat2<-diag(theta1+theta1*theta2,p-1)
mat3<-diag(theta2,p-2)

mat1<-rbind(mat1,rep(0,p-1))
mat2<-rbind(mat2,rep(0,p-1))
mat3<-rbind(mat3,rep(0,p-2),rep(0,p-2))

mat1<-cbind(rep(0,p),mat1)
mat2<-cbind(rep(0,p),mat2)
mat3<-cbind(rep(0,p),rep(0,p),mat3)
sigma1<-mat1+t(mat1)+diag(1+theta1^2,p)
sigma2<-mat2+t(mat2)+mat3+t(mat3)+diag(1+theta1^2+theta2^2,p)

size1<-80
size2<-80
sam1<-rmvnorm(size1,runif(p,0,5),sigma1) # generate the samples
sam2<-rmvnorm(size2,runif(p,-3,3),sigma2)

equalCovs(sam1,sam2,size1,size2)
```

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