Package 'sdat'

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Type Package

Title Signal Detection via Adaptive Test

Version 1.1

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Depends R (>= 3.0.0)

Description Test the global null in linear models using marginal approach.

License GPL (>= 2)

URL https://yichi-zhang.github.io

NeedsCompilation yes

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R topics documented:

`sdat-package` *Signal Detection via Adaptive Test*

Description

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Details

The DESCRIPTION file:

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Type:	Package
Title:	Signal Detection via Adaptive Test
Version:	1.1
Date:	2018-04-13
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Author:	Yichi Zhang [aut, cre]
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The main function is `marginal.test`.

Author(s)

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`marginal.test` *Tests for signal detection via marginal approach*

Description

Conduct the sum-test, max-test and adaptive-test for testing beta = 0 in a linear model y = x^T beta + epsilon.

Usage

```
marginal.test(x, y, num_sim = 5000L)
```

Arguments

x	the predictors, an n by p matrix
y	the responses, a vector of length n
num_sim	the number of resampling simulations to obtain the null distribution of the test statistic

Details

See the reference for a detailed description of the method.

Value

`marginal.test` returns a self-explanatory named vector.

References

Zhang, Y., Laber E. B. (2015). Comment on "An adaptive resampling test for detecting the presence of signifficant predictors". Journal of the American Statistical Association, 110(512), 1451-1454.

Examples

```
n <- 100
p <- 10
x <- matrix(rnorm(n * p), n, p)
y <- 0.3 * x[, 1] + rnorm(n)
result <- marginal.test(x, y)
result[1 : 3]  # gives p-values of max-test, sum-test and adaptive-test
result[4]      # gives running time in seconds
```

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