

Package: LePage (via r-universe)

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Type Package

Title LePage Type Tests

Version 1.0

Date 2025-09-25

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Depends R (>= 4.0)

Imports Rfast, stats

Suggests Rfast2

Description Location and scale hypothesis testing using the LePage test and variants of its as proposed by Hussain A. and Tsagris M. (2025), <doi:10.48550/arXiv.2509.19126>.

License GPL (>= 2)

NeedsCompilation no

Repository <https://cran.r-universe.dev>

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LePage-package

LePage type tests

Description

LePage type tests

Details

Package: LePage
Type: Package
Version: 1.0
Date: 2025-09-25
License: GPL-2

Maintainers

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Author(s)

Abid Hussain <abid0100@gmail.com> and Michail Tsagris <mtsagris@uoc.gr>.

References

Hussain A. and Tsagris M. (2025). Modified Lepage-type test statistics for the weak null hypothesis.
<https://arxiv.org/pdf/2509.19126>

col.lepage*Column-wise LePage type tests*

Description

Column-wise LePage type tests

Usage

col.lepage(x, y)

Arguments

x	A numerical matrix with data, where each column corresponds to the first sample.
y	A numerical matrix with data, where each column corresponds to the second sample.

Details

The classical LePage and 5 variants of it are performed, as proposed by Hussain and Tsagris (2025). The test is performed for each pair of columns of the x and y matrices, between the i-th column of and y.

Value

A list including:

statistic	A matrix with 6 columns, where each column contains each test statistic and each row refers to the pair of groups.
pvalue	A matrix with 6 columns, where each column contains each p-value and each row refers to the pair of groups.

Author(s)

Abid Hussain and Michail Tsagris.

R implementation and documentation: Abid Hussain <abid0100@gmail.com> and Michail Tsagris <mtsagris@uoc.gr>.

References

Hussain A. and Tsagris M. (2025). Modified LePage-type test statistics for the weak null hypothesis. <https://arxiv.org/pdf/2509.19126>

See Also

[lepage](#)

Examples

```
x <- matrix( rnorm(30 * 5), ncol = 5 )
y <- matrix( rnorm(31 * 5), ncol = 5 )
col.lepage(x, y)
```

lepage

LePage type tests

Description

LePage type tests

Usage

```
lepage(x, y)
```

Arguments

x	A numerical vector with data of the first sample.
y	A numerical vector with data of the second sample.

Details

The classical LePage and 5 variants of it are performed, as proposed by Hussain and Tsagris (2025).

Value

A matrix with 6 columns and two rows. The first row refers to the 6 test statistics and the second row to their corresponding p-values.

Author(s)

Abid Hussain and Michail Tsagris.

R implementation and documentation: Abid Hussain <abid0100@gmail.com> and Michail Tsagris <mtsagris@uoc.gr>.

References

Hussain A. and Tsagris M. (2025). Modified Lepage-type test statistics for the weak null hypothesis. <https://arxiv.org/pdf/2509.19126>

See Also

[col.lepage](#)

Examples

```
x <- rnorm(30)
y <- rnorm(40)
lepage(x, y)
```

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