

Package: infotest (via r-universe)

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Type Package

Title Information Matrix Test for Regression Models

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Description infotest runs an information matrix test for a regression and splits it into three components—tests for heteroskedasticity, skewness, and kurtosis (Cameron & Trivedi, 1990)

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 7.3.3

URL <https://github.com/guliyevh/infotest>

BugReports <https://github.com/guliyevh/infotest/issues>

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

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`infotest`*Information Matrix Test for Regression Models*

Description

`infotest()` applies the Information Matrix (IM) test to a fitted `lm` model and reports the Cameron & Trivedi (1990) decomposition into heteroskedasticity, skewness, and kurtosis components. Optionally, White's (1980) heteroskedasticity test is also reported.

Usage

```
infotest(model, white = TRUE)
```

Arguments

<code>model</code>	A fitted <code>lm</code> object.
<code>white</code>	Logical; if TRUE, also compute and report White's test (default TRUE).

Details

Information Matrix (IM) Test for `lm()` Models

The function checks that `model` is an `lm` fit and refuses weighted models. The intercept is removed from the design matrix, regressors are centered, and quadratic terms are constructed for the auxiliary regressions used by the IM and White tests. Test statistics are computed as chi-square values with associated degrees of freedom. A formatted table is printed to the console; the full results are returned invisibly.

Value

Invisibly returns a list with:

- `decomposition`: a list with components heteroskedasticity, skewness, kurtosis, and total, each providing `chi2`, `df`, and `p`.
- `white`: (only when `white = TRUE`) a list with `chi2`, `df`, and `p`.

Warnings

- Weighted `lm` fits are not supported.
- If there are no covariates (intercept-only model), the test is skipped with a message.

Author(s)

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References

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817–838.

Cameron, A. C., & Trivedi, P. K. (1990). The information matrix test and its applied alternatives. *Econometric Theory*, 6(2), 179–195.

See Also

[lm](#), [pchisq](#)

Examples

```
m <- lm(Sepal.Length ~ Sepal.Width + Petal.Length, data = iris)
infotest(m)
infotest(m, white = TRUE)
res <- invisible(infotest(m))
str(res$decomposition)
```

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