

Package ‘LinearRegressionMDE’

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Title Minimum Distance Estimation in Linear Regression Model

Version 1.0

Description Consider linear regression model $Y = Xb + \text{error}$ where the distribution function of errors is unknown, but errors are independent and symmetrically distributed. The package contains a function named LRMDE which takes Y and X as input and returns minimum distance estimator of parameter b in the model.

Depends R ($\geq 3.2.2$)

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LazyData true

NeedsCompilation no

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LRMDE	<i>Performs minimum distance estimation in linear regression model: $Y=Xb + \text{error}$</i>
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Description

Performs minimum distance estimation in linear regression model: $Y=Xb + \text{error}$

Usage

LRMDE(Y, X)

Arguments

- Y - Response variable in linear regression model
X - Explanatory variable in linear regression model

Value

Returns `bhat` - Minimum distance estimator of `b`

References

- [1] Koul, H. L (1985). Minimum distance estimation in linear regression with unknown error distributions. *Statist. Probab. Lett.*, 3 1-8.
[2] Koul, H. L (1986). Minimum distance estimation and goodness-of-fit tests in first-order autoregression. *Ann. Statist.*, 14 1194-1213.
[3] Koul, H. L (2002). *Weighted empirical process in nonlinear dynamic models*. Springer, Berlin, Vol. 166

See Also

ARMDE

Examples

```
X <- matrix(c(1,1,3,4, 4,2), nrow=3, ncol=2)
Y <- c(1,-5, 8)
bhat <- LRMDE(Y,X)
```

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