

Package ‘metaVAR’

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Title Multivariate Meta-Analysis of Vector Autoregressive Model Coefficients
Version 0.9.1
Description Estimates the mean vector and covariance matrix of the multivariate meta-analysis of vector autoregressive model coefficients.
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<https://jeksterslab.github.io/metaVAR/>
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 coef.metavarmeta

Estimated Parameter Method for an Object of Class metavarmeta

Description

Estimated Parameter Method for an Object of Class metavarmeta

Usage

```
## S3 method for class 'metavarmeta'
coef(object, ...)
```

Arguments

object an object of class metavarmeta.
 ... further arguments.

Value

Returns a vector of the mean estimated parameters.

Author(s)

Ivan Jacob Agaloos Pesigan

 Meta

Fit Multivariate Meta-Analysis

Description

This function estimates the mean and covariance matrix of a vector of coefficients using the estimated coefficients and sampling variance-covariance matrix from each individual.

Usage

```
Meta(
  y,
  v,
  mu_start = NULL,
  mu_lbound = NULL,
  mu_ubound = NULL,
  sigma_l_start = NULL,
  sigma_l_lbound = NULL,
  sigma_l_ubound = NULL,
  try = 1000,
  ncores = NULL
)
```

Arguments

y	A list. Each element of the list is a numeric vector of estimated coefficients.
v	A list. Each element of the list is a sampling variance-covariance matrix of y.
mu_start	Numeric vector. Optional vector of starting values for mu.
mu_lbound	Numeric vector. Optional vector of lower bound values for mu.
mu_ubound	Numeric vector. Optional vector of upper bound values for mu.
sigma_l_start	Numeric matrix. Optional matrix of starting values for t(chol(sigma)).
sigma_l_lbound	Numeric matrix. Optional matrix of lower bound values for t(chol(sigma)).
sigma_l_ubound	Numeric matrix. Optional matrix of upper bound values for t(chol(sigma)).
try	Positive integer. Number of extra tries for <code>OpenMx::mxTryHard()</code> .
ncores	Positive integer. Number of cores to use.

Details

For $i = \{1, \dots, n\}$, the objective function used to estimate the mean μ and covariance matrix Σ of the random coefficients y_i is given by

$$\ell(\mu, \Sigma \mid y_i, \mathbb{V}(y_i)) = -\frac{1}{2} \left[q \log(2\pi) + \log(|\mathbb{V}(y_i) - \Sigma|) + (y_i - \mu)' (\mathbb{V}(y_i) - \Sigma)^{-1} (y_i - \mu) \right]$$

where q is the number of unique elements in μ and Σ , and $\mathbb{V}(y_i)$ is the sampling variance-covariance matrix of y_i .

Author(s)

Ivan Jacob Agaloos Pesigan

print.metavarmeta *Print Method for Object of Class metavarmeta*

Description

Print Method for Object of Class metavarmeta

Usage

```
## S3 method for class 'metavarmeta'
print(x, alpha = 0.05, digits = 4, ...)
```

Arguments

x	an object of class metavarmeta.
alpha	Numeric vector. Significance level α .
digits	Integer indicating the number of decimal places to display.
...	further arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

summary.metavarmeta	<i>Summary Method for Object of Class metavarmeta</i>
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Description

Summary Method for Object of Class metavarmeta

Usage

```
## S3 method for class 'metavarmeta'  
summary(object, alpha = 0.05, digits = 4, ...)
```

Arguments

object	an object of class metavarmeta.
alpha	Numeric vector. Significance level α .
digits	Integer indicating the number of decimal places to display.
...	further arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

vcov.metavarmeta	<i>Variance-Covariance Matrix Method for an Object of Class metavarmeta</i>
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Description

Variance-Covariance Matrix Method for an Object of Class metavarmeta

Usage

```
## S3 method for class 'metavarmeta'  
vcov(object, ...)
```

Arguments

object	an object of class metavarmeta.
...	further arguments.

Value

Returns the variance-covariance matrix of the estimated parameters.

Author(s)

Ivan Jacob Agaloos Pesigan

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