Package 'manMetaVAR'

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Title Multivariate Meta-Analysis of Vector Autoregressive Model
Coefficients

Version 0.9.1

Description Research compendium for the manuscript
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Multivariate Meta-Analysis of Vector Autoregressive Model Coefficients.
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BugReports https://github.com/jeksterslab/manMetaVAR/issues

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Suggests knitr, rmarkdown, testthat

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NeedsCompilation no

Author Ivan Jacob Agaloos Pesigan [aut, cre, cph] (ORCID:
<https://orcid.org/0000-0003-4818-8420>)

Maintainer Ivan Jacob Agaloos Pesigan <r.jeksterslab@gmail.com>

Contents

Compress   *Compress Replication*

Description

Compress Replication

Usage

```
Compress(taskid, repid, output_folder)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.

Value

The output is saved as an external file in `output_folder`.

Author(s)

Ivan Jacob Agaloos Pesigan

FitDTVAR   *Fit the Model using the fitDTVARMx Package*

Description

The function fits the model using the [fitDTVARMx](#) package.

Usage

```
FitDTVAR(data, ncores = NULL)
```

Arguments

data   R object. Output of the [GenData()](#) function.

ncores   Positive integer. Number of cores to use.

See Also

Other Model Fitting Functions: [FitJAGS()](#), [FitMLVAR()](#)

Examples

```
## Not run:
set.seed(42)
data <- GenData(taskid = 1)
fit <- FitDTVAR(
  data = data,
  ncores = parallel::detectCores()
)
summary(fit)

## End(Not run)
```

FitJAGS   *Fit the Model using JAGS*

Description

The function fits the model using JAGS.

Usage

```
FitJAGS(
  data,
  n_chains = 4,
  n_adapt = 1000,
  n_iter = 1000,
  thin = 1,
  ess_crit = 200,
  max_iter = 1L,
  seed = NULL
)
```

Arguments

data	R object. Output of the `GenData()` function.
n_chains	The number of parallel chains for the model.
n_adapt	The number of iterations for adaptation.
n_iter	Number of iterations to monitor.
thin	Thinning interval for monitors.
ess_crit	Positive integer. Effective sample size critria.
max_iter	Positive integer. Maximum number of reruns to get effective sample size.
seed	Integer. Random seed.

See Also

Other Model Fitting Functions: `FitDTVAR()`, `FitMLVAR()`

Examples

```
## Not run:
set.seed(42)
data <- GenData(taskid = 1)
fit <- FitJAGS(data = data)
summary(fit)

## End(Not run)
```

FitMetaVAR   *Multivariate Meta-Analysis using the metaVAR Package*

Description

The function performs multivariate meta-snalysis using the metaVAR package.

Usage

```
FitMetaVAR(fit, ncores = NULL)
```

Arguments

fit	R object. Output of the `FitDTVARMx()` function.
ncores	Positive integer. Number of cores to use.

Examples

```
## Not run:
set.seed(42)
data <- GenData(taskid = 1)
fit <- FitDTVAR(
  data = data,
  ncores = parallel::detectCores()
)
pooled <- FitMetaVAR(
  fit = fit,
  ncores = parallel::detectCores()
)
summary(pooled)

## End(Not run)
```

FitMLVAR   *Fit the Model using the mlVAR Package*

Description

The function fits the model using the mlVAR package.

Usage

```
FitMLVAR(data, ncores = NULL)
```

Arguments

data	R object. Output of the `GenData()` function.
ncores	Positive integer. Number of cores to use.

See Also

Other Model Fitting Functions: `FitDTVAR()`, `FitJAGS()`

Examples

```
## Not run:
set.seed(42)
data <- GenData(taskid = 1)
fit <- FitMLVAR(data = data)
summary(fit)

## End(Not run)
```

GenData   *Simulate Data*

Description

The function simulates data using the simStateSpace::SimSSMIVary() function.

Usage

```
GenData(taskid)
```

Arguments

taskid   Positive integer. Task ID.

Examples

```
## Not run:
set.seed(42)
data <- GenData(taskid = 1)

## End(Not run)
```

---

params   *Simulation Parameters*

Description

Simulation Parameters

Usage

```
params
```

Format

A dataframe with 25 rows and 3 columns:

taskid Simulation Task ID.

n Sample size.

time Number of measurement occassions.

Author(s)

Ivan Jacob Agaloos Pesigan

---

plot.manmetavar_data   *Plot Method for an Object of Class* manmetavar_data

---

Description

Plot Method for an Object of Class manmetavar_data

Usage

```
## S3 method for class 'manmetavar_data'
plot(x, ...)
```

Arguments

x	Object of class manmetavar_data.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

Sim   *Simulation Replication*

Description

Simulation Replication

Usage

```
Sim(
  taskid,
  repid,
  output_folder,
  overwrite,
  integrity,
  seed,
  n_chains,
  n_adapt,
  n_iter,
  thin,
  ess_crit,
  max_iter,
  run_jags
)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
overwrite	Logical. Overwrite existing output in output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = FALSE.
seed	Integer. Random seed.
n_chains	The number of parallel chains for the model.
n_adapt	The number of iterations for adaptation.
n_iter	Number of iterations to monitor.
thin	Thinning interval for monitors.
ess_crit	Positive integer. Effective sample size critria.
max_iter	Positive integer. Maximum number of reruns to get effective sample size.
run_jags	Logical. If run_jags = TRUE, run JAGS model.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimFitDTVAR   *Simulation Replication - FitDTVAR*

Description

Simulation Replication - FitDTVAR

Usage

```
SimFitDTVAR(taskid, repid, output_folder, seed, suffix, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
seed	Integer. Random seed.
suffix	Character string. Output of manCTMed:::.SimSuffix().
overwrite	Logical. Overwrite existing output in output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = FALSE.

Details

This function is executed via the Sim function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimFitJAGS   *Simulation Replication - FitJAGS*

Description

Simulation Replication - FitJAGS

Usage

```
SimFitJAGS(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  n_chains,
  n_adapt,
  n_iter,
  thin,
  ess_crit,
  max_iter
)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
seed	Integer. Random seed.
suffix	Character string. Output of manCTMed:::.SimSuffix().
overwrite	Logical. Overwrite existing output in output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = FALSE.
n_chains	The number of parallel chains for the model.
n_adapt	The number of iterations for adaptation.
n_iter	Number of iterations to monitor.
thin	Thinning interval for monitors.
ess_crit	Positive integer. Effective sample size critria.
max_iter	Positive integer. Maximum number of reruns to get effective sample size.

Details

This function is executed via the `Sim` function.

Value

The output is saved as an external file in `output_folder`.

Author(s)

Ivan Jacob Agaloos Pesigan

SimFitMetaVAR   *Simulation Replication - FitMetaVAR*

Description

Simulation Replication - FitMetaVAR

Usage

```
SimFitMetaVAR(taskid, repid, output_folder, seed, suffix, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
seed	Integer. Random seed.
suffix	Character string. Output of `manCTMed:::.SimSuffix()`.
overwrite	Logical. Overwrite existing output in `output_folder`.
integrity	Logical. If `integrity = TRUE`, check for the output file integrity when `overwrite = FALSE`.

Details

This function is executed via the `Sim` function.

Value

The output is saved as an external file in `output_folder`.

Author(s)

Ivan Jacob Agaloos Pesigan

| SimFitMLVAR | *Simulation Replication - FitMLVAR* |

Description

Simulation Replication - FitMLVAR

Usage

```
SimFitMLVAR(taskid, repid, output_folder, seed, suffix, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
seed	Integer. Random seed.
suffix	Character string. Output of manCTMed:::.SimSuffix().
overwrite	Logical. Overwrite existing output in output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = FALSE.

Details

This function is executed via the Sim function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimFN *Simulation File Name*

Description

Simulation File Name

Usage

```
SimFN(output_type, output_folder, suffix)
```

Arguments

output_type	Character string. Output type. Valid values include "data", "fit-dt-var-mx", "fit-meta-var-mx", "fit-ml-var", and "fit-jags".
output_folder	Character string. Output folder.
suffix	Character string. Output of manCTMed:::.SimSuffix().

Value

Returns a character string file name with the output_folder in the OS-specific format.

SimGenData *Simulation Replication - GenData*

Description

Simulation Replication - GenData

Usage

```
SimGenData(taskid, repid, output_folder, seed, suffix, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
repid	Positive integer. Replication ID.
output_folder	Character string. Output folder.
seed	Integer. Random seed.
suffix	Character string. Output of manCTMed:::.SimSuffix().
overwrite	Logical. Overwrite existing output in output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = FALSE.

Details

This function is executed via the Sim function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimProj *Simulation Project Name*

Description

Simulation Project Name

Usage

```
SimProj()
```

Value

Returns the project name as a character string.

Author(s)

Ivan Jacob Agaloos Pesigan

---

summary.manmetavar_data

Summary Method for an Object of Class manmetavar_data

Description

Summary Method for an Object of Class manmetavar_data

Usage

```
## S3 method for class 'manmetavar_data'
summary(object, ...)
```

Arguments

object	Object of class manmetavar_data.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

---

summary.manmetavar_fitdtvar

Summary Method for an Object of Class manmetavar_fitdtvar

Description

Summary Method for an Object of Class manmetavar_fitdtvar

Usage

```
## S3 method for class 'manmetavar_fitdtvar'
summary(object, ...)
```

Arguments

object	Object of class manmetavar_fitdtvar.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

---

summary.manmetavar_fitjags

Summary Method for an Object of Class manmetavar_fitjags

Description

Summary Method for an Object of Class manmetavar_fitjags

Usage

```
## S3 method for class 'manmetavar_fitjags'
summary(object, ...)
```

Arguments

object	Object of class manmetavar_fitjags.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

---

summary.manmetavar_fitmetavar

Summary Method for an Object of Class manmetavar_fitmetavar

Description

Summary Method for an Object of Class manmetavar_fitmetavar

Usage

```
## S3 method for class 'manmetavar_fitmetavar'
summary(object, ...)
```

Arguments

object	Object of class manmetavar_fitmetavar.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

---

summary.manmetavar_fitmlvar

Summary Method for an Object of Class manmetavar_fitmlvar

Description

Summary Method for an Object of Class manmetavar_fitmlvar

Usage

```
## S3 method for class 'manmetavar_fitmlvar'
summary(object, ...)
```

Arguments

object	Object of class manmetavar_fitmlvar.
...	additional arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

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