

Package ‘manMetaVAR’

August 3, 2024

Title Multivariate Meta-Analysis of Vector Autoregressive Model
Coefficients

Version 0.9.1

Description Research compendium for the manuscript
Pesigan, I. J. A., et al. (2024).
Multivariate Meta-Analysis of Vector Autoregressive Model Coefficients.
<doi:10.0000/0000000000>.

URL <https://github.com/jeksterslab/manMetaVAR>,
<https://jeksterslab.github.io/manMetaVAR/>,
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BugReports <https://github.com/jeksterslab/manMetaVAR/issues>

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LazyData true

Roxygen list(markdown = TRUE)

Depends R (>= 3.5.0), OpenMx, fitDTVARMx, metaVAR

Imports simStateSpace, mlVAR

Remotes jeksterslab/fitDTVARMx, jeksterslab/metaVAR

Suggests knitr, rmarkdown, testthat

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NeedsCompilation no

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| | |
|----------|-----------------------------|
| Compress | <i>Compress Replication</i> |
|----------|-----------------------------|

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

FitDTVARMx*Fit the Model using the fitDTVARMx Package*

Description

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

Usage

```
FitDTVARMx(data)
```

Arguments

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

See Also

Other Model Fitting Functions: [FitMLVAR\(\)](#)

Examples

```
## Not run:
set.seed(42)
data <- GenData(n = 50, time = 100, theta = 0.2)
FitDTVARMx(data)

## End(Not run)
```

FitMetaVARMx*Multivariate Meta-Analysis using the metaVAR Package*

Description

The function performs multivariate meta-analysis using the [metaVAR](#) package.

Usage

```
FitMetaVARMx(fit)
```

Arguments

fit R object. Output of the [FitDTVARMx\(\)](#) function.

Examples

```
## Not run:
set.seed(42)
data <- GenData(n = 50, time = 100, theta = 0.2)
fit <- FitDTVARMx(data)
FitMetaVARMx(fit)

## End(Not run)
```

FitMLVAR

Fit the Model using the mlVAR Package

Description

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

Usage

```
FitMLVAR(data)
```

Arguments

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

See Also

Other Model Fitting Functions: [FitDTVARMx\(\)](#)

Examples

```
## Not run:
set.seed(42)
data <- GenData(n = 50, time = 100, theta = 0.2)
FitMLVAR(data)

## End(Not run)
```

GenData*Simulate Data*

Description

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

Usage

```
GenData(n, time, theta)
```

Arguments

| | |
|--------------------|--|
| <code>n</code> | Positive integer. Sample size. |
| <code>time</code> | Positive integer. Number of time points. |
| <code>theta</code> | Numeric. Measurement error variance. |

Examples

```
## Not run:  
set.seed(42)  
data <- GenData(n = 50, time = 100, theta = 0.2)  
plot(data)  
  
## 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 occasions.

Author(s)

Ivan Jacob Agaloos Pesigan

| | |
|-----|-------------------------------|
| Sim | <i>Simulation Replication</i> |
|-----|-------------------------------|

Description

Simulation Replication

Usage

```
Sim(taskid, repid, output_folder, overwrite, integrity, params_taskid)
```

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. |
| params_taskid | Data frame with a single row. Simulation parameters for a specific taskid. |

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

| | |
|---------------|--|
| SimFitDTVARMx | <i>Simulation Replication - FitDTVARMx</i> |
|---------------|--|

Description

Simulation Replication - FitDTVARMx

Usage

```
SimFitDTVARMx(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 <code>manCTMed:::SimSuffix()</code> . |
| overwrite | Logical. Overwrite existing output in <code>output_folder</code> . |
| integrity | Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> . |

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

SimFitMetaVARMx

Simulation Replication - FitMetaVARMx

Description

Simulation Replication - FitMetaVARMx

Usage

```
SimFitMetaVARMx(  
  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 <code>manCTMed:::SimSuffix()</code> . |
| overwrite | Logical. Overwrite existing output in <code>output_folder</code> . |
| integrity | Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> . |

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 <code>manCTMed:::SimSuffix()</code> . |
| overwrite | Logical. Overwrite existing output in <code>output_folder</code> . |
| integrity | Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> . |

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 | <i>Simulation File Name</i> |
|-------|-----------------------------|

Description

Simulation File Name

Usage

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

Arguments

| | |
|----------------------------|--|
| <code>output_type</code> | Character string. Output type. Valid values include "data", "fit-dynr", "dynr-delta-xmy", "dynr-delta-ymx", "dynr-mc-xmy", and "dynr-mc-ymx" |
| <code>output_folder</code> | Character string. Output folder. |
| <code>suffix</code> | Character string. Output of <code>manCTMed:::SimSuffix()</code> . |

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,
  params_taskid,
  seed,
  suffix,
  overwrite,
  integrity
)
```

Arguments

| | |
|---------------|---|
| taskid | Positive integer. Task ID. |
| repid | Positive integer. Replication ID. |
| output_folder | Character string. Output folder. |
| params_taskid | Data frame with a single row. Simulation parameters for a specific taskid. |
| seed | Integer. Random seed. |
| suffix | Character string. Output of <code>manCTMed:::SimSuffix()</code> . |
| overwrite | Logical. Overwrite existing output in <code>output_folder</code> . |
| integrity | Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> . |

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 | <i>Simulation Project Name</i> |
|---------|--------------------------------|

Description

Simulation Project Name

Usage

SimProj()

Value

Returns the project name as a character string.

Author(s)

Ivan Jacob Agaloos Pesigan

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