

Package ‘manCTMed’

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BootPara	<i>Parametric Bootstrap</i>
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Description

The function generates simulated datasets based on a fitted model and refits the model to each generated dataset using the `dynr` package.

Usage

```
BootPara(
  fit,
  path,
  prefix,
  taskid,
  B = 1000L,
  ncores = NULL,
  seed = NULL,
  clean = TRUE
)
```

Arguments

<code>fit</code>	R object. Output of the <code>FitDynr()</code> , <code>FitMx()</code> , <code>IllustrationFitDynr()</code> , or <code>IllustrationFitMx()</code> functions.
<code>path</code>	Path to a directory to store bootstrap samples and estimates.
<code>prefix</code>	Character string. Prefix used for the file names for the bootstrap samples and estimates.
<code>taskid</code>	Positive integer. Task ID.
<code>B</code>	Positive integer. Number of bootstrap samples.
<code>ncores</code>	Positive integer. Number of cores to use.
<code>seed</code>	Integer. Random seed.
<code>clean</code>	Logical. If <code>clean = TRUE</code> , delete intermediate files generated by the function.

See Also

Other Confidence Interval Functions: [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynrr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynd(data, taskid = 1)
BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
## End(Not run)
```

BootParaStdXMY

*Parametric Bootstrap Confidence Intervals for X-M-Y (Standardized)***Description**

The function generates parametric bootstrap method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$ (Standardized).

Usage

```
BootParaStdXMY(boot, theta_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```

## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
boot <- BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
theta_hat <- ThetaHat(fit)
ci <- BootParaStdXYM(boot = boot, theta_hat = theta_hat)
plot(ci)
plot(ci, type = "bc")

## End(Not run)

```

BootParaStdXYM

Parametric Bootstrap Confidence Intervals for X-Y-M (Standardized)

Description

The function generates parametric bootstrap method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$ (Standardized).

Usage

```
BootParaStdXYM(boot, theta_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```

## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
boot <- BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
theta_hat <- ThetaHat(fit)
ci <- BootParaStdXYM(boot = boot, theta_hat = theta_hat)
plot(ci)
plot(ci, type = "bc")

## End(Not run)

```

BootParaStdYMX

Parametric Bootstrap Confidence Intervals for Y-M-X (Standardized)

Description

The function generates parametric bootstrap method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$ (Standardized).

Usage

```
BootParaStdYMX(boot, theta_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```

## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
boot <- BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
theta_hat <- ThetaHat(fit)
ci <- BootParaStdYMX(boot = boot, theta_hat = theta_hat)
plot(ci)
plot(ci, type = "bc")

## End(Not run)

```

BootParaXMY

Parametric Bootstrap Confidence Intervals for X-M-Y

Description

The function generates parametric bootstrap method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$.

Usage

```
BootParaXMY(boot, phi_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```

## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
boot <- BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
phi_hat <- PhiHat(fit)
ci <- BootParaXYM(boot = boot, phi_hat = phi_hat)
plot(ci)
plot(ci, type = "bc")

## End(Not run)

```

BootParaXYM

Parametric Bootstrap Confidence Intervals for X-Y-M

Description

The function generates parametric bootstrap method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$.

Usage

```
BootParaXYM(boot, phi_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```

## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
boot <- BootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L
)
phi_hat <- PhiHat(fit)
ci <- BootParaYMX(boot = boot, phi_hat = phi_hat)
plot(ci)
plot(ci, type = "bc")

## End(Not run)

```

BootParaYMX

Parametric Bootstrap Confidence Intervals for Y-M-X

Description

The function generates parametric bootstrap method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$.

Usage

```
BootParaYMX(boot, phi_hat, delta_t = 1:30, ncores = NULL)
```

Arguments

boot	R object. Output of the BootPara() function.
phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
ncores	Positive integer. Number of cores to use.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXYM\(\)](#), [BootParaXYM\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:  
set.seed(42)  
library(dynr)  
sim <- GenData(taskid = 1)  
data <- RandomMeasurement(sim)  
fit <- FitDynr(data, taskid = 1)  
boot <- BootPara(  
  fit = fit,  
  path = getwd(),  
  prefix = "pb",  
  taskid = 1,  
  B = 1000L  
)  
phi_hat <- PhiHat(fit)  
ci <- BootParaYMX(boot = boot, phi_hat = phi_hat)  
plot(ci)  
plot(ci, type = "bc")  
  
## End(Not run)
```

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

See Also

Other Compression Functions: [IllustrationCompress\(\)](#)

DeltaStdXYM

Delta Method Confidence Intervals for X-M-Y (Standardized)

Description

The function generates delta method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$ (Standardized).

Usage

```
DeltaStdXYM(theta_hat, delta_t = 1:30)
```

Arguments

- | | |
|-----------|--|
| theta_hat | R object. Output of the ThetaHat() function. |
| delta_t | Numeric vector. Vector of time intervals. |

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDydnr(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- DeltaStdXYM(theta_hat)
plot(ci)

## End(Not run)
```

DeltaStdXYM

Delta Method Confidence Intervals for X-Y-M (Standardized)

Description

The function generates delta method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$ (Standardized).

Usage

```
DeltaStdXYM(theta_hat, delta_t = 1:30)
```

Arguments

- theta_hat R object. Output of the [ThetaHat\(\)](#) function.
 delta_t Numeric vector. Vector of time intervals.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#),
[BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#),
[DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#),
[MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:  

set.seed(42)  

library(dynr)  

sim <- GenData(taskid = 1)  

data <- RandomMeasurement(sim)  

fit <- FitDy whole(data, taskid = 1)  

theta_hat <- ThetaHat(fit)  

ci <- DeltaStdXYM(theta_hat)  

plot(ci)  

  
## End(Not run)
```

DeltaStdYMX

*Delta Method Confidence Intervals for Y-M-X (Standardized)***Description**

The function generates delta method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$ (Standardized).

Usage

```
DeltaStdYMX(theta_hat, delta_t = 1:30)
```

Arguments

- theta_hat R object. Output of the [ThetaHat\(\)](#) function.
 delta_t Numeric vector. Vector of time intervals.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#),
[BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#),
[DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#),
[MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- DeltaStdYMX(theta_hat)
plot(ci)

## End(Not run)
```

Description

The function generates delta method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$.

Usage

```
DeltaXMY(phi_hat, delta_t = 1:30)
```

Arguments

- | | |
|---------|--|
| phi_hat | R object. Output of the PhiHat() function. |
| delta_t | Numeric vector. Vector of time intervals. |

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#),
[BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#),
[DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#),
[MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- DeltaXYM(phi_hat)
plot(ci)

## End(Not run)
```

DeltaXYM

Delta Method Confidence Intervals for X-Y-M

Description

The function generates delta method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$.

Usage

```
DeltaXYM(phi_hat, delta_t = 1:30)
```

Arguments

- | | |
|---------|--|
| phi_hat | R object. Output of the PhiHat() function. |
| delta_t | Numeric vector. Vector of time intervals. |

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- DeltaXYM(phi_hat)
plot(ci)

## End(Not run)
```

DeltaYMX

*Delta Method Confidence Intervals for Y-M-X***Description**

The function generates delta method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$.

Usage

```
DeltaYMX(phi_hat, delta_t = 1:30)
```

Arguments

- | | |
|---------|--|
| phi_hat | R object. Output of the PhiHat() function. |
| delta_t | Numeric vector. Vector of time intervals. |

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- DeltaYMX(phi_hat)
plot(ci)

## End(Not run)
```

FigPlotEffects

*Plot Total, Direct, and Indirect Effects***Description**

Effects for the model $X \rightarrow M \rightarrow Y$.

Usage

```
FigPlotEffects(dynamics = 0, std = FALSE, max_delta_t = 30, xmy = TRUE)
```

Arguments

dynamics	Integer. dynamics = 0 for original drift matrix, dynamics = -1 for near-neutral dynamics, and dynamics = 1 for stronger damping.
std	Logical. If std = TRUE, standardized total, direct, and indirect effects. If std = FALSE, unstandardized total, direct, and indirect effects.
max_delta_t	Numeric. Maximum time interval.
xmy	Logical. If xmy = TRUE, plot the effects for the $x \rightarrow m \rightarrow y$ mediation model. If xmy = FALSE, plot the effects for the $y \rightarrow m \rightarrow x'$ mediation model.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#), [FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

[FigPlotEffects\(\)](#)

FigScatterPlotCoverage

Plot Coverage Probabilities

Description

Coverage probabilities for the model $X \rightarrow M \rightarrow Y$.

Usage

```
FigScatterPlotCoverage(results, delta_t = NULL, dynamics = 0, std = FALSE)
```

Arguments

results	Summary results data frame.
delta_t	Vector of time-interval value. If delta_t = NULL, use all available time-intervals
dynamics	Integer. dynamics = 0 for original drift matrix, dynamics = -1 for near-neutral dynamics, and dynamics = 1 for stronger damping.
std	Logical. If std = TRUE, standardized total, direct, and indirect effects. If std = FALSE, unstandardized total, direct, and indirect effects.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotPower\(\)](#), [FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(results, package = "manCTMed")
FigScatterPlotCoverage(results)
FigScatterPlotCoverage(results, delta_t = 1:14)
FigScatterPlotCoverage(results, delta_t = 15:30)
```

FigScatterPlotPower *Plot Statistical Power*

Description

Statistical power for the model $X \rightarrow M \rightarrow Y$.

Usage

```
FigScatterPlotPower(results, delta_t = NULL, dynamics = 0, std = FALSE)
```

Arguments

results	Summary results data frame.
delta_t	Vector of time-interval value. If <code>delta_t = NULL</code> , use all available time-intervals
dynamics	Integer. <code>dynamics = 0</code> for original drift matrix, <code>dynamics = -1</code> for near-neutral dynamics, and <code>dynamics = 1</code> for stronger damping.
std	Logical. If <code>std = TRUE</code> , standardized total, direct, and indirect effects. If <code>std = FALSE</code> , unstandardized total, direct, and indirect effects.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(results, package = "manCTMed")
FigScatterPlotPower(results)
FigScatterPlotPower(results, delta_t = 1:14)
FigScatterPlotPower(results, delta_t = 15:30)
```

FigScatterPlotSeBias *Plot Standard Error Bias*

Description

Standard Error Bias for the model $X \rightarrow M \rightarrow Y$.

Usage

```
FigScatterPlotSeBias(results, delta_t = NULL, dynamics = 0, std = FALSE)
```

Arguments

results	Summary results data frame.
delta_t	Vector of time-interval value. If <code>delta_t = NULL</code> , use all available time-intervals
dynamics	Integer. <code>dynamics = 0</code> for original drift matrix, <code>dynamics = -1</code> for near-neutral dynamics, and <code>dynamics = 1</code> for stronger damping.
std	Logical. If <code>std = TRUE</code> , standardized total, direct, and indirect effects. If <code>std = FALSE</code> , unstandardized total, direct, and indirect effects.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(results, package = "manCTMed")
FigScatterPlotSeBias(results)
```

FigScatterPlotType1 *Plot Type I Error*

Description

Type I error for the model $Y \rightarrow M \rightarrow X$.

Usage

```
FigScatterPlotType1(results, delta_t = NULL, dynamics = 0, std = FALSE)
```

Arguments

<code>results</code>	Summary results data frame.
<code>delta_t</code>	Vector of time-interval value. If <code>delta_t</code> = <code>NULL</code> , use all available time-intervals
<code>dynamics</code>	Integer. <code>dynamics</code> = 0 for original drift matrix, <code>dynamics</code> = -1 for near-neutral dynamics, and <code>dynamics</code> = 1 for stronger damping.
<code>std</code>	Logical. If <code>std</code> = <code>TRUE</code> , standardized total, direct, and indirect effects. If <code>std</code> = <code>FALSE</code> , unstandardized total, direct, and indirect effects.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#), [FigScatterPlotSeBias\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(results, package = "manCTMed")
FigScatterPlotType1(results)
FigScatterPlotType1(results, delta_t = 1:14)
FigScatterPlotType1(results, delta_t = 15:30)
```

FitDynr*Fit the Model using the dynr Package*

Description

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

Usage

```
FitDynr(data, taskid)
```

Arguments

- | | |
|--------|---|
| data | R object. Output of the RandomMeasurement() function. |
| taskid | Positive integer. Task ID. |

See Also

Other Model Fitting Functions: [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:  
set.seed(42)  
library(dynr)  
sim <- GenData(taskid = 1)  
data <- RandomMeasurement(sim)  
fit <- FitDynr(data, taskid = 1)  
summary(fit)  
  
## End(Not run)
```

FitMx*Fit the Model using the OpenMx Package*

Description

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

Usage

```
FitMx(data, taskid)
```

Arguments

- `data` R object. Output of the [RandomMeasurement\(\)](#) function.
`taskid` Positive integer. Task ID.

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(OpenMx)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitMx(data, taskid = 1)
summary(fit)

## End(Not run)
```

GenData

*Simulate Data***Description**

The function simulates data using the [simStateSpace::SimSSMOUFixed\(\)](#) function.

Usage

```
GenData(taskid)
```

Arguments

- `taskid` Positive integer. Task ID.

See Also

Other Data Generation Functions: [IllustrationGenData\(\)](#), [RandomMeasurement\(\)](#)

Examples

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

## End(Not run)
```

IllustrationBootPara *Parametric Bootstrap (Illustration)*

Description

The function generates simulated datasets based on a fitted model and refits the model to each generated dataset using the `dynr` package.

Usage

```
IllustrationBootPara(
  fit,
  path,
  prefix,
  taskid,
  B = 1000L,
  ncores = NULL,
  seed = NULL
)
```

Arguments

<code>fit</code>	R object. Fitted CT-VAR model.
<code>path</code>	Path to a directory to store bootstrap samples and estimates.
<code>prefix</code>	Character string. Prefix used for the file names for the bootstrap samples and estimates.
<code>taskid</code>	Positive integer. Task ID.
<code>B</code>	Positive integer. Number of bootstrap samples.
<code>ncores</code>	Positive integer. Number of cores to use.
<code>seed</code>	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
library(dynr)
sim <- IllustrationGenData(seed = 42)
data <- IllustrationPrepData(sim)
fit <- IllustrationFitDynr(data)
summary(fit)
```

```

IllustrationBootPara(
  fit = fit,
  path = getwd(),
  prefix = "pb",
  taskid = 1,
  B = 1000L,
  seed = 42
)

## End(Not run)

```

IllustrationCompress *Compress Replication (Illustration)*

Description

Compress Replication (Illustration)

Usage

```
IllustrationCompress(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

See Also

Other Compression Functions: [Compress\(\)](#)

IllustrationFigPlotEffects

Plot Total, Direct, and Indirect Effects (Illustration)

Description

Effects for the model $X \rightarrow M \rightarrow Y$.

Usage

```
IllustrationFigPlotEffects(std = FALSE, max_delta_t = 30)
```

Arguments

- std Logical. If std = TRUE, standardized total, direct, and indirect effects. If std = FALSE, unstandardized total, direct, and indirect effects.
- max_delta_t Numeric. Maximum time interval.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#), [FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
IllustrationFigPlotEffects(std = FALSE)  
IllustrationFigPlotEffects(std = TRUE)
```

IllustrationFigScatterPlotCoverage

Illustration Plot Coverage Probabilities

Description

Coverage probabilities for the model $X \rightarrow M \rightarrow Y$.

Usage

```
IllustrationFigScatterPlotCoverage(illustration_results)
```

Arguments

`illustration_results`
 Summary results data frame.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#),
[FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlot\(\)](#),
[IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(illustration_results, package = "manCTMed")
IllustrationFigScatterPlotCoverage(illustration_results)
```

IllustrationFigScatterPlotPower
Illustration Plot Statistical Power

Description

Statistical Power for the model $X \rightarrow M \rightarrow Y$.

Usage

```
IllustrationFigScatterPlotPower(illustration_results)
```

Arguments

`illustration_results`
 Summary results data frame.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#),
[FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlot\(\)](#),
[IllustrationFigScatterPlotSeBias\(\)](#)

Examples

```
data(illustration_results, package = "manCTMed")
IllustrationFigScatterPlotPower(illustration_results)
```

IllustrationFigScatterPlotSeBias
Illustration Plot Standard Error Bias

Description

Standard Error Bias for the model $X \rightarrow M \rightarrow Y$.

Usage

```
IllustrationFigScatterPlotSeBias(illustration_results)
```

Arguments

`illustration_results`
Summary results data frame.

Author(s)

Ivan Jacob Agaloos Pesigan

See Also

Other Figure Functions: [FigPlotEffects\(\)](#), [FigScatterPlotCoverage\(\)](#), [FigScatterPlotPower\(\)](#),
[FigScatterPlotSeBias\(\)](#), [FigScatterPlotType1\(\)](#), [IllustrationFigPlotEffects\(\)](#), [IllustrationFigScatterPlot\(\)](#),
[IllustrationFigScatterPlotPower\(\)](#)

Examples

```
data(illustration_results, package = "manCTMed")
IllustrationFigScatterPlotSeBias(illustration_results)
```

IllustrationFitDynr *Fit the Model using the dynr Package (Illustration)*

Description

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

Usage

```
IllustrationFitDynr(data)
```

Arguments

data	R object. Output of the IllustrationPrepData() function.
------	--

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:
library(dynr)
sim <- IllustrationGenData(seed = 42)
data <- IllustrationPrepData(sim)
fit <- IllustrationFitDynr(data)
summary(fit)

## End(Not run)
```

IllustrationFitMx *Fit the Model using the OpenMx Package (Illustration)*

Description

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

Usage

```
IllustrationFitMx(data)
```

Arguments

data	R object. Output of the IllustrationPrepData() function.
------	--

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:
library(OpenMx)
sim <- IllustrationGenData(seed = 42)
data <- IllustrationPrepData(sim)
fit <- IllustrationFitMx(data)
summary(fit)

## End(Not run)
```

IllustrationGenData *Simulate Data (Illustration)*

Description

The function simulates data using the [simStateSpace::SimSSMOUFixed\(\)](#) function.

Usage

```
IllustrationGenData(seed = NULL, n = 133, m = 101, delta_t_gen = 0.1)
```

Arguments

seed	Integer. Random seed.
n	Positive integer. Sample size.
m	Positive integer. Measurement occasions.
delta_t_gen	Numeric. Time interval used to generate data.

See Also

Other Data Generation Functions: [GenData\(\)](#), [RandomMeasurement\(\)](#)

Examples

```
## Not run:
sim <- IllustrationGenData(seed = 42)
plot(sim)

## End(Not run)
```

IllustrationMCPhiSigma

Generate a Sampling Distribution of Drift Matrices and Process Noise Covariance Matrices (Illustration)

Description

The function generates a sampling distribution of drift matrices and process noise covariance matrices using the Monte Carlo method.

Usage

```
IllustrationMCPhiSigma(fit, R = 20000L, seed = NULL)
```

Arguments

fit	R object. Fitted CT-VAR model.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:
library(dynr)
sim <- IllustrationGenData(seed = 42)
data <- IllustrationPrepData(sim)
fit <- IllustrationFitDynr(data)
IllustrationMCPhiSigma(fit, seed = 42)

## End(Not run)
```

IllustrationPrepData *Prepare Data Before Model Fitting (Illustration)***Description**

The function converts the output of [IllustrationGenData\(\)](#) into a data frame.

Usage

```
IllustrationPrepData(sim)
```

Arguments

sim R object. Output of the [IllustrationGenData\(\)](#) function.

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [PhiHat\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:  
sim <- IllustrationGenData(seed = 42)  
data <- IllustrationPrepData(sim)  
head(data)  
dim(data)  
  
## End(Not run)
```

illustration_dist *Illustration Sampling Distribution*

Description

Illustration Sampling Distribution

Usage

```
data(illustration_dist)
```

Format

A matrix with 1000 rows and 27 columns:

phi_xx Elements of the drift matrix.

sigma_xx Elements of the process noise covariance matrix.

theta_xx Elements of the measurement error covariance matrix.

mu0_x Elements of the initial condition mean vector.

sigma0_xx Elements of the initial condition covariance matrix.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_dt *Illustration Sampling Distribution Discrete Time - Time Interval of 1*

Description

Illustration Sampling Distribution Discrete Time - Time Interval of 1

Usage

```
data(illustration_dist_dt)
```

Format

A matrix with 1000 rows and 15 columns:

beta_xx Elements of the matrix of lagged coefficients.

psi_xx Elements of the process noise covariance matrix.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_dt_mc

*Illustration Sampling Distribution Discrete Time - Time Interval of 1
(Monte Carlo Method)*

Description

Illustration Sampling Distribution Discrete Time - Time Interval of 1 (Monte Carlo Method)

Usage

```
data(illustration_dist_dt_mc)
```

Format

A matrix with 20000 rows and 15 columns:

beta_xx Elements of the matrix of lagged coefficients.

psi_xx Elements of the process noise covariance matrix.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_mc *Illustration Sampling Distribution (Monte Carlo Method)*

Description

Illustration Sampling Distribution (Monte Carlo Method)

Usage

```
data(illustration_dist_mc)
```

Format

A matrix with 20000 rows and 15 columns:

phi_xx Elements of the drift matrix.

sigma_xx Elements of the process noise covariance matrix.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_med *Illustration Sampling Distribution Total, Direct, and Indirect Effects - Time Interval of 1*

Description

Illustration Sampling Distribution Total, Direct, and Indirect Effects - Time Interval of 1

Usage

```
data(illustration_dist_med)
```

Format

A matrix with 1000 rows and 27 columns:

total Total effect.

direct Direct effect.

indirect Indirect effect.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_med_mc

Illustration Sampling Distribution Total, Direct, and Indirect Effects - Time Interval of 1 (Monte Carlo Method)

Description

Illustration Sampling Distribution Total, Direct, and Indirect Effects - Time Interval of 1 (Monte Carlo Method)

Usage

```
data(illustration_dist_med_mc)
```

Format

A matrix with 20000 rows and 27 columns:

total Total effect.

direct Direct effect.

indirect Indirect effect.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_med_std

Illustration Sampling Distribution Standardized Total, Direct, and Indirect Effects - Time Interval of 1

Description

Illustration Sampling Distribution Standardized Total, Direct, and Indirect Effects - Time Interval of 1

Usage

```
data(illustration_dist_med_std)
```

Format

A matrix with 1000 rows and 27 columns:

total Total effect.

direct Direct effect.

indirect Indirect effect.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_dist_med_std_mc

Illustration Sampling Distribution Standardized Total, Direct, and Indirect Effects - Time Interval of 1 (Monte Carlo Method)

Description

Illustration Sampling Distribution Standardized Total, Direct, and Indirect Effects - Time Interval of 1 (Monte Carlo Method)

Usage

```
data(illustration_dist_med_std_mc)
```

Format

A matrix with 20000 rows and 27 columns:

total Total effect.

direct Direct effect.

indirect Indirect effect.

Author(s)

Ivan Jacob Agaloos Pesigan

illustration_results *Illustration Small Scale Simulation Results*

Description

Illustration Small Scale Simulation Results

Usage

```
data(illustration_results)
```

Format

A with 22 columns:

taskid Task ID.

replications Number of replications.

effect Total, direct, or indirect effect.

interval Time interval.

parameter Population parameter.

method Method used to generate confidence intervals.

xmy Logical. TRUE for x to m to y path.

std Logical. TRUE for standardized. FALSE for unstandardized.

est Mean parameter estimate.

se Mean standard error.

z Mean *z* statistic.

p Mean *p*-value.

R Number of Monte Carlo or bootstrap replications.

ll Mean lower limit of the 95% confidence interval.

ul Mean upper limit of the 95% confidence interval.

sig Proportion of statistically significant results.

zero_hit Proportion of replications where the confidence intervals included zero.

theta_hit Proportion of replications where the confidence intervals included the population parameter.

sq_error Mean squared error.

se_bias Bias in standard error estimate.

coverage Coverage probability.

power Statistical power.

Author(s)

Ivan Jacob Agaloos Pesigan

Description

The function generates Monte Carlo method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$ (Standardized).

Usage

```
MCStdXMY(theta_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDyN(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- MCStdXMY(theta_hat, seed = 42)
plot(ci)

## End(Not run)
```

MCStdXYM*Monte Carlo Method Confidence Intervals for X-Y-M (Standardized)*

Description

The function generates Monte Carlo method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$ (Standardized).

Usage

```
MCStdXYM(theta_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDyN(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- MCStdXYM(theta_hat, seed = 42)
plot(ci)

## End(Not run)
```

Description

The function generates Monte Carlo method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$ (Standardized).

Usage

```
MCStdYMX(theta_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

theta_hat	R object. Output of the ThetaHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDyN(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- MCStdYMX(phi_hat, seed = 42)
plot(ci)

## End(Not run)
```

Description

The function generates Monte Carlo method confidence intervals for the mediation model $X \rightarrow M \rightarrow Y$.

Usage

```
MCXMY(phi_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXYM\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDy whole(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- MCXMY(phi_hat, seed = 42)
plot(ci)

## End(Not run)
```

Description

The function generates Monte Carlo method confidence intervals for the mediation model $X \rightarrow Y \rightarrow M$.

Usage

```
MCXYM(phi_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCYMX\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDy whole(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- MCXYM(phi_hat, seed = 42)
plot(ci)

## End(Not run)
```

Description

The function generates Monte Carlo method confidence intervals for the mediation model $Y \rightarrow M \rightarrow X$.

Usage

```
MCYMX(phi_hat, delta_t = 1:30, R = 20000L, seed = NULL)
```

Arguments

phi_hat	R object. Output of the PhiHat() function.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
seed	Integer. Random seed.

See Also

Other Confidence Interval Functions: [BootPara\(\)](#), [BootParaStdXMY\(\)](#), [BootParaStdXYM\(\)](#), [BootParaStdYMX\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [BootParaYMX\(\)](#), [DeltaStdXMY\(\)](#), [DeltaStdXYM\(\)](#), [DeltaStdYMX\(\)](#), [DeltaXMY\(\)](#), [DeltaXYM\(\)](#), [DeltaYMX\(\)](#), [IllustrationBootPara\(\)](#), [MCStdXMY\(\)](#), [MCStdXYM\(\)](#), [MCStdYMX\(\)](#), [MCXMY\(\)](#), [MCXYM\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDy whole(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- MCYMX(phi_hat, seed = 42)
plot(ci)

## End(Not run)
```

params	<i>Simulation Parameters</i>
--------	------------------------------

Description

Simulation Parameters

Usage

```
data(params)
```

Format

A dataframe with 30 rows and 3 columns:

taskid Simulation Task ID.

n Sample size.

dynamics Dynamics. 0 for original drift matrix, -1 for near-neutral dynamics, and 1 for stronger damping.

Author(s)

Ivan Jacob Agaloos Pesigan

PhiHat	<i>Estimated Drift Matrix</i>
--------	-------------------------------

Description

The function extracts the estimated drift matrix from the fitted model.

Usage

```
PhiHat(fit)
```

Arguments

fit R object. Output of the [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), or [IllustrationFitMx\(\)](#), functions.

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [ThetaHat\(\)](#)

Examples

```
## Not run:
set.seed(42)
library(dynr)
sim <- GenData(n = 50)
data <- RandomMeasurement(sim)
fit <- FitDynr(data)
PhiHat(fit)

## End(Not run)
```

RandomMeasurement *Simulate Random Measurement*

Description

The function randomly selects 100 observations from the generated data and replaces the unselected observations with NA.

Usage

```
RandomMeasurement(sim)
```

Arguments

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

See Also

Other Data Generation Functions: [GenData\(\)](#), [IllustrationGenData\(\)](#)

Examples

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

## End(Not run)
```

results*Simulation Results*

Description

Simulation Results

Usage

```
data(results)
```

Format

A dataframe with 24 columns:

- taskid** Task ID.
- replications** Number of replications.
- effect** Total, direct, or indirect effect.
- interval** Time interval.
- dynamics** Dynamics. 0 for original drift matrix, -1 for near-neutral dynamics, and 1 for stronger damping.
- parameter** Population parameter.
- method** Method used to generate confidence intervals.
- xmy** If TRUE, the mediation model is $X \rightarrow M \rightarrow Y$. If FALSE, the mediation model is $Y \rightarrow M \rightarrow X$.
- std** If TRUE, standardized total, direct, and indirect effects. If FALSE, unstandardized total, direct, and indirect effects.
- n** Sample size.
- est** Mean parameter estimate.
- se** Mean standard error.
- z** Mean z statistic.
- p** Mean p -value.
- R** Number of Monte Carlo replications.
- ll** Mean lower limit of the 95% confidence interval.
- ul** Mean upper limit of the 95% confidence interval.
- sig** Proportion of statistically significant results.
- zero_hit** Proportion of replications where the confidence intervals contained zero.
- theta_hit** Proportion of replications where the confidence intervals contained the population parameter.
- sq_error** Mean squared error.
- se_bias** Bias in standard error estimate.
- coverage** Coverage probability.
- power** Statistical power.

Author(s)

Ivan Jacob Agaloos Pesigan

Sim

Simulation Replication

Description

Simulation Replication

Usage

```
Sim(
  taskid,
  repid,
  output_folder,
  overwrite,
  integrity,
  seed,
  ci,
  pb,
  delta_t,
  R,
  B
)
```

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.
ci	Logical. Run simulations for confidence intervals.
pb	Logical. Run simulations for parametric bootstrap confidence intervals.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.
B	Positive integer. Number of bootstrap samples.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimDynrBootPara

Simulation Replication - BootPara

Description

Simulation Replication - BootPara

Usage

```
SimDynrBootPara(  
    taskid,  
    repid,  
    output_folder,  
    seed,  
    suffix,  
    overwrite,  
    integrity,  
    B,  
    ncores = NULL  
)
```

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.
B	Positive integer. Number of bootstrap samples.
ncores	Positive integer. Number of cores to use.

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

SimDynrBootParaStdXMY *Simulation Replication - BootParaStdXMY*

Description

Simulation Replication - BootParaStdXMY

Usage

```
SimDynrBootParaStdXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrBootParaStdYMX *Simulation Replication - BootParaStdYMX*

Description

Simulation Replication - BootParaStdYMX

Usage

```
SimDynrBootParaStdYMX(  
  taskid,  
  repid,  
  output_folder,  
  seed,  
  suffix,  
  overwrite,  
  integrity,  
  delta_t  
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrBootParaXMY *Simulation Replication - BootParaXMY*

Description

Simulation Replication - BootParaXMY

Usage

```
SimDynrBootParaXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrBootParaYMX *Simulation Replication - BootParaYMX*

Description

Simulation Replication - BootParaYMX

Usage

```
SimDynrBootParaYMX(  
    taskid,  
    repid,  
    output_folder,  
    seed,  
    suffix,  
    overwrite,  
    integrity,  
    delta_t  
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrDeltaStdXMY *Simulation Replication - DynrDeltaStdXMY*

Description

Simulation Replication - DynrDeltaStdXMY

Usage

```
SimDynrDeltaStdXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrDeltaStdYMX *Simulation Replication - DynrDeltaStdYMX*

Description

Simulation Replication - DynrDeltaStdYMX

Usage

```
SimDynrDeltaStdYMX(  
  taskid,  
  repid,  
  output_folder,  
  seed,  
  suffix,  
  overwrite,  
  integrity,  
  delta_t  
)
```

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.
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrDeltaXMY *Simulation Replication - DynrDeltaXMY*

Description

Simulation Replication - DynrDeltaXMY

Usage

```
SimDynrDeltaXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrDeltaYMX *Simulation Replication - DynrDeltaYMX*

Description

Simulation Replication - DynrDeltaYMX

Usage

```
SimDynrDeltaYMX(  
    taskid,  
    repid,  
    output_folder,  
    seed,  
    suffix,  
    overwrite,  
    integrity,  
    delta_t  
)
```

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.
delta_t	Numeric vector. Vector of time intervals.

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

SimDynrMCStdXMY

*Simulation Replication - DynrMCStdXMY***Description**

Simulation Replication - DynrMCStdXMY

Usage

```
SimDynrMCStdXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t,
  R
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.

DetailsThis 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

SimDynrMCStdYMX *Simulation Replication - DynrMCStdYMX*

Description

Simulation Replication - DynrMCStdYMX

Usage

```
SimDynrMCStdYMX(  
  taskid,  
  repid,  
  output_folder,  
  seed,  
  suffix,  
  overwrite,  
  integrity,  
  delta_t,  
  R  
)
```

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.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.

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

SimDynrMCXMY

*Simulation Replication - DynrMCXMY***Description**

Simulation Replication - DynrMCXMY

Usage

```
SimDynrMCXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t,
  R
)
```

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> .
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.

DetailsThis 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

SimDynrMCYMX

Simulation Replication - DynrMCYMX

Description

Simulation Replication - DynrMCYMX

Usage

```
SimDynrMCYMX(  
  taskid,  
  repid,  
  output_folder,  
  seed,  
  suffix,  
  overwrite,  
  integrity,  
  delta_t,  
  R  
)
```

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.
delta_t	Numeric vector. Vector of time intervals.
R	Positive integer. Number of Monte Carlo replications.

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

SimFitDynr*Simulation Replication - FitDynr*

Description

Simulation Replication - FitDynr

Usage

```
SimFitDynr(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

SimFitMx

Simulation Replication - FitMx

Description

Simulation Replication - FitMx

Usage

```
SimFitMx(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

output_type	Character string. Output type.
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	<i>Simulation Replication - GenData</i>
------------	---

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 <code>output_folder</code> .
integrity	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = 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

SimIllustration

Simulation Replication (Illustration)

Description

Simulation Replication (Illustration)

Usage

```
SimIllustration(  
  taskid,  
  repid,  
  output_folder,  
  overwrite,  
  integrity,  
  seed,  
  ci,  
  pb,  
  delta_t,  
  R,  
  B  
)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>repid</code>	Positive integer. Replication ID.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.
<code>seed</code>	Integer. Random seed.
<code>ci</code>	Logical. Run simulations for confidence intervals.
<code>pb</code>	Logical. Run simulations for parametric bootstrap confidence intervals.

<code>delta_t</code>	Numeric vector. Vector of time intervals.
<code>R</code>	Positive integer. Number of Monte Carlo replications.
<code>B</code>	Positive integer. Number of bootstrap samples.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationDynrBootPara
Simulation Replication - BootPara

Description

Simulation Replication - BootPara

Usage

```
SimIllustrationDynrBootPara(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  B,
  ncores = NULL
)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>repid</code>	Positive integer. Replication ID.
<code>output_folder</code>	Character string. Output folder.
<code>seed</code>	Integer. Random seed.
<code>suffix</code>	Character string. Output of <code>manCTMed:::SimSuffix()</code> .
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> .
<code>B</code>	Positive integer. Number of bootstrap samples.
<code>ncores</code>	Positive integer. Number of cores to use.

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SimIllustrationDynrBootParaStdXMY`

Simulation Replication - BootParaStdXMY

Description

Simulation Replication - BootParaStdXMY

Usage

```
SimIllustrationDynrBootParaStdXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationDynrBootParaXMY
Simulation Replication - BootParaXMY

Description

Simulation Replication - BootParaXMY

Usage

```
SimIllustrationDynrBootParaXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationDynrDeltaStdXMY

Simulation Replication - Illustration (DynrDeltaStdXMY)

Description

Simulation Replication - Illustration (DynrDeltaStdXMY)

Usage

```
SimIllustrationDynrDeltaStdXMY(  
  taskid,  
  repid,  
  output_folder,  
  seed,  
  suffix,  
  overwrite,  
  integrity,  
  delta_t  
)
```

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationDynrDeltaXMY

Simulation Replication - Illustration (DynrDeltaXMY)

Description

Simulation Replication - Illustration (DynrDeltaXMY)

Usage

```
SimIllustrationDynrDeltaXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t
)
```

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SimIllustrationDynrMCPhiSigma`

Simulation Replication - Illustration (MCPhiSigma)

Description

Simulation Replication - Illustration (MCPhiSigma)

Usage

```
SimIllustrationDynrMCPhiSigma(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  R
)
```

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SimIllustrationDynrMCStdXMY`

Simulation Replication - Illustration (DynrMCStdXMY)

Description

Simulation Replication - Illustration (DynrMCStdXMY)

Usage

```
SimIllustrationDynrMCStdXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t,
  R
)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>repid</code>	Positive integer. Replication ID.
<code>output_folder</code>	Character string. Output folder.
<code>seed</code>	Integer. Random seed.
<code>suffix</code>	Character string. Output of <code>manCTMed:::SimSuffix()</code> .
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> .
<code>delta_t</code>	Numeric vector. Vector of time intervals.
<code>R</code>	Positive integer. Number of Monte Carlo replications.

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SimIllustrationDynrMCXMY`

Simulation Replication - Illustration (DynrMCXMY)

Description

Simulation Replication - Illustration (DynrMCXMY)

Usage

```
SimIllustrationDynrMCXMY(
  taskid,
  repid,
  output_folder,
  seed,
  suffix,
  overwrite,
  integrity,
  delta_t,
  R
)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>repid</code>	Positive integer. Replication ID.
<code>output_folder</code>	Character string. Output folder.
<code>seed</code>	Integer. Random seed.
<code>suffix</code>	Character string. Output of <code>manCTMed:::SimSuffix()</code> .
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity = TRUE</code> , check for the output file integrity when <code>overwrite = FALSE</code> .
<code>delta_t</code>	Numeric vector. Vector of time intervals.
<code>R</code>	Positive integer. Number of Monte Carlo replications.

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationFitDynr

Simulation Replication - IllustrationFitDynr

Description

Simulation Replication - `IllustrationFitDynr`

Usage

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

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationFitMx *Simulation Replication - IllustrationFitMx*

Description

Simulation Replication - IllustrationFitMx

Usage

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

Arguments

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

Details

This function is executed via the `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationGenData

Simulation Replication - IllustrationGenData

Description

Simulation Replication - IllustrationGenData

Usage

```
SimIllustrationGenData(  
    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 `IllustrationSim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationPara *Simulation Replication Parametric Bootstrap (Parallel)*

Description

Simulation Replication Parametric Bootstrap (Parallel)

Usage

```
SimIllustrationPara(  
  taskid,  
  repid,  
  output_folder,  
  overwrite,  
  integrity,  
  seed,  
  B  
)
```

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.
B	Positive integer. Number of bootstrap samples.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimPara

*Simulation Replication Parametric Bootstrap (Parallel)***Description**

Simulation Replication Parametric Bootstrap (Parallel)

Usage

```
SimPara(taskid, repid, output_folder, overwrite, integrity, seed, B)
```

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.
B	Positive integer. Number of bootstrap samples.

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

Sum *Summary*

Description

Summary

Usage

`Sum(taskid, reps, output_folder, overwrite, integrity)`

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrDeltaStdXMY *Summary (DynrDeltaStdXMY)*

Description

Summary (DynrDeltaStdXMY)

Usage

`SumDynrDeltaStdXMY(taskid, reps, output_folder, overwrite, integrity)`

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SumDynrDeltaStdYMX` *Summary (DynrDeltaStdYMX)*

Description

Summary (DynrDeltaStdYMX)

Usage

```
SumDynrDeltaStdYMX(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrDeltaXMY

Summary (DynrDeltaXMY)

Description

Summary (DynrDeltaXMY)

Usage

```
SumDynrDeltaXMY(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrDeltaYMX *Summary (DynrDeltaYMX)*

Description

Summary (DynrDeltaYMX)

Usage

```
SumDynrDeltaYMX(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrMCStdXMY *Summary (DynrMCStdXMY)*

Description

Summary (DynrMCStdXMY)

Usage

```
SumDynrMCStdXMY(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the Sum function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrMCStdYMX *Summary (DynrMCStdYMX)*

Description

Summary (DynrMCStdYMX)

Usage

SumDynrMCStdYMX(taskid, reps, output_folder, overwrite, integrity)

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the Sum function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SumDynrMCXMY`

Summary (DynrMCXMY)

Description

`Summary (DynrMCXMY)`

Usage

```
SumDynrMCXMY(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrMCYMX *Summary (DynrMCYMX)*

Description

Summary (DynrMCYMX)

Usage

```
SumDynrMCYMX(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the Sum function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SumFitDynr *Summary (FitDynr)*

Description

Summary (FitDynr)

Usage

```
SumFitDynr(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `Sum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SumIllustration` *Summary (Illustration)*

Description

Summary (Illustration)

Usage

```
SumIllustration(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrBootParaStdXMY
Summary - Illustration (DynrBootParaStdXMY)

Description

Summary - Illustration (DynrBootParaStdXMY)

Usage

```
SumIllustrationDynrBootParaStdXMY(  
  taskid,  
  reps,  
  output_folder,  
  overwrite,  
  integrity,  
  type = "pc"  
)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.
type	Character string. Confidence interval type.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrBootParaXMY*Summary - Illustration (DynrBootParaXMY)***Description**

Summary - Illustration (DynrBootParaXMY)

Usage

```
SumIllustrationDynrBootParaXMY(
  taskid,
  reps,
  output_folder,
  overwrite,
  integrity,
  type = "pc"
)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.
<code>type</code>	Character string. Confidence interval type.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrDeltaStdXMY
Summary - Illustration (DynrDeltaStdXMY)

Description

Summary - Illustration (DynrDeltaStdXMY)

Usage

```
SumIllustrationDynrDeltaStdXMY(  
  taskid,  
  reps,  
  output_folder,  
  overwrite,  
  integrity  
)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrDeltaXMY*Summary - Illustration (DynrDeltaXMY)***Description**

Summary - Illustration (DynrDeltaXMY)

Usage`SumIllustrationDynrDeltaXMY(taskid, reps, output_folder, overwrite, integrity)`**Arguments**

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

DetailsThis function is executed via the `IllustrationSum` function.**Value**The output is saved as an external file in `output_folder`.**Author(s)**

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrMCStdXMY*Summary - Illustration (DynrMCStdXMY)***Description**

Summary - Illustration (DynrMCStdXMY)

Usage`SumIllustrationDynrMCStdXMY(taskid, reps, output_folder, overwrite, integrity)`

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SumIllustrationDynrMCXMY`

Summary - Illustration (DynrMCXMY)

Description

Summary - Illustration (DynrMCXMY)

Usage

```
SumIllustrationDynrMCXMY(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

taskid	Positive integer. Task ID.
reps	Positive integer. Number of replications.
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.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

`SumIllustrationFitDynr`

Summary - Illustration (FitDynr)

Description

Summary - Illustration (FitDynr)

Usage

```
SumIllustrationFitDynr(taskid, reps, output_folder, overwrite, integrity)
```

Arguments

<code>taskid</code>	Positive integer. Task ID.
<code>reps</code>	Positive integer. Number of replications.
<code>output_folder</code>	Character string. Output folder.
<code>overwrite</code>	Logical. Overwrite existing output in <code>output_folder</code> .
<code>integrity</code>	Logical. If <code>integrity</code> = TRUE, check for the output file integrity when <code>overwrite</code> = FALSE.

Details

This function is executed via the `IllustrationSum` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

ThetaHat	<i>Estimated Drift Matrix and Process Noise</i>
----------	---

Description

The function extracts the estimated drift matrix and process noise from the fitted model.

Usage

```
ThetaHat(fit)
```

Arguments

fit R object. Output of the [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), or [IllustrationFitMx\(\)](#), functions.

See Also

Other Model Fitting Functions: [FitDynr\(\)](#), [FitMx\(\)](#), [IllustrationFitDynr\(\)](#), [IllustrationFitMx\(\)](#), [IllustrationMCPhiSigma\(\)](#), [IllustrationPrepData\(\)](#), [PhiHat\(\)](#)

Examples

```
## Not run:  
set.seed(42)  
library(dynr)  
sim <- GenData(n = 50)  
data <- RandomMeasurement(sim)  
fit <- FitDynr(data)  
ThetaHat(fit)  
  
## End(Not run)
```

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