

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

fit	R object. Output of the <code>FitDynr()</code> , <code>FitMx()</code> , <code>IllustrationFitDynr()</code> , or <code>IllustrationFitMx()</code> , functions.
path	Path to a directory to store bootstrap samples and estimates.
prefix	Character string. Prefix used for the file names for the bootstrap samples and estimates.
taskid	Positive integer. Task ID.
B	Positive integer. Number of bootstrap samples.
ncores	Positive integer. Number of cores to use.
seed	Integer. Random seed.
clean	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(dynr)
sim <- GenData(taskid = 1)
data <- RandomMeasurement(sim)
fit <- FitDynr(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 <- BootParaStdXMY(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\(\)](#), [BootParaXMY\(\)](#), [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)
```

 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\(\)](#), [BootParaXMY\(\)](#), [BootParaXYM\(\)](#), [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)
```

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\(\)](#)

DeltaStdXMY	<i>Delta Method Confidence Intervals for X-M-Y (Standardized)</i>
-------------	---

Description

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

Usage

```
DeltaStdXMY(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\(\)](#), [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)
theta_hat <- ThetaHat(fit)
ci <- DeltaStdXMY(theta_hat)
plot(ci)

## End(Not run)
```

DeltaStdXYM	<i>Delta Method Confidence Intervals for X-Y-M (Standardized)</i>
-------------	---

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 <- FitDynr(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\(\)](#), [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)
theta_hat <- ThetaHat(fit)
ci <- DeltaStdYMX(theta_hat)
plot(ci)

## End(Not run)
```

DeltaXMY

*Delta Method Confidence Intervals for X-M-Y***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\(\)](#), [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)
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 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\(\)](#), [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 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\(\)](#), [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

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\(\)](#), [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)
```

Description

The function fits the model using the [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)
```

Description

The function fits the model using the [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

fit	R object. Fitted CT-VAR model.
path	Path to a directory to store bootstrap samples and estimates.
prefix	Character string. Prefix used for the file names for the bootstrap samples and estimates.
taskid	Positive integer. Task ID.
B	Positive integer. Number of bootstrap samples.
ncores	Positive integer. Number of cores to use.
seed	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\(\)](#), [MCXYM\(\)](#), [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\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [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\(\)](#), [IllustrationFigScatterPlotCoverage\(\)](#), [IllustrationFigScatterPlotPower\(\)](#), [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\(\)](#), [IllustrationFigScatterPlotPower\(\)](#)

Examples

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

IllustrationFitDynr	<i>Fit the Model using the dynr Package (Illustration)</i>
---------------------	--

Description

The function fits the model using the [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	<i>Fit the Model using the OpenMx Package (Illustration)</i>
-------------------	--

Description

The function fits the model using the [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	<i>Simulate Data (Illustration)</i>
---------------------	-------------------------------------

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	<i>Illustration Sampling Distribution</i>
-------------------	---

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

MCStdXMY

*Monte Carlo Method Confidence Intervals for X-M-Y (Standardized)***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 <- FitDynr(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 <- FitDynr(data, taskid = 1)
theta_hat <- ThetaHat(fit)
ci <- MCStdXYM(theta_hat, seed = 42)
plot(ci)

## End(Not run)
```

MCStdYMX

*Monte Carlo Method Confidence Intervals for Y-M-X (Standardized)***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 <- FitDynr(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 <- FitDynr(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 <- FitDynr(data, taskid = 1)
phi_hat <- PhiHat(fit)
ci <- MCXYM(phi_hat, seed = 42)
plot(ci)

## End(Not run)
```

MCYMX

*Monte Carlo Method Confidence Intervals for Y-M-X***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 <- FitDynr(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	<i>Simulate Random Measurement</i>
-------------------	------------------------------------

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	<i>Simulation Replication</i>
-----	-------------------------------

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	<i>Simulation Replication - BootPara</i>
-----------------	--

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 <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> .
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	<i>Simulation Replication - BootParaYMX</i>
--------------------	---

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	<i>Simulation Replication - DynrDeltaStdYMX</i>
--------------------	---

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 <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

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

<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 `Sim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimDynrMCStdXMY	<i>Simulation Replication - DynrMCStdXMY</i>
-----------------	--

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.

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

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 <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.

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.

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

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 <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.

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

<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 `Sim` function.

Value

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

Author(s)

Ivan Jacob Agaloos Pesigan

SimFitMx	<i>Simulation Replication - FitMx</i>
----------	---------------------------------------

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 <code>manCTMed::SimSuffix()</code> .

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 <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

SimIllustration	<i>Simulation Replication (Illustration)</i>
-----------------	--

Description

Simulation Replication (Illustration)

Usage

```
SimIllustration(  
  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

SimIllustrationDynrBootPara

Simulation Replication - BootPara

Description

Simulation Replication - BootPara

Usage

```
SimIllustrationDynrBootPara(
  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 <code>manCTMed:::SimSuffix()</code> .
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 `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
<i>Simulation Replication - BootParaXMY</i>

Description

Simulation Replication - BootParaXMY

Usage

```
SimIllustrationDynrBootParaXMY(  
  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 IllustrationSim function.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SimIllustrationDynrDeltaStdXMY
<i>Simulation Replication - Illustration (DynrDeltaStdXMY)</i>

Description

Simulation Replication - Illustration (DynrDeltaStdXMY)

Usage

```
SimIllustrationDynrDeltaStdXMY(  
  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 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

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 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

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.
R	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

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 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

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 `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 = 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

SimIllustrationFitMx *Simulation Replication - IllustrationFitMx*

Description

Simulation Replication - IllustrationFitMx

Usage

```
SimIllustrationFitMx(
  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 output_folder.
integrity	Logical. If integrity = TRUE, check for the output file integrity when overwrite = 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

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	<i>Simulation Replication Parametric Bootstrap (Parallel)</i>
---------------------	---

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	<i>Summary</i>
-----	----------------

Description

Summary

Usage

Sum(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.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SumDynrDeltaStdXMY	<i>Summary (DynrDeltaStdXMY)</i>
--------------------	----------------------------------

Description

Summary (DynrDeltaStdXMY)

Usage

SumDynrDeltaStdXMY(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

SumDynrDeltaStdYMX	<i>Summary (DynrDeltaStdYMX)</i>
--------------------	----------------------------------

Description

Summary (DynrDeltaStdYMX)

Usage

SumDynrDeltaStdYMX(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

SumDynrDeltaXMY	<i>Summary (DynrDeltaXMY)</i>
-----------------	-------------------------------

Description

Summary (DynrDeltaXMY)

Usage

SumDynrDeltaXMY(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

SumDynrDeltaYMX	<i>Summary (DynrDeltaYMX)</i>
-----------------	-------------------------------

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	<i>Summary (DynrMCStdXMY)</i>
-----------------	-------------------------------

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	<i>Summary (DynrMCStdYMX)</i>
-----------------	-------------------------------

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	<i>Summary (DynrMCXMY)</i>
--------------	----------------------------

Description

Summary (DynrMCXMY)

Usage

SumDynrMCXMY(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

SumDynrMCYMX	<i>Summary (DynrMCYMX)</i>
--------------	----------------------------

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	<i>Summary (FitDynr)</i>
------------	--------------------------

Description

Summary (FitDynr)

Usage

SumFitDynr(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

SumIllustration	<i>Summary (Illustration)</i>
-----------------	-------------------------------

Description

Summary (Illustration)

Usage

SumIllustration(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.

Value

The output is saved as an external file in output_folder.

Author(s)

Ivan Jacob Agaloos Pesigan

SumIllustrationDynrBootParaStdXMY
<i>Summary - Illustration (DynrBootParaStdXMY)</i>

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
<i>Summary - Illustration (DynrBootParaXMY)</i>

Description

Summary - Illustration (DynrBootParaXMY)

Usage

```
SumIllustrationDynrBootParaXMY(  
  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

SumIllustrationDynrDeltaStdXMY
<i>Summary - Illustration (DynrDeltaStdXMY)</i>

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
<i>Summary - Illustration (DynrDeltaXMY)</i>

Description

Summary - Illustration (DynrDeltaXMY)

Usage

SumIllustrationDynrDeltaXMY(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

SumIllustrationDynrMCStdXMY
<i>Summary - Illustration (DynrMCStdXMY)</i>

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
<i>Summary - Illustration (FitDynr)</i>

Description

Summary - Illustration (FitDynr)

Usage

SumIllustrationFitDynr(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

ThetaHat

Estimated Drift Matrix and Process Noise

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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