

Package: IPDMR (via r-universe)

October 22, 2024

Title Support Code for the Introduction to Practical Disease Modelling Course

Version 0.2.1-1

Date 2024-10-22

Description What the package does (one paragraph).

License GPL (>= 3)

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

Depends R (>= 4.1.0)

Imports rlang, dplyr, tibble, deSolve, checkmate, ggplot2, tidyr, stringr, R6, pbapply

Suggests knitr, rmarkdown, spelling, testthat (>= 3.0.0)

Config/testthat/edition 3

VignetteBuilder knitr

Language en-GB

Repository <https://ku-awdc.r-universe.dev>

RemoteUrl <https://github.com/ku-awdc/IPDMR>

RemoteRef HEAD

RemoteSha 43755783399cc9d25269c56f8bd63dc3c94cedf1

Contents

autoplot.ipdmr_dt	2
example_function	2
sirs_det	3
sirs_stoc	3
si_continuous	4
si_discrete	4
WithinGroupModel	5

Index	7
--------------	----------

autoplot.ipdmr_dt *Title*

Description

Title

Usage

```
## S3 method for class 'ipdmr_dt'  
autoplot(object, ...)
```

Arguments

...

example_function *An example function*

Description

An example function

Usage

```
example_function(optional_argument = 42L)
```

Arguments

optional_argument
 an argument with a default value

Examples

```
# Some example code:  
df <- example_function()  
df
```

sirs_det	<i>Title</i>
----------	--------------

Description

Title

Usage

```
sirs_det(  
  S = 99,  
  I = 1,  
  R = 0,  
  beta = 0.25,  
  gamma = 0.2,  
  delta = 0.05,  
  transmission_type = "frequency",  
  time_step = 1L,  
  max_time = 100L  
)
```

Arguments

max_time

sirs_stoc	<i>Title</i>
-----------	--------------

Description

Title

Usage

```
sirs_stoc(  
  S = 99,  
  I = 1,  
  R = 0,  
  beta = 0.25,  
  gamma = 0.2,  
  delta = 0.05,  
  iterations = 1,  
  transmission_type = "frequency",  
  time_step = 1L,  
  max_time = 100L  
)
```

Arguments

max_time

si_continuous	<i>Title</i>
---------------	--------------

Description

Title

Usage

```
si_continuous(
  N = 10,
  beta = 0.05,
  type = c("frequency", "density"),
  init_I = 1,
  time_points = seq(0, 21, by = 0.1)
)
```

Arguments

time_points

Examples

```
si_continuous(N=10, type="density") |> ggplot2::autoplot()
si_continuous(N=10, type="frequency") |> ggplot2::autoplot()
```

si_discrete	<i>Title</i>
-------------	--------------

Description

Title

Usage

```
si_discrete(
  N = 10,
  beta = 0.05,
  type = c("frequency", "density"),
  init_I = 1,
  time_step = 1/24,
  max_time = 21
)
```

Arguments

init_I

Examples

```
si_discrete(N=10, type="density") |> ggplot2::autoplot()
si_discrete(N=10, type="frequency") |> ggplot2::autoplot()
```

WithinGroupModel

WithinGroupModel

Description

General within-group model class

Methods**Public methods:**

- [WithinGroupModel\\$new\(\)](#)
- [WithinGroupModel\\$update\(\)](#)
- [WithinGroupModel\\$check_state\(\)](#)
- [WithinGroupModel\\$run\(\)](#)
- [WithinGroupModel\\$clone\(\)](#)

Method new():

Usage:

```
WithinGroupModel$new(  
  model_type = c("sirs"),  
  update_type = c("deterministic", "stochastic"),  
  transmission_type = c("frequency", "density"),  
  time_step = 1L  
)
```

Method update():

Usage:

```
WithinGroupModel$update(time_step = self$time_step)
```

Method check_state():

Usage:

```
WithinGroupModel$check_state()
```

Method run():

Usage:

```
WithinGroupModel$run(  
  n_steps,  
  time_step = self$time_step,  
  include_current = self$time == 0  
)
```

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
WithinGroupModel$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

Index

`autoplot.ipdmr_dt`, 2

`example_function`, 2

`si_continuous`, 4

`si_discrete`, 4

`sirs_det`, 3

`sirs_stoc`, 3

`WithinGroupModel`, 5