

Package ‘ggperiodic’

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Title Easy Plotting of Periodic Data with 'ggplot2'

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Description Implements methods to plot periodic data in any arbitrary range on the fly.

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URL <https://github.com/eliocamp/ggperiodic>

BugReports <https://github.com/eliocamp/ggperiodic/issues>

Imports dplyr, ggplot2, sticky, tidyselect, data.table

Suggests covr, knitr, maps, rmarkdown, testthat, vdiff

VignetteBuilder knitr

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Encoding UTF-8

LazyData true

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Author Elio Campitelli [cre, aut] (<<https://orcid.org/0000-0002-7742-9230>>)

Maintainer Elio Campitelli <elio.campitelli@cima.fcen.uba.ar>

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R topics documented:

get_period	2
ggperiodic	2
is.periodic	3
periodic	3
qwrap	4
unperiodic	5
wrap	5
Index	7

get_period	<i>Get period information from an object</i>
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Description

Get period information from an object

Usage

```
get_period(object)
```

Arguments

object a periodic object

ggperiodic	<i>ggperiodic: Easy Plotting of Periodic Data with 'ggplot2'</i>
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Description

Implements methods to plot periodic data in any arbitrary range on the fly.

Overview

The only thing you need to do is add the periodic information to a data frame with `periodic()`. You then can manually wrap your data around any domain with `wrap()` or just let ggplot2 do it automatically for you

Author(s)

Maintainer: Elio Campitelli <elio.campitelli@cima.fcen.uba.ar> (<https://orcid.org/0000-0002-7742-9230>)

See Also

Useful links:

- <https://github.com/eliocamp/ggperiodic>
- Report bugs at <https://github.com/eliocamp/ggperiodic/issues>

is.periodic	<i>Check if an object is periodic</i>
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Description

Check if an object is periodic

Usage

```
is.periodic(object)
```

Arguments

object	an object
--------	-----------

periodic	<i>Add or remove periodic variables</i>
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Description

Creates a periodic object by specifying the periodic variables and their periods.

Usage

```
periodic(object, ...)

## Default S3 method:
periodic(object, period, ...)

## S3 method for class 'data.frame'
periodic(object, ...)

setperiodic(object, ...)
```

Arguments

object	the object to coerce to periodic
...	name-value pairs of expressions defining the period
period	a numeric vector whose range defines the period

Value

An object of subclass `periodic_df` or `periodic_v`.

If `object` is of class `data.table`, then it will modify the object by reference. To modify this behaviour, use `options(ggperiodic.data.table.copy = TRUE)`. `setperiodic()` will modify a `data.table` by reference bypassing the global option.

Examples

```

library(ggplot2)

x <- seq(0, 360 - 20, by = 20)
df <- data.frame(x = x, y = cos(x*pi/180))
df_p <- periodic(df, x = c(0, 360))

ggplot(df_p, aes(x, y)) +
  geom_line() +           # periodic data
  geom_point(data = df)  # non periodic data

# Extend domain
ggplot(df_p, aes(x, y), x = c(-180, 540)) +
  geom_line() +
  geom_point(data = df)

# with non regular intervals
x <- runif(30, 0, 360)
df <- periodic(data.frame(x = x, y = cos(x*pi/180)),
              x = c(0, 360))
ggplot(df, aes(x, y), x = c(-180, 540)) +
  geom_point()

```

qwrap

Quickly wrap data

Description

Wraps periodic data from one specified range to the other in one line.

Usage

```
qwrap(object, ..., .group = NULL)
```

Arguments

<code>object</code> ,	the object to wrap
<code>...</code> ,	named formulas with the form <code>from ~ to</code> (see examples)
<code>.group</code>	optional group column (see wrap)

Details

`qwrap` is a shortcut to `wrap(periodic(object, x = range_from), x = range_to)`

Examples

```
x <- seq(0, 360 - 20, by = 20)
df <- data.frame(x = x, y = cos(x*pi/180))
qwrap(df, x = c(0, 360) ~ c(-180, 180))
```

unperiodic	<i>Remove periodic specifications</i>
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Description

Remove periodic specifications

Usage

```
unperiodic(object, ...)
setunperiodic(object, ...)
```

Arguments

object	the object to remove periodicities
...	arguments to methods

Value

An object of the same class as `object` but with no periodic subclass or periodicity specifications.

If `object` is of class `data.table`, then it will modify the object by reference. To modify this behaviour, use `options(ggperiodic.data.table.copy = TRUE)`. `setperiodic()` will modify a `data.table` by reference bypassing the global option.

wrap	<i>Wrap periodic data to an arbitrary range</i>
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Description

Wrap periodic data to an arbitrary range

Usage

```
wrap(object, ...)

## S3 method for class 'periodic_df'
wrap(object, ..., .group = NULL)
```

Arguments

object	a periodic data frame
...	name-value pairs of expressions defining range specifications
.group	optional group column (see examples)

Value

An object of the same class as `object` but with no periodic subclass or periodicity specifications and wrapped dimensions.

Examples

```
x <- seq(0, 360 - 20, by = 20)
df <- data.frame(x = x, y = cos(x*pi/180))
df_p <- periodic(df, x = c(0, 360))

# wrap in default range
df_wrapped <- wrap(df_p)
range(df_wrapped$x)
range(df$x)

# specify range
df_wrapped <- wrap(df_p, x = c(-145, 365))
range(df_wrapped$x)

# with non regular intervals
x <- runif(30, 0, 360)
df <- periodic(data.frame(x = x, y = cos(x*pi/180)),
              x = c(0, 360))
df_wrapped <- wrap(df, x = c(-180, 540))
range(df_wrapped$x)
range(df$x)
## Not run:
# This example illustrates the use of the .group parameter
library(ggplot2)
map <- periodic(map_data("world"), long = long)

# If wrapped without .group, the repeated parts of the map
# have the same group and so polygons are not correctly defined.
map_wrapped <- wrap(map, long = c(-180, 360))
ggplot(map_wrapped, aes(long, lat, group = group)) +
  geom_path()

# Using groups, you get the correct grouping.
map_wrapped <- wrap(map, long = c(-180, 360), .group = group)
ggplot(map_wrapped, aes(long, lat, group = group)) +
  geom_path()

## End(Not run)
```

Index

`get_period`, 2
`ggperiodic`, 2
`ggperiodic-package (ggperiodic)`, 2

`is.periodic`, 3

`periodic`, 3
`periodic()`, 2

`qwrap`, 4

`setperiodic (periodic)`, 3
`setunperiodic (unperiodic)`, 5

`unperiodic`, 5

`wrap`, 4, 5
`wrap()`, 2