Package ‘NightDay’

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NightDay-package Night and Day Boundary Plot Function

Description

Computes and plots the boundary between night and day.

Details
Author(s)

Max Hughes-Brandl
Maintainer: <gordonmax@hotmail.de>

Examples

```r
Time <- Sys.time()
timezone <- 1

plot(NightDay(Time, timezone), maps = 'world')
```

Description

Calculates the declination of the sun, the Greenwich hour angle and the latitudes of the sun movements throughout one day.

Usage

`NightDay(time, timezone)`

Arguments

- **time** needs to be of following format: `%Y-%m-%d` (%Y Year with century, %m Month as decimal number (01-12), %d Day of the month as decimal number (01-31)), `%H:%M:%S` (%H Hours as decimal number (00-23), %M Minute as decimal number (00-59), %S Second as decimal number (00-61))
- **timezone** has to be an integer, e.g. a number between -11 and +11 (0 for GMT, +1 for CMT, etc.)
Value

- **Time**: is an object of class 'POSIXlt' representing the input time.
- **tz**: is an integer representing the input timezone.
- **Latitude**: is a vector of doubles containing the Latitudes of the night and day boundary.
- **Declination**: returns a double of the sun declination.
- **GHA**: returns a double of the greenwhich hour angle.

Note

The function *NightDay* can be used in combination with your own maps and plot functions.

Author(s)

Max Hughes-Brandl

Examples

```r
time <- Sys.time()
timezone <- 1

NightDay(time, timezone)
```

Description

Plots the boundary between night and day.

Usage

```r
## S3 method for class 'NightDay'
plot(x, maps = 'world', add = FALSE, ...)
```

Arguments

- **x**: an object of class NightDay.
- **maps**: only 'world' implemented.
- **add**: logical indicating whether the plot is added to an existing device.
- **...**: additional arguments, currently not implemented.

Note

The function plot depends on library('maps').
plot.NighDay

Author(s)
Max Hughes-Brandl

Examples
```r
Time <- Sys.time()
timezone <- 1

plot(NightDay(Time, timezone))
```
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