Package ‘NightDay’
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Type Package
Title Night and Day Boundary Plot Function
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Date 2011-04-27
Author Max Hughes-Brandl
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Description Computes and plots the boundary between night and day.
License GPL
LazyLoad yes
Depends R(>= 2.9.9), maps
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NightDay-package Night and Day Boundary Plot Function

Description
Computes and plots the boundary between night and day.

Details
Package: NightDay
Type: Package
Version: 1.0
Date: 2011-01-27
License: GPL
LazyLoad: yes

Author(s)
Max Hughes-Brandl
Maintainer: <gordonmax@hotmail.de>

Examples
Time <- Sys.time()
timezone <- 1
plot(nightday(Time, timezone), maps = 'world')

---

**NightDay**

*Night and Day Boundary Computation Function*

### Description
Calculates the declination of the sun, the greenwhich hour angle and the latitudes of the of the sun movements throughout one day.

### Usage
```r
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 "POSIXt" 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)
```

plot.NighDay

Night and Day Boundary Plot Function

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').
Author(s)
Max Hughes-Brandl

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

plot(NightDay(Time, timezone))
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