Package 'NightDay'

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Type Package

Title Night and Day Boundary Plot Function

Version 1.0.1.1

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Author Max Hughes-Brandl

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

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 Funtion*

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

```
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 fo 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

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

NightDay(Time, timezone)
```

`plot.NighDay`   *Night and Day Boundary Plot Funtion*

Description

Plots the boundary between night and day.

Usage

```
## 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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