Package 'zeitgebr'

September 8, 2017

Title Analyse and Visualise Circadian Behaviours

Date 2017-09-06

Version 0.0.0.9000

Description Use behavioural variables to compute period, rhythmicity and other circadian parameters.

Depends R (>= 3.00),
  behavr

Imports data.table,
  lomb,
  ggplot2

Suggests testthat

License GPL-3

Encoding UTF-8

LazyData true

URL https://github.com/rethomics/zeitgebr

BugReports https://github.com/rethomics/zeitgebr/issues

RoxygenNote 6.0.1

Roxygen list(markdown = TRUE)

R topics documented:

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periodogram_methods   *Methods For Computing Periodograms*

Description

These functions provides a series of methods to assess periodicity of circadian processes.

Usage

```
chi_sq_periodogram(x, period_range = c(hours(16), hours(32)),
  sampling_rate = 1/mins(1), alpha = 0.05, time_resolution = hours(0.1))

fourier_periodogram(x, period_range = c(hours(16), hours(32)),
  sampling_rate = 1/mins(1), alpha = 0.05)

ls_periodogram(x, period_range = c(hours(16), hours(32)),
  sampling_rate = 1/mins(1), alpha = 0.05, oversampling = 8)
```

Arguments

x	numeric vector
period_range	vector of size 2 defining minimal and maximal range of period to study (in seconds)
sampling_rate	the – implicitly regular – sampling rate of x (in hertz)
alpha	significance level
time_resolution	
	the resolution of periods to scan
oversampling	the oversampling factor

Details

TODO

Value

a [data.table](#) with the columns:

- `period` – the period (in s)
- `power` – the power (or equivalent) for a given period
- `signif_threshold` – the significance threshold of the power (at alpha)

See Also

- [lomb::lsp](#) the orginal function for `ls_periodogram`
- [xsp::chiSqPeriodogram](#) (code derived from)

Index