

Package: emov (via r-universe)

November 6, 2024

Version 0.1.1

Date 2016-04-04

Title Eye Movement Analysis Package for Fixation and Saccade Detection

Author Simon Schwab <schw4b@gmail.com>

Maintainer Simon Schwab <schw4b@gmail.com>

Depends R (>= 1.8.0)

Description Fixation and saccade detection in eye movement recordings.
This package implements a dispersion-based algorithm (I-DT)
proposed by Salvucci & Goldberg (2000) which detects fixation
duration and position.

License GPL-3

URL <https://github.com/schw4b/emov>

BugReports <https://github.com/schw4b/emov/issues>

Repository <https://schw4b.r-universe.dev>

RemoteUrl <https://github.com/schw4b/emov>

RemoteRef HEAD

RemoteSha 6c9ca317c67130b2363c217fec72ad69bbbb5dd3

Contents

emov.angdia	2
emov.cart2sphere	2
emov.filter	3
emov.idt	3
emov.read_iviewsamples	4
fivesec	4

Index	5
--------------	----------

emov.angdia *Angular size of stimulus.*

Description

Angular size of stimulus.

Usage

```
emov.angdia(stimsize, distance)
```

Arguments

stimsize	Size of the stimulus.
distance	Viewing distance from stimulus.

Value

Angular size in degrees.

emov.cart2sphere *Convert Cartesian to Spherical coordinates.*

Description

Convert Cartesian to Spherical coordinates.

Usage

```
emov.cart2sphere(x, y, z)
```

Arguments

x	x.
y	y.
z	z.

Value

Two angles (radians) and radius

Examples

```
data = emov.cart2sphere(3, 4, 5)
```

emov.filter	<i>Velocity threshold filter.</i>
-------------	-----------------------------------

Description

Velocity threshold filter.

Usage

```
emov.filter(x, y, threshold)
```

Arguments

x	Eye position.
y	Eye position.
threshold	Velocity threshold.

Value

Filtered data.

emov.idt	<i>I-DT algorithm.</i>
----------	------------------------

Description

I-DT algorithm.

Usage

```
emov.idt(t, x, y, dispersion, duration)
```

Arguments

t	Vector of timepoints.
x	horizontal eye positions.
y	vertical eye positions.
dispersion	Maximal dispersion allowed (in units of x and y).
duration	Minimal fixation duration allowed (in number of samples)

Value

Fixations: position, start, end.

References

Salvucci, D. D., & Goldberg, J. H. (2000). Identifying fixations and saccades in eye-tracking protocols. In Proceedings of the 2000 symposium on eye tracking research & applications (pp. 71-78). New York: ACM.

```
emov.read_viewsamples
```

Read SMI iview sample file.

Description

Read SMI iview sample file.

Usage

```
emov.read_viewsamples(file, nr_of_headerlines)
```

Arguments

file	Filename.
nr_of_headerlines	No. of header lines in datafile.

Value

data file.

```
fivesec
```

Eye movement data

Description

Five seconds of eye movement data recorded with an SMI eye tracker 200 Hz

Usage

```
fivesec
```

Format

A data.frame that contains time, x and y eye positions.

Source

Simon Schwab

Index

* datasets

fivsec, 4

emov.angdia, 2

emov.cart2sphere, 2

emov.filter, 3

emov.idt, 3

emov.read_viewsamples, 4

fivsec, 4