Package 'emov'

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Title Eye Movement Analysis Package for Fixation and Saccade Detection

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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.

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

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

NeedsCompilation no

Repository CRAN

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R topics documented:

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 *Velocity threshold filter.*

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-DT algorithm.*

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_iviewsamples` *Read SMI iview sample file.*

Description

Read SMI iview sample file.

Usage

```
emov.read_iviewsamples(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

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