DEMoNS protocol for measurement and analysis of eye movements

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Abstract

For questions, send an email to info.demonsprotocol@gmail.com

The complete protocol and instructions on measurement and analysis of eye movements with the DEMoNS protocol.

Quantitative saccadic testing is a non-invasive method of evaluating the neural networks involved in the control of eye movements. The DeMONS protocol is a standardized and reproducible protocol for infrared oculography measurements of eye movements and analysis, which can be applied for various diseases in a multicenter setting. In the accompanying manuscript in PLoS ONE, descriptive and reproducibility values are listed of all parameters.

Download the file Demons_all_files for the whole protocol including the matlabfiles, or download files seperately in the 'Steps' tab

Citation: Jenny Nij Bijvank DEMoNS protocol for measurement and analysis of eye movements. **protocols.io** https://www.protocols.io/view/demons-protocol-for-measurement-and-analysis-of-ey-ruad6se
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Guidelines

For instructions on analysis with the accompanying matlabfiles, read the 'Instructions analysis' file.
For questions, send an email to info.demonsprotocol@gmail.com

Protocol

Download all files

Step 1.

This zipped folder contains all files needed for measurement and analysis (steps 2-11)

Protocol and instruction files

Step 2.

Measurement and analysis protocol, and instructions on analysis and import of files in Matlab

The Eyelink measurement protocol can only be used with an Eyelink (SR Research) eyetracker. These zipped files contain the folders of the developed experiment (English and Dutch version), created in the software of Eyelink (Experiment builder).

For other eyetrackers, the experiment has to be created as indicated in the measurement protocol .pdf file

Data-import matlabfiles

Step 3.

Matlabfiles needed for automated import of data in Matlab (see document 'Instructions import files')

General matlabfiles

Step 4.

Matlabfiles needed for every analysis

Pre-processing and saccade detection

Step 5.

Matlabfiles needed for the gaze filtering, artefact removal and saccade of every task

Fixation task matlabfiles

Step 6.

Task-specific matlabfiles of the fixation task

Pro-saccadic task matlabfiles

Step 7.

Task-specific matlabfiles of the pro-saccadic task

Anti-saccadic task matlabfiles

Step 8.

Task-specific matlabfiles of the anti-saccadic task

Express saccadic task matlabfiles

Step 9.

Task-specific matlabfiles of the express saccadic task

Double-step saccadic task matlabfiles

Step 10.

Task-specific matlabfiles of the double-step saccadic task

Repeated pro-saccadic task matlabfiles

Step 11.

Task-specific matlabfiles of the repeated pro-saccadic task