

Manual for scanEEGviewer

In MATLAB run **scanEEGviewer.m**

- select a *.mat -file containing appropriate EEG data (see Table below)
 - o the default path is ./Data/ but can be changed at the beginning of the script
- within the data path, directories beginning with `annot` are inspected for files containing associated event data, i.e. having the same name as the data file and an appended `-events`
 - o if any event files are found they are proposed for selection. If none is found or selected, the EEG data is loaded without annotations.

Alternatively, it can be run by directly providing the data as arguments:

scanEEGviewer(EEGfilepath)

e.g. `scanEEGviewer('Exp1-sz1.mat')`

scanEEGviewer(EEGfilepath, eventFilepath)

e.g. `scanEEGviewer('Exp1-sz1.mat', 'Exp1-sz1-events.mat')`

scanEEGviewer(EEG, fs)

e.g. `scanEEGviewer(EEG, 512)`

scanEEGviewer(EEG, fs, ELabel)

e.g. `scanEEGviewer(EEG, 512, ELabel)`

scanEEGviewer(EEG, fs, Elabel, eventFilepath)

e.g. `scanEEGviewer(EEG, 512, ELabel, 'Exp1-sz1-events.mat')`

Appropriate EEG data should consist of the following variables (optionally in a mat-file):

Name	Content	required/optional
EEG	A n -by- k matrix containing numerical data where every column is an EEG channel and every row is a timepoint.	required
fs	A scalar value specifying the data's sampling frequency. If variable is missing, a value is requested during loading.	optional
ELabel	A cell array with k elements, specifying the channels' names. If variable is missing, channels are enumerated 1: k .	optional
RBTchLab	A cell array containing the names of the channels that were identified as recording from subsequently resected tissue. Only names that coincide with a name in ELabel are used. If no name coincides or variable is missing, the RBT-checkbox is disabled.	optional

Mouse controls

Mouse button	Action
Left	<p>i) Measurement tool: Draw a box on signals to measure the selected time and amplitude span.</p> <p>1st click: sets the first corner of the box</p> <p>2nd click: fixes the box as drawn</p> <p>3rd click: removes the box</p> <p>ii) Event selection: Click on an existing event to modify it.</p>
Right	<p>Event Registration: To register a new event.</p> <p>1st click: sets a time point and channel of an event optionally draw a box surrounding the time and channels of the event. Keyboard controls can also be used during this step.</p> <p>2nd click: opens the window to register the event as selected</p>

Keyboard controls¹

Key	Action
Right / left arrow	go 1/10 of the window forward / backward
Page down / page up	go one whole window forward / backward
R	zoom in to half window length
T	zoom out to double window length
E	reset window length to 10 seconds
Home	Jump to beginning of recording
End	Jump to end of recording
Up / down arrow	Increase / decrease amplitude display
F	switch filter on / off
C	switch referencing to common median
V	switch referencing to common average of displayed channels
B	switch referencing to bipolar

¹ After using any GUI element outside the main EEG signal window, the focus needs to be reset to the main window for the keyboard controls to work (e.g. by clicking into the signal window).