

Information on Data Structure of EEG Material

cnt is the structure of continuous signals:

- .x** The EEG signals as 2-D array of size [T nChannels] with time along the first and channels along the second dimension.
- .fs** The sampling rate, unit [samples per second].
- .clab** Channel labels, stored as strings in a cell array.

mrk is the structure of marker (or event) information:

- .time** Positions of markers in the continuous signals as array of size [1 nEvents]. The unit is time in msec.
- .y** Class labels of the events as 2-D array of size [nClasses nEvents]. The i -th row indicates class membership with class i (0 means no membership, 1 means membership)
- .className** Cell array of strings defining names of the classes.
- .fs** The sampling rate, unit [samples per second].

The electrode montage structure, denoted by **mmt**, holds the information of the spatial arrangement of the electrodes on the scalp:

- .clab** Channel labels, stored as strings in a cell array.
- .x** horizontal coordinates of 2D-projected electrode positions. ('Horizontal' refers to our standard scalp view from the top with nose up.)
- .y** vertical coordinates of 2D-projected electrode positions. ('Vertical' refers to our standard scalp view from the top with nose up.)

In the exercises, single-trials of EEG (also called epochs) will be investigated. These are short segments of EEG, all of the same length, that have a fixed time relation to marker positions. The marker positions are typically defined by delivered stimuli or by responses of the subject. The structure **epo** has the following form.

- .x** The EEG epochs as 3-D array of size [T nChannels nEpochs] with time along the first, channels along the second, and epochs along the third dimension.
- .t** Time line, vector of length T, i.e., the size of the first dimension of epo.x.
- .y** Class labels of the epochs as 2-D array of size [nClasses nEpochs]. The i -th row indicates class membership with class i (0 means no membership, 1 means membership).
- .className** Cell array of strings defining names of the classes.
- .fs** The sampling rate, unit [samples per second].
- .clab** Channel labels, stored as strings in a cell array.