BCI Lab 2

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The goal of this Lab is to visualize the P300 evoked response for a standard P300 speller. On Canvas you can find the needed datasets. The dataset consists EEG data of 5 subjects participating in a P300 speller experiment. It is data from the calibration phase, so non-target and target stimuli are known. The data is in edf format.

Assignment 1

Write down the different steps (plan) needed to visualize the response between a target and non-target P300 evoked visual stimuli. You can make use of the Jupyter notebook of Lab 1 as an inspiration. You are allowed to adapt the steps/plan after finishing the lab.

1. Load the (edf) data.
2. …….
3. …….
4. ……..

Compare and discuss your plan with one of the other groups and adapt when deemed appropriate.

Assignment 2

Execute the above plan by creating a Jupyter notebook for Lab 2 for the data of subject (group) 1 and determine the characteristics of the P300 (latency etc.)

One of the important procedures in comparing responses in "baselining". Explain what baselining does and why it is needed when comparing brain responses.

Assignment 3

Compare the P300 responses for the different groups (subjects) regarding the characteristics of an evoked response.