

MILESTONE 3: TEAM „NEURONAUTS“



Members: Jan Hagnberger, Jianyang Gu

Dataset: Reaching Task

| | Step | Authors | NeuroNauts |
|---------------|----------------------|---|---|
| Preprocessing | EEG Delay Correction | Subtract 63ms | Subtract 63ms |
| | Temporal Cleaning | Manually remove bad events for each subject | Manually remove bad events for each subject (<i>bad events known</i>) |
| | Bad Channels | Manual | Manual |
| | Filter | >1Hz & <125Hz | >0.1Hz (<i>following lecture</i>) & <125Hz |
| | Resampling | 250 Hz | 250 Hz |
| | Re-referencing | Channel average | Channel average |
| | Artefact Cleaning | Automatic based on amplitude differences | ASR (Automatic Subspace Reconstruction) (<i>computation heavy</i>) |
| | 50Hz Noise | AM-ICA (Adaptive Mixture ICA) | Notch filter (<i>easy approach</i>) |
| | Eye Blinks | AM-ICA + manual selection of components | ICA (<i>state-of-the-art choice according to lecture</i>) |
| ERP | Filter | >0.25Hz & < 35Hz | >0.5Hz to 35Hz |
| | Electrode | FCz | FCz (<i>important point for prediction error negativity</i>) |
| | Time Window | -0.3 to 0.7s | -0.1 to 1.0s |
| | Baseline Correction | Subtract mean of pre-stimulus period | High-pass filter at ~0.5Hz (<i>following lecture</i>) |
| | Averaging | Mean | Mean |

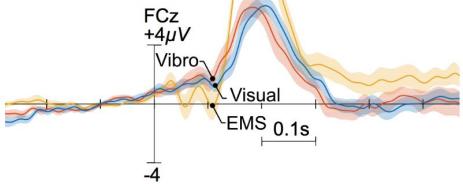
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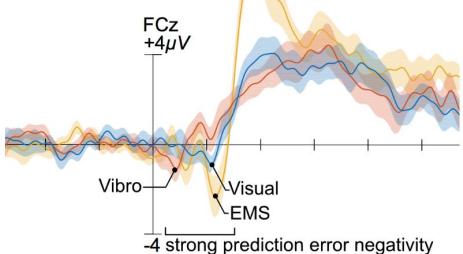
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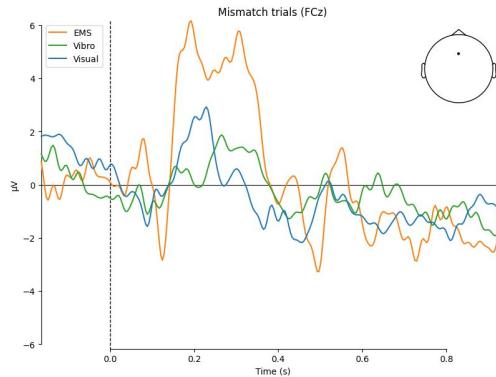
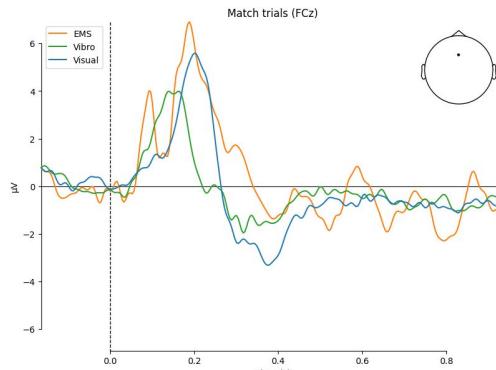
A. match trials



B. mismatch trials



Results from paper



Results for one subject