**PRE-PROCESSING REQUIREMENTS**

1. event-files: we have to know which trigger is which (they are all numbered as 1 in the raw data)  
    **✓**
2. ELP-file: we have to know which electrode is which. Number 16 is left mastoid and 18 is right mastoid. Electrode number 17 is VEOG (under the left eye).  
    ✓
3. Bad channels have to be interpolated (that is better than marking them bad for the further processing). Of course, it's not good to interpolate several electrodes from the same region. We also have to know for the reports how many channels are interpolated per subject  
    ✓
4. Artefacts - at least blinks - have to be removed  
    ✓
5. The data has to be re-referenced, I've typically used the average of the mastoids.  
    ✓
6. The paradigm has to be set: in Besa there are several steps in this:
   1. Triggers are named (if it has not been done before)  
       ✓
   2. Epochs: the data is epoched from -100ms -> 500 ms (this for Multi and Swi, the SOA for AV is apparently shorter, can you see it? I have a note that it is 300 ms which would define the epoch: -100ms -> 300 ms) I hope it is longer…  
       ✓
   3. Filtering: typically with children we use lowpass: 30Hz, highpass: 0.5Hz.   
       ✓
   4. The amplitudes exceeding 120 microvolts are cut off.  
       ✓
   5. Averaging: std and different deviants are averaged for each subject. We need to know how much of the data is accepted for each subject.  
       ✓
7. I have then exported this averaged data from Besa to mul-files that I have looked in MATLAB with CBRU's own mul-plugin. But as we just discussed with Tommi, set-files are ok too.

**Multi-feature paradigm (=Opti)**

SOA: 528 ms (?)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Stimulus | trigger | duration | Fre | dB |
| Std | 11 |  |  |  |
| Gap | 2 |  |  |  |
| Novel | 3 |  |  |  |
| Fre1 | 4 |  |  |  |
| Fre2 | 5 |  |  |  |
| Loc1 | 6 |  |  |  |
| Loc2 | 7 |  |  |  |
| Int | 8 |  |  |  |
| Dur | 9 |  |  |  |

**AV PARADIGM**

SOA: we had problems with sound card and that is maybe why the SOAs are not always exactly the same 

SOA between pictures 2050 ms

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| The idea is to see how novel sounds distract the responses.  Needed in addition to ERPs: reaction time after picture when a) std-sound is heard and when b) novel sound is heard   1. for ex. “Response” – ”pic\_ANIMAL”, i.e. triggers 100-99 | | | | |
| Stimulus | trigger |  |  |  |
| STD1nn | 10 | right after the picture: not used? |  |  |
| STD2nn | 11 | used |  |  |
| STD1nov | 12 |  |  |  |
| STD2nov | 13 |  |  |  |
| pic\_ANIMALnnxx  pic\_ANIMALnovxx  pic\_THINGnnxx  pic\_THINGnovxx | 99 | all pictures are triggered as 99 |  |  |
| Response | 100, 103 | left, right, which is which? |  |  |
| sound\_NOVEL6 | 106 | all novel sounds have their own triggers: for the analyses, we combine them | combine these: these ERPs act as deviants | subtraction curve:  av. sound\_NOVEL-av. sound |
| sound\_NOVEL21 | 121 |  |  |  |
| sound\_NOTNOVEL | 211 |  | these act as standards OR: these + STD2nn  How is it in China-project? |  |

**SWITCHING PARADIGM**

Audio SOA: 500 ms, excluding the stdx – A+V, SOA 512, 514 ms ?

|  |  |  |  |
| --- | --- | --- | --- |
| Stimulus | trigger |  |  |
| std1 | 11 |  |  |
| std\_aft1 | 12 |  | Average standards only over std\_aft-trials(?) or take std1 along? Vesa? |
| std\_aft2 | 13 |  |
| std\_aft3 | 14 |  |
| std1\_nov | 15 |  |  |
| std2\_nov | 16 |  |  |
| std3\_nov | 17 |  |  |
| Dog\_A\_S2\_Cat\_V | 22 | Subject NOT supposed to press the button | combine 22 & 24 |
| Cat\_A\_S2\_Dog\_V | 24 | Subject NOT supposed to press the button |  |
| Dog\_A\_S2\_Dog\_V | 32 | Subject supposed to press the button | combine 32 & 34 |
| Cat\_A\_S2\_Cat\_V | 34 | Subject supposed to press the button |  |
| Response | 100 |  |  |