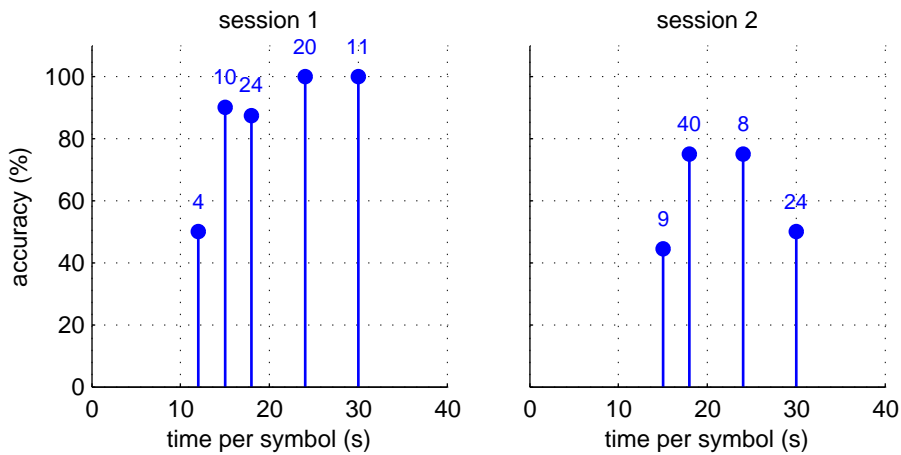**Figure 1.** Detection accuracies for the SSVEP-based BCI and each patient with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

1

**Table 1.** detailed results for patient 1 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
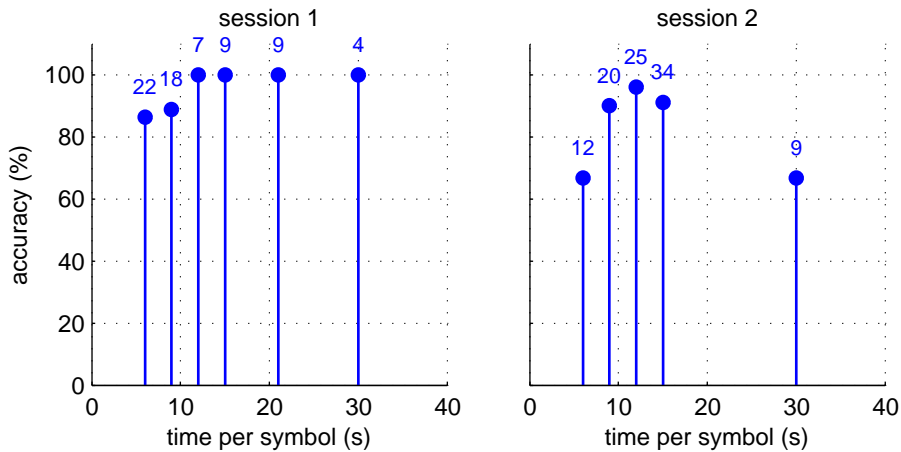
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 330 | 30 | 11/11 (100) | 12 | 720 | 30 | 12/24 (50) | 4.023 | 1050 | 30 | 23/35 (65.71) | 6.046 |
| 8 | 480 | 24 | 20/20 (100) | 15 | 192 | 24 | 6/8 (75) | 9.236 | 672 | 24 | 26/28 (92.86) | 13 |
| 6 | 432 | 18 | 21/24 (87.5) | 15.7 | 720 | 18 | 30/40 (75) | 12.31 | 1152 | 18 | 51/64 (79.69) | 13.53 |
| 5 | 150 | 15 | 9/10 (90) | 19.73 | 135 | 15 | 4/9 (44.44) | 6.753 | 285 | 15 | 13/19 (68.42) | 12.85 |
| 4 | 48 | 12 | 2/4 (50) | 10.06 | - | - | - | - | 48 | 12 | 2/4 (50) | 10.06 |
| total | 1440 | 20.87 | 63/69 (91.3) | 14.53 | 1767 | 21.81 | 52/81 (64.2) | 8.028 | 3207 | 21.38 | 115/150 (76.67) | 10.72 |



**Figure 2.** Detection accuracies for each session with patient 1 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 2.** detailed results for patient 2 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
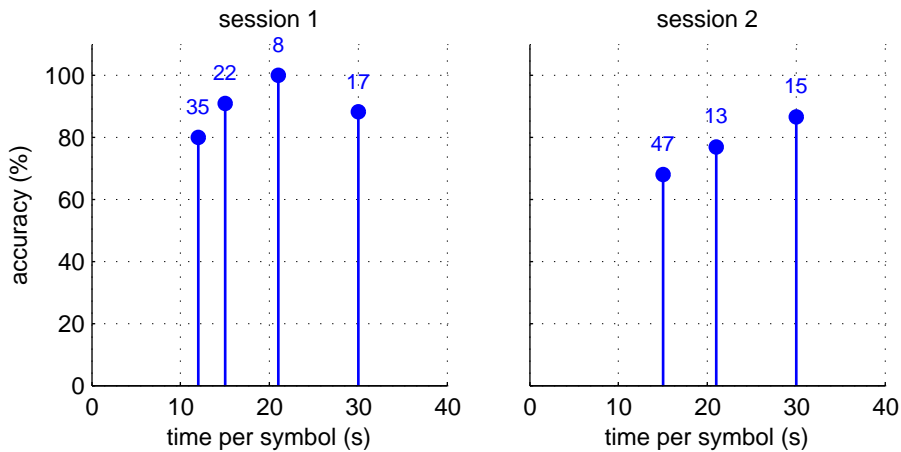
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 120 | 30 | 4/4 (100) | 12 | 270 | 30 | 6/9 (66.67) | 6.179 | 390 | 30 | 10/13 (76.92) | 7.683 |
| 7 | 189 | 21 | 9/9 (100) | 17.14 | - | - | - | - | 189 | 21 | 9/9 (100) | 17.14 |
| 5 | 135 | 15 | 9/9 (100) | 24 | 510 | 15 | 31/34 (91.18) | 20.17 | 645 | 15 | 40/43 (93.02) | 20.87 |
| 4 | 84 | 12 | 7/7 (100) | 30 | 300 | 12 | 24/25 (96) | 27.59 | 384 | 12 | 31/32 (96.88) | 28.06 |
| 3 | 162 | 9 | 16/18 (88.89) | 32.22 | 180 | 9 | 18/20 (90) | 32.89 | 342 | 9 | 34/38 (89.47) | 32.57 |
| 2 | 132 | 6 | 19/22 (86.36) | 46.1 | 72 | 6 | 8/12 (66.67) | 30.89 | 204 | 6 | 27/34 (79.41) | 40.36 |
| total | 822 | 11.91 | 64/69 (92.75) | 26.15 | 1332 | 13.32 | 87/100 (87) | 21.02 | 2154 | 12.75 | 151/169 (89.35) | 22.94 |



**Figure 3.** Detection accuracies for each session with patient 2 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 3.** detailed results for patient 3 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
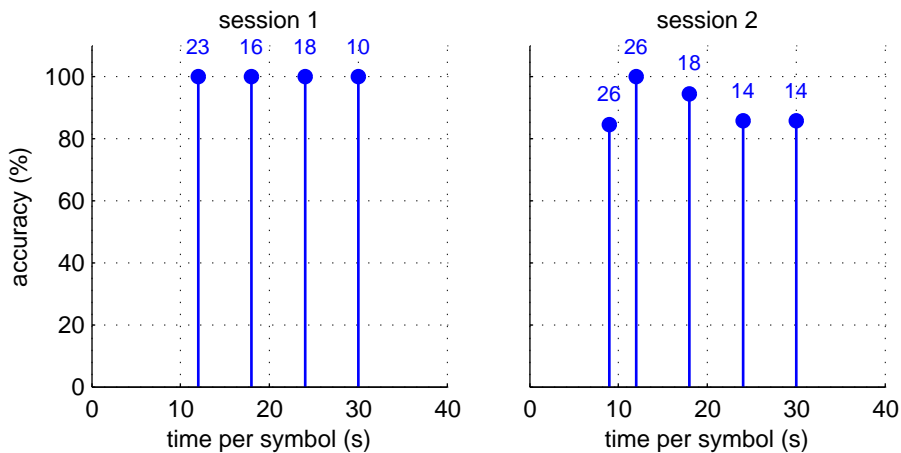
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 510 | 30 | 15/17 (88.24) | 9.548 | 450 | 30 | 13/15 (86.67) | 9.273 | 960 | 30 | 28/32 (87.5) | 9.419 |
| 7 | 168 | 21 | 8/8 (100) | 17.14 | 273 | 21 | 10/13 (76.92) | 10.98 | 441 | 21 | 18/21 (85.71) | 13.01 |
| 5 | 330 | 15 | 20/22 (90.91) | 20.07 | 705 | 15 | 32/47 (68.09) | 12.76 | 1035 | 15 | 52/69 (75.36) | 14.89 |
| 4 | 420 | 12 | 28/35 (80) | 20.41 | - | - | - | - | 420 | 12 | 28/35 (80) | 20.41 |
| total | 1428 | 17.41 | 71/82 (86.59) | 15.95 | 1428 | 19.04 | 55/75 (73.33) | 11.25 | 2856 | 18.19 | 126/157 (80.25) | 13.53 |



**Figure 4.** Detection accuracies for each session with patient 3 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 4.** detailed results for patient 4 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
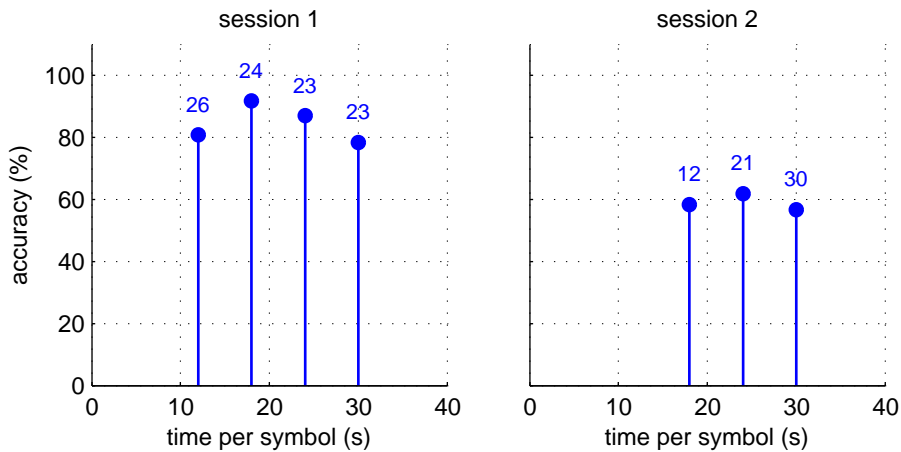
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 300 | 30 | 10/10 (100) | 12 | 420 | 30 | 12/14 (85.71) | 9.109 | 720 | 30 | 22/24 (91.67) | 10.18 |
| 8 | 432 | 24 | 18/18 (100) | 15 | 336 | 24 | 12/14 (85.71) | 11.39 | 768 | 24 | 30/32 (93.75) | 13.22 |
| 6 | 288 | 18 | 16/16 (100) | 20 | 324 | 18 | 17/18 (94.44) | 17.86 | 612 | 18 | 33/34 (97.06) | 18.78 |
| 4 | 276 | 12 | 23/23 (100) | 30 | 312 | 12 | 26/26 (100) | 30 | 588 | 12 | 49/49 (100) | 30 |
| 3 | - | - | - | - | 234 | 9 | 22/26 (84.62) | 29.74 | 234 | 9 | 22/26 (84.62) | 29.74 |
| total | 1296 | 19.34 | 67/67 (100) | 18.61 | 1626 | 16.59 | 89/98 (90.82) | 18.11 | 2922 | 17.71 | 156/165 (94.55) | 18.19 |



**Figure 5.** Detection accuracies for each session with patient 4 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 5.** detailed results for patient 5 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
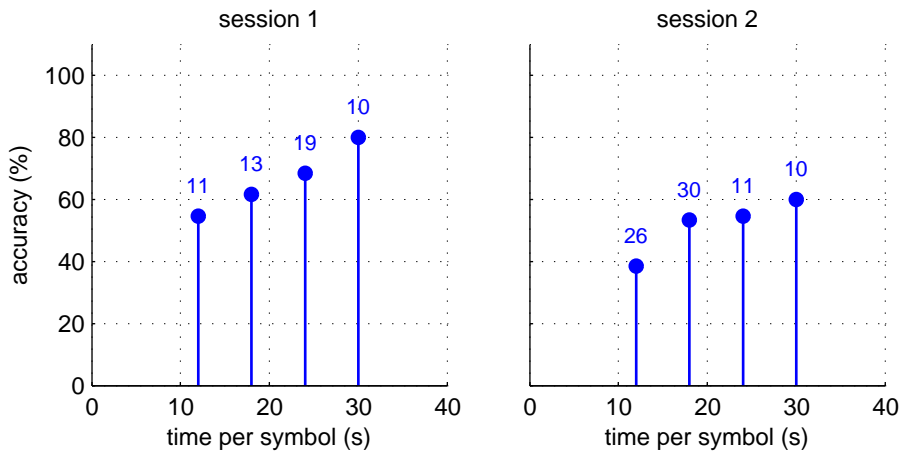
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 690 | 30 | 18/23 (78.26) | 7.89 | 900 | 30 | 17/30 (56.67) | 4.845 | 1590 | 30 | 35/53 (66.04) | 6.091 |
| 8 | 552 | 24 | 20/23 (86.96) | 11.65 | 504 | 24 | 13/21 (61.9) | 6.911 | 1056 | 24 | 33/44 (75) | 9.236 |
| 6 | 432 | 18 | 22/24 (91.67) | 16.96 | 216 | 18 | 7/12 (58.33) | 8.432 | 648 | 18 | 29/36 (80.56) | 13.76 |
| 4 | 312 | 12 | 21/26 (80.77) | 20.72 | - | - | - | - | 312 | 12 | 21/26 (80.77) | 20.72 |
| total | 1986 | 20.69 | 81/96 (84.38) | 12.88 | 1620 | 25.71 | 37/63 (58.73) | 5.962 | 3606 | 22.68 | 118/159 (74.21) | 9.617 |



**Figure 6.** Detection accuracies for each session with patient 5 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 6.** detailed results for patient 6 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.
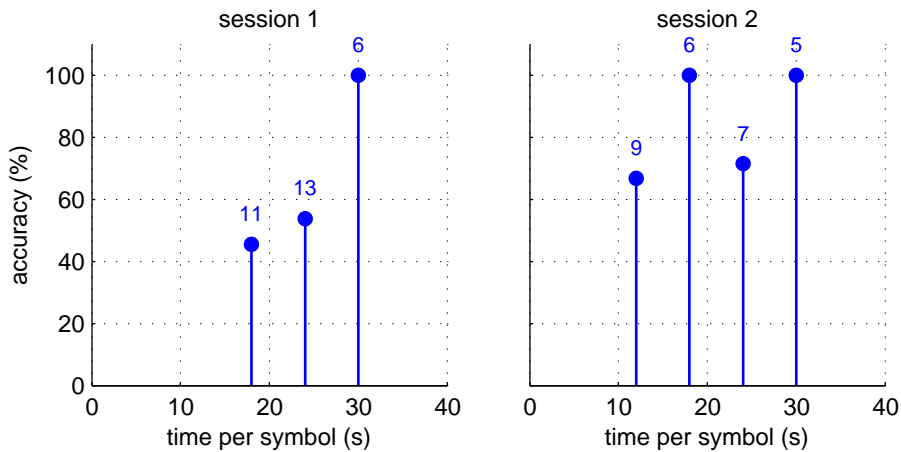
| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **TST** | **MST** | **CR** | **ITR** | **TST** | **MST** | **CR** | **ITR** | **TST** | **MST** | **CR** | **ITR** |
| 10 | 300 | 30 | 8/10 (80) | 8.165 | 300 | 30 | 6/10 (60) | 5.276 | 600 | 30 | 14/20 (70) | 6.651 |
| 8 | 456 | 24 | 13/19 (68.42) | 8.032 | 264 | 24 | 6/11 (54.55) | 5.723 | 720 | 24 | 19/30 (63.33) | 7.151 |
| 6 | 234 | 18 | 8/13 (61.54) | 9.133 | 540 | 18 | 16/30 (53.33) | 7.379 | 774 | 18 | 24/43 (55.81) | 7.896 |
| 4 | 132 | 12 | 6/11 (54.55) | 11.45 | 312 | 12 | 10/26 (38.46) | 6.802 | 444 | 12 | 16/37 (43.24) | 8.104 |
| total | 1122 | 21.17 | 35/53 (66.04) | 8.632 | 1416 | 18.39 | 38/77 (49.35) | 6.436 | 2538 | 19.52 | 73/130 (56.15) | 7.346 |



**Figure 7.** Detection accuracies for each session with patient 6 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.

**Table 7.** detailed results for patient 7 per session using the SSVEP-based BCI. SD represents the stimulus duration, TST the total stimulation time in seconds corresponding to the communication of all symbol, MST the mean stimulation time in seconds corresponding to the communication of one symbol (average for the total line), CR the correctness ratio (number of correclty detected symbol *w.r.t.* total number of typed symbols) and the corresponding accuracy (%) and ITR the Information Transfer Rate.

| SD | session 1 | | | | session 2 | | | | all sessions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TST | MST | CR | ITR | TST | MST | CR | ITR | TST | MST | CR | ITR |
| 10 | 180 | 30 | 6/6 (100) | 12 | 150 | 30 | 5/5 (100) | 12 | 330 | 30 | 11/11 (100) | 12 |
| 8 | 312 | 24 | 7/13 (53.85) | 5.614 | 168 | 24 | 5/7 (71.43) | 8.573 | 480 | 24 | 12/20 (60) | 6.595 |
| 6 | 198 | 18 | 5/11 (45.45) | 5.819 | 108 | 18 | 6/6 (100) | 20 | 306 | 18 | 11/17 (64.71) | 9.846 |
| 4 | - | - | - | - | 108 | 12 | 6/9 (66.67) | 15.45 | 108 | 12 | 6/9 (66.67) | 15.45 |
| total | 690 | 23 | 18/30 (60) | 6.882 | 534 | 19.78 | 22/27 (81.48) | 12.75 | 1224 | 21.47 | 40/57 (70.18) | 9.327 |



**Figure 8.** Detection accuracies for each session with patient 7 using the SSVEP-based BCI with respect to the stimulation time per symbol. The figure above each data point represents the number of symbols communicated.