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# A Low Computational Cost Algorithm for REM Sleep Detection using Single Channel EEG

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**Table S1** Performance of algorithm using five-fold cross-validation.

| Subject | REM <sub>tot</sub> | REM <sub>det</sub> | TP   | Sen (%) | Spe (%) | Sel(%) | Acc(%) |
|---------|--------------------|--------------------|------|---------|---------|--------|--------|
| 1       | 113                | 158                | 103  | 91.15   | 93.51   | 65.19  | 93.24  |
| 2       | 122                | 242                | 119  | 97.54   | 85.75   | 49.17  | 87.21  |
| 3       | 212                | 224                | 189  | 89.15   | 95.6    | 84.38  | 94.25  |
| 4       | 155                | 324                | 146  | 94.19   | 80.18   | 45.06  | 82.24  |
| 5       | 196                | 279                | 195  | 99.49   | 90.08   | 69.89  | 91.85  |
| 6       | 187                | 297                | 186  | 99.47   | 86.28   | 62.63  | 88.76  |
| 7       | 131                | 285                | 107  | 81.68   | 79.8    | 37.54  | 80.04  |
| 8       | 162                | 284                | 120  | 74.07   | 79.68   | 42.25  | 78.74  |
| 9       | 131                | 182                | 123  | 93.89   | 94.02   | 67.58  | 94     |
| 10      | 146                | 150                | 111  | 76.03   | 95.59   | 74     | 92.82  |
| 11      | 212                | 267                | 203  | 95.75   | 91.96   | 76.03  | 92.76  |
| 12      | 87                 | 61                 | 50   | 57.47   | 98.74   | 81.97  | 95.01  |
| 13      | 89                 | 283                | 88   | 98.88   | 80.84   | 31.1   | 82.29  |
| 14      | 163                | 130                | 117  | 71.78   | 98.45   | 90     | 94.12  |
| 15      | 123                | 114                | 93   | 75.61   | 97.06   | 81.58  | 93.91  |
| 16      | 147                | 150                | 99   | 67.35   | 93.78   | 66     | 89.76  |
| 17      | 162                | 259                | 137  | 84.57   | 85.16   | 52.9   | 85.06  |
| 18      | 166                | 274                | 166  | 100     | 87.37   | 60.58  | 89.42  |
| 19      | 162                | 303                | 150  | 92.59   | 82.43   | 49.51  | 84.03  |
| 20      | 153                | 225                | 115  | 75.16   | 88.91   | 51.11  | 87.07  |
| avg     |                    |                    |      | 85.79   | 89.26   | 61.92  | 88.83  |
| Total   | 3019               | 4491               | 2617 |         |         |        |        |
| Average |                    |                    |      | 85.79   | 89.26   | 61.92  | 88.83  |

REM<sub>tot</sub> - number of REM epochs in the test; REM<sub>det</sub> - number of REM epochs detected by the algorithm.

TP - true positives; Sen - sensitivity; Spe - specificity; Sel - selectivity; Acc - accuracy.