

We present the results of a study to compare the performance of a novel algorithm for sleep/wake identification based on actigraphy against the classical sleep/wake detection algorithms proposed by Cole, Sadeh, and Oakley. The comparison was performed using a database containing dominant and non-dominant hand actigraphy signals for 104 subjects (i.e. 208 actigraphy recordings). The new algorithm exhibits better minute-by-minute accuracy, as well as a significant improvement in the avoidance of invalid sleep-wake transitions with respect to the classical ones. These results demonstrate the advantage of the new algorithm over the classical ones for sleep/wake detection in ABPM applications.