

## **Abstract**

This study focused on sleep and the influence of blue light on sleep quality parameters. The experiment has been set up into a four-week research divided into two phases. Both phases were two weeks long. The first phase was without blue light blocking glasses, and the second phase with the glasses. We also worked with a Garmin smartwatch, sleep diary and standardized Pittsburgh Sleep Index questionnaire (filled out before and after the experiment). Parameters have been collected from a smartwatch (average heart rate, duration of sleep, duration of REM and NREM sleep, time of falling asleep, number of awakenings per night and stress levels), sleep diary (body temperature during night/morning, subjective quality of sleep and tiredness during the) and the Pittsburgh questionnaire. During the phase with glasses, probands had to wear them at least 90 minutes before sleeping. They could take them off only in a room without any artificial light. Every day probands filled up their sleep diary and entered information from their smartwatch. After the experiment, the data from both phases were processed and compared. Statistically significant parameters ( $p \leq 0.05$ ) were average heart rate, body temperature measured in the morning, number of awakenings per night, subjective sleep quality, results of a standardized questionnaire, sleep latency and stress levels.