

Abstract

This bachelor thesis deals with the introduction and subsequent comparison of low-cost sensors measuring air pollutants, which were used in the Citi-sense project in Ostrava. The results of the measurements carried out in the period from 1st June 2015 to 7th September 2015, are compared with reference data measured by the Czech hydrometeorological institute during the same period. The data are analyzed to provide the basis for further research into low-cost devices monitoring air pollution. Basic parameters such as average values, correlation coefficient, slope of linear regression, reproducibility of results, RMSE, and weekly and daily cycle are calculated for all measured pollutants (O_3 , CO, NO_x , NO_2 , NO, PM_{10}). The results are graphically illustrated and commented. The thesis also discusses the concordance of concentrations measured by the sensors with the data from the reference instruments, and the use of these new sensors in air quality monitoring in the future.

Key words: Low-cost sensors, pollutants, air pollution monitoring methods