

# Magnetometry Used for Comparison of Heavy Metals Air Pollution Inside and Outside Home; Case Study from Warsaw

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## Abstract

The aim of this study is to compare pollution of air inside a building (Jeleńska *et al.* 2017) with pollution of soil and dust street around the building. Magnetic properties such as hysteresis parameters and magnetic susceptibility values, and magnetic mineralogy identification were used for characterization of magnetic particles present in indoor dust, street dust and in soil. Study was carried out in the flat in residential building located in the center of Warsaw between two very busy streets and one smaller but very narrow. Dust samples (ID) were collected inside the buildings with a vacuum cleaner. Street samples (DD) were swept up from the surface of the roadway. Soil samples (DS) were dugged from the lawns along the street. The samples were taken from 2 or 3 layers: surface, 0-10 cm and 10-20 cm of depth. Two samples of soil were taken from the lawn in the inner yard of the building. 3 samples were taken from the flat located on first floor. Magnetic parameters measured include mass susceptibility, hysteresis loops and volume susceptibility during heating to 700 °C. The values of susceptibility showed that soil taken from the inner yard is contaminated approximately similarly to soil taken along the small street. The highest values of susceptibility are for soil taken around crossroad. Contamination of street dust is lower than soil around crossroad and higher along the streets. Susceptibility of indoor dust is approximately the same as for soil samples taken by the nearest street.

**Keywords:** magnetic parameters, street and indoor dust, soil contamination.

## References

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