

# On the experimental and numerical study of dust dispersion in complex terrain.

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## Abstract

This is a short report on some of the aspects of a joint project aimed to investigate mathematical and experimental tools to predict dust dispersion in local environment. It shows a case study of airborne pollution in the proximity of an opencast coal mine. Focus is on in-situ measurement of environmental parameters and their spatio-temporal evolution. Time-series of measured quantities (including wind parameters and dust concentrations) will be presented together with spatially interpolated data. The data are visualized using ArcGIS in local maps. As a complement, some results of numerical simulations of wind flow in the region of interest are presented.

**Keywords:** Dust dispersion, wind flow, numerical simulation, data interpolation, GIS visualization.

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