



Participatory measurements of individual exposure to air pollution in urban areas

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Air pollution is a major environmental issue in urban areas. Chronic and high concentration exposure presents a health risk with cardiovascular and respiratory problems and longer term nervous, carcinogenic and endocrine problems. In addition to the estimations based on simulations of both background and regional pollution and of the pollution induced by the traffic, knowing exposure of each individual is a key issue. This exposure reflects the high variability of pollution at fine spatial and time scales, according to the proximity of emission sources and the urban morphology outside.

The emergence of citizen science and the progress of miniaturized electronics, low-cost and accessible to (almost) everyone, offers new opportunities for the monitoring of air pollution, but also for the citizens' awareness of their individual exposure to air pollution. In this communication, we propose to present a participatory research project 'What is your air?' (project funded by the Île-de-France region), which aims at raising awareness on the theme of air quality, its monitoring with sensors assembled in a FabLab workshop and an online participatory mapping.

Beyond the discussion on technical choices, the stages of manufacture or the sensor calibration procedures, we discuss the measurements made, in this case the fine particle concentration measurements, which are dated and georeferenced (communication via a mobile phone). They show high variability between the measurements (in part linked to the substrates, land use, traffic) and low daily contrasts. In addition to the analysis of the measurements and their comparison with the official data, we also discuss the choice of representation of information, including mapping, and therefore the message about pollution to communicate.