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A CASE STUDY OF INDOOR AIR QUALITY IN A CLASSROOM BY COMPARING PASSIVE AND CONTINUOUS MONITORING

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Abstract

Most people is aware that outdoor air pollution can impact human health, including indoor air pollution. Human exposure to air pollutants indicate that indoor levels of pollutants may be two to five times, and occasionally more than 100 times, higher than outdoor levels. These levels of indoor air pollutants are of particular concern because most people spend about 90 percent of their time indoors. In this manuscript we monitored indoor pollutants in a school building with two different methodologies (active and passive monitoring). We demonstrated that, even if in general the registered pollutants showed concentration below the threshold defined by WHO guidelines, the active monitoring is able to catch peaks of concentrations linked to particular school activities, such as educational arts, including single emitting episodes. The use of the monitoring equipment in continuous facilitated the identification of the pollution sources in a timely manner, identifying the impact of the best management practices on the microclimate, and particularly on internal temperature and CO_2 concentrations.

Key words: active monitoring, indoor pollution, school redevelopment

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