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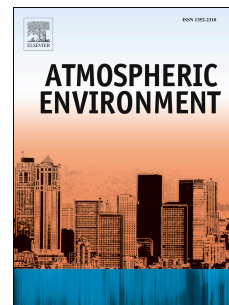
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# Urban air pollution by odor sources: short time prediction

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## Abstract

A numerical approach is proposed to predict the short time dispersion of odors in the urban environment. The model is based on (i) a three dimensional computational domain describing the urban topography at fine spatial scale (one meter) and on (ii) highly time resolved (one minute frequency) meteorological data used as inflow conditions. The time dependent, three dimensional wind velocity field is reconstructed in the Eulerian framework using a fast response finite volume solver of Navier-Stokes equations. Odor dispersion is calculated using a Lagrangian approach. An application of the model to the historic city of Verona (Italy) is presented. Results confirm that this type of odor dispersion simulations can be used (i) to assess the impact of odor emissions in urban areas and (ii) to evaluate the potential mitigation produced by odor abatement systems.

*Keywords:* Dispersion modelling, short averaging time, odor pollution,

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