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SHORT ABSTRACT

Abstract title: Extending the application range of the parameterised street canyon model OSPM

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Abstract text

Street canyons are traditionally a hotspot of air pollution concentrations in cities. Concentrations are assessed using measurements and various types of models. The draft of the new EU Ambient Air Quality Directive is giving air pollution models an increasingly important position in assessing air quality. This more important role of models comes with the requirement for detailed quality assurance and model validation.

This study addresses the validation and extension of the application range for the Operational Street Pollution Model (OSPM, www.au.dk/OSPM). OSPM is applied in Denmark in combination with the multi-scale air pollution modelling system DEHM/UBM/AirGIS (www.au.dk/AirGIS) as part of the official reporting regarding the status of air quality.

New detailed automatic traffic counts based on number plate readings are available covering the 4 largest cities in Denmark. These traffic counts give unprecedented detailed information about the composition of the traffic in Danish cities. E.g. the share of electric vehicles is changing rapidly and has a significant geographic variation. These data have been implemented in the emission module of OSPM.

Results from a recent research project by VITO, Belgium (covered by another presentation at HARMO) in the validation of OSPM for irregular street configurations have been implemented at the wide and irregular street canyon location at H.C. Andersen Boulevard in Denmark.

Finally, a new harmonized way of presenting validation results according to the FAIRMODE methodology has been introduced for OSPM results.

The presentation will give an overview of the recent developments in OSPM and show the main results and conclusions derived from this work.