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Interactive comment on "On the parameterisation of the urban atmospheric sublayer inmeteorological models" *by* A. Baklanov et al.

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After a long time, passed after the first submission, we understand that the need of this paper publication is only increasing, so the authors have decided to revise the manuscript and answer on the reviewers comments. First of all thanks a lot to the reviewers for the constructive and critical comments. All the suggestions and critical points were carefully analysed and most of them were realised in the revised manuscript. Just recently we finished the revised manuscript of the paper www.atmos-chem-phys.org/acpd/5/12119/ and will upload it soon. We hope that you will consider the paper for publication in ACP. We should note, that following the editor and reviewer comments, the corresponding modification were done in the manuscript, however, we do not agree with some reviewers comments, therefore we would like to give our answers and explanations below.

It is important to mention that this paper is a part of the ACP special FUMAPEX issue, and other related papers are in the same issue, so it is natural to have links with them, and they will be accessible at the same time and will complement each other and help in getting the full pictures of the FUMAPEX project achievements.

We suppose that it is very important to give an overall/complete picture of possible urbanisation of NWP models. There are many publications, which consider separate aspects of urban features, but no one which gives the complete picture of the necessary algorithms and steps in realisation of this work. The main idea of this paper is to give the right orientation for the NWP/UAP modellers in the possible urbanisation of their models depending on the purpose of the simulations/problem (forecasting, assessment, weather prediction, air quality forecast, emergency preparedness modelling, etc.).

Therefore, we use the existing achievements in urban processes parameterisations and analyse them, but we do not plan to describe all the aspects in details in this paper. In this case the paper becomes extremely long and overloaded. So, in the revised version we reduced the model descriptions and included additional references on recently published papers with detailed descriptions of the considered models. However, to make it more understandable without reading other papers, we included minimum most important details, which were not included in the previous version of the manuscript.

One of the important items of the paper was also to show applicability of the different parameterisations for NWP and verify them versus experimental data. The considered simulation results and verification data are original and were not included into any other papers.

The time passed after the first submission of this paper to ACP showed that the need of such publication is only increasing because more and more users starting simulations with meso-scale (or with even higher resolution) models and requested to in-

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clude some urban characteristics/parameterisations into the models. Several international meetings and workshops, like The 6th International Conference on Urban Climate IUCC-2006 with the round table 'Urban sublayer parameterisations in meteorological, climate and environmental models' (http://www.gvc2.gu.se/icuc6//), the COST728 'Model urbanization strategy' workshop in Exeter, UKMO on 3-4 May 2007 (http://www.cost728wg1.org.uk/), etc. stressed that there is a great need to elaborate a strategy and recommendations for urbanisation of different types of models (e.g. NWP, urban and regional climate, emergency preparedness, urban air pollution, etc.). Therefore we decided to return to the paper manuscript and revise it according to the reviewers comments. The revised version will be uploaded soon.

We do not agree with the conclusion of the referee 1 that the "paper does not contribute anything substantively new". Additionally to the above mentioned aspects (about the first attempt to give an overall picture of model urbanisation strategy) there are some more novel elements suggested in the paper. E.g. the novel approach/aspects are also that: (i) the urban canopy modules can be realised as an interface/post-processor module separated from the NWP model, (ii) the cheapest way of the urbanisation based on the classical roughness and urban fluxes approach can be improved for urban air quality modelling by including an additional analytical urban sublayer parameterisation for wind and turbulence profile.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 12119, 2005.

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