

Interactive comment on “A study of dispersion in complex terrain under winter conditions using high-resolution mesoscale and Lagrangian particle models” by J. L. Palau et al.

J. L. Palau et al.

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We thank Prof. Syrakov (Referee#2) for his review and thoughtful comments. We also thank his positive review of our paper, recommending its publication without suggesting major changes in the original manuscript (only minor technical errors in the text).

The authors fully agree with Prof. Syrakov general comments. As he remarks, ground-level pollutant concentrations on complex terrain presents high spatial and temporal variability that is difficult to simulate and compare directly with fixed ground-level measurements. In this sense, this study presents and validates a new way of interpretation of measurements and modelled results; showing how measurements from air quality

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networks together with information obtained from atmospheric transport and diffusion models are able to characterise different transport scenarios. This is a clear advantage for the end-users and decision makers who manage and optimise the regional air quality networks.

As suggested by Prof. Syrakov, to stress this idea we have included the following paragraph in the conclusions of the Revised Version of the manuscript (between lines two and three, page 11990 of the discussion manuscript in ACPD):

“...The availability of these combined databases represents a clear advantage over the information provided only by fixed ground-level monitoring stations for atmospheric pollutant control. Ground-level pollutant concentrations on complex terrain present high spatial and temporal variability that is difficult to simulate and compare directly with fixed ground-level measurements and new ways of interpretation and assessment of air quality on complex terrain must be looked for.”

* Technical corrections:

We have considered the few technical corrections Prof. Syrakov suggested in a Revised Version of the manuscript.

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