

Interactive comment on “Parametrization of convective transport in the boundary layer and its impact on the representation of diurnal cycle of wind and dust emissions” by F. Hourdin et al.

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Answer to interactive comment by Zhang Xuele

Thank you for your interest and comments.

We understand that several options could be modified in the model, as for instance

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the threshold velocity if wanting to account for possible weak dust emissions, or the possibility of using a stochastic parameterization.

We may of course consider those possibilities for future evolutions of our model. However, the scope of the present paper was to look specifically at the representation of the near surface wind, at the effect of the boundary layer parameterizations on this near surface wind, and effect of this wind on emission. That is why we intentionally decided to use directly the emission module of Chimere without any modification.

We feel that adding sensitivity to some options of the dust emission module would bring more confusion to the paper.

However, thanks again for the comments and suggestions.

With best regards,

Frédéric Hourdin