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Atmospheric Chemistry and Physics Discussions

Interactive comment on "A conceptual framework to quantify the influence of convective boundary layer development on carbon dioxide mixing ratios" *by* D. Pino et al.

D. Pino et al.

david.pino@upc.edu

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First of all, we would like to acknowledge the positive review. Regarding the specific comments, we would like to answer them one by one:

1. Despite the work of Vilà-Guerau de Arellano et al. (2004) was used as source of inspiration for the present paper, the differences between both works will be clearly stated in section 4. For instance, that paper focused on the role of entrainment in the CO2 distribution during the day but without analyzing how the uncertainties (errors) associated to boundary layer dynamics influence the CO2 distribution or the inferred surface CO2 fluxes. 2. An import effort in reducing the number of figures was already

done prior to the submission of the paper. To our opinion, all the included figures give essential information about the main research of the work. 3. A reference about the thermodynamics methods to determine uncertainty will be included.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 32769, 2011.

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Interactive Comment