

Interactive comment on “Variability and budget of CO₂ in Europe: analysis of the CAATER airborne campaigns – Part 2: Comparison of CO₂ vertical variability and fluxes from observations and a modeling framework” by I. Xueref-Remy et al.

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The authors would like to thank Referee #2 for his constructive comments. We have taken into account all of the points that he mentioned. Especially, the text has been revised by a native English speaker, and we have made several technical revisions, especially on figures. Here are the answers to your specific questions:

—REFeree #2 As also pointed out by the first reviewer, the figure captions need to be clearer.

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Authors Answer : Captions and figures have been revised and improved, we hope they are clear enough now.

—REFeree #2: Fig. 7 is as far as I can see not mentioned in the text. Maybe some text is missing in section 3.1? Is the flux as calculated by the Radon method given here – no? In general the calculation of the flux with this method needs to be explained better. It would also make the text more clear if you used only one name for this method.

Authors Answer: Indeed yes, it appeared, that a few lines of the text were missing. We apologize for the inconvenience. Radon data have been measured during the first CAATER campaign using our own airborne instrumentation. In order to better explain our work, we are adding a section on the Radon instrumentation (that section was previously in part 1 paper), and explained in details how we have applied Eq.1 to infer a CO₂ flux for our case study. Fig.7 is cited in section 3.1.2.

—REFeree #2: In general, when referring to a paper directly in the text (e.g. like on line 23, p. 4282) the () around the ref. should be moved: . . . shown by (Yi et al. 2004) . . . -> . . . shown by Yi et al. (2004) . . . This is seen several times in the text.

Authors Answer: This has been corrected through the whole paper.

—REFeree #2: In section 3.2. it seems like the reference to Fig. 8a, 8b is mixed up?

Authors Answer: Yes indeed, sorry for this! This has been corrected.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 4271, 2010.

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