

***Interactive comment on “On inferring isoprene emission surface flux from atmospheric boundary layer concentration measurements” by J. Vilà-Guerau de Arellano et al.***

**Anonymous Referee #1**

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General comments

J. Vila and co-authors have conducted an extensive series of simulations on how different meteorological parameters affect surface flux estimation from boundary layer data. The simulations are well planned and the results are carefully examined. Finally, they give practical suggestions for future field campaigns.

The manuscript is generally well written and structured. The results are of interest for the readers of ACP. After minor improvements I would recommend publishing it in ACP.

Specific comments

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Throughout the manuscript I would recommend making it more clear which results are applicable to isoprene emissions only. I found it somewhat confusing to talk about isoprene fluxes as most of the study is very general and the results are applicable to almost any atmospheric trace gases.

On page 4166, lines 15-17 you state that the reaction rate constant of R5 was increased to account for other VOCs than isoprene. How much have you increased the constant, and how did you arrive in that value?

#### Technical corrections

p. 4161, lines 14-17: consider re-writing these sentences to be more clear

p. 4165, lines 15-17: consider re-writing these sentences to be more clear

p. 4166, line 23: relative should read relatively

p. 4167, line 5: use lower case k instead of capital K for kilo and do not place units inside parentheses

p. 4189, Fig 5, upper panel: incomplete legend

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 4159, 2009.

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