

Interactive  
Comment

## ***Interactive comment on “Eddy covariance VOC emission and deposition fluxes above grassland using PTR-TOF” by T. M. Ruuskanen et al.***

### **Anonymous Referee #1**

Received and published: 14 October 2010

#### General Comments

This paper describes measurement of a large suite of BVOC fluxes over an intact grassland, cut drying grass and after harvesting. Although this ecosystem has already been characterized in the past (as also stated in the text), the innovative aspect of this research is that the authors used the Eddy Covariance technique associated to a PTRMS-TOF, which allowed flux measurement of certain classes of BVOC (e.g. sesquiterpenes) which were unsuccessfully measured with previous instruments using the same technique. The authors showed a rigorous methodological approach, and the results are properly discussed. Overall, the paper can be read clearly and provides important and original information, and should be published in Biogeosciences.

#### Specific Comments

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## Methods:

The paragraph 2.1 is quite lengthy; I suggest separating the field site description from the instrumentation.

Pag. 21083 L12-15: Please report whether the sonic signal was logged directly into the PTRMS-TOF or a data logger was used. In the latter case an additional lag time due to difference in synchronization between PTRMS-TOF and data logger clock occurs.

Pag. 21083 L23-24: How the dynamic dilution was performed? Which concentrations did you obtain?

Pag. 21083 L28: Sentences like “intensities were good” are not appropriate in a scientific communication. Same for “Interpreted with caution” (pag. 21087 L 2).

## Results and Discussion

Pag. 21086 L10: Please rephrase this line, it is unclear.

Pag. 21087 L2: dataset and not datasets.

Pag. 21087 L13: “in high amounts”, please specify at least a concentration range.

Pag. 21090 L12. After (Fig.2) a comma or point should be added.

Pag. 21090 L23-25. Please rephrase the sentence.

## Tables:

I struggled to compare the flux of a certain BVOC species in different periods looking at tables 2,3,4. I suggest merging those tables in one, or also showing the data in bar plots, with each plot related to a separate species and error bars representing confidence intervals.

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Interactive comment on Atmos. Chem. Phys. Discuss., 10, 21077, 2010.

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