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Comment

# ***Interactive comment on “Variability of BVOC emissions from a Mediterranean mixed forest in southern France with a focus on Quercus pubescens” by A.-C. Genard-Zielinski et al.***

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Received and published: 17 October 2014

Reply to Referee #1 comments

General comments

The improvements suggested were made and detailed here after in our replies to the specific comments. Note that, since a new figure (Fig. 2a&2b) replaces now the former Table 1, figures and tables numeration is now different in this revised manuscript.

Specific comments

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P17227L14: We agree with this comment, and changed, here and further in the whole manuscript, with 'driver'. P17227L16: We agree and have changed the 'circadian' with 'diurnal'. P17229L6: Additional detailed information on the biomass (mean diameter, stage of canopy closure and dry leaf production) is now given in section 2.1 P17230L23: Leaves were mature and 3 month old as now mentioned in section 2.3 of the revised manuscript. P17230L24: The exact name of PTFE was added, and 'Teflon' was replaced by 'PTFE' all over the manuscript. P17232L7: Indeed, we assessed by ourselves in situ the Q. Pubescens LMA values on the O3HP site. It is now explicitly stated in the manuscript (section 2.3), together with the dry mass and area magnitude of the leaves enclosed. P17232L15: The sampling tube was  $\frac{1}{4}$ " diameter and was not heated, as it is now specified in our revised manuscript (section 2.3). P17240L17: We have now developed (see end of section 3.3.2) the reasons of the differences of Pn observed among the different branches. P17241L19: We agree with these remarks and, as suggested, the statements/conclusions on this point (which is now in the new section 3.4.1) have been changed in the revised manuscript. P17242L10: As the referee suggested we have added the Guenther et al. (1995) reference which point out a factor of three of uncertainty due to upscaling exercise. The potential reasons for such discrepancy are given in details in the Kalogridis et al. (2014) paper. However a short comment was added. P17243L1: As also suggested by Referee #2, the use of what we called the 'relative contribution of CL and CT' is no longer made in the new manuscript. Instead, CL, CT and T curves are now presented in former Fig. 4 as suggested, and a new interpretation of former Fig. 4 is made in the (new) section 3.4.2. P17243L20: As suggested by the referee, we changed to 'reverse sigmoid'. P17244L20: As suggested we have also tested the algorithms with our own Is values. New comments are now made in the (new) section 3.4.3 and corresponding updating was made on Figure 6. Figure 7 was removed since very few information was given; instead a new table (Table 3) summarises all comparisons made using both algorithms, using different values and for both Qp4 and Qp1 trees. New comments were made in the 'Abstract' and the 'Conclusions' sections

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as well. P17245L9: As explained on the previous comment (P17244L20), the effect of Is value on isoprene emission assessment is now considered and discussed in the revised manuscript; former Figure 6 was updated accordingly and a new Table 3 is now presented. P17246L16: As suggested by the Referee #2 as well, we are now using 'half' instead of 'twice smaller'. P17247 L10: As mentioned earlier concerning referee comment P17243L1, we are no more using our so called 'relative CL and CT' contribution. The correlation between Pn and ERiso for the different branches (former Fig. 2) is now better described in section 3.3.2 as required in referee comment P17240L17. (former) Table 1: As suggested the data presented in the former Table 1 are now plotted in Figure 2a and 2b. (former) Table 3: Ambient temperatures were given, for comparison, in the original manuscript, in the former Table 1 (which is now Figure 2a). A comment is now made in the former Table 3 (now Table 2) in order to give the reader an estimate of how different enclosure and ambient temperatures are. (former) Figure 4: As mentioned earlier for referee comment P17243L1, CL, CT and T curves were added in the former Fig. 4 (now Fig. 5) and the 'relative contribution' of CL and CT are no more considered. P17229L15: This change was made as suggested. P17232L4: This change was made as suggested and as mentioned earlier concerning referee comment P17230L24.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/14/C8180/2014/acpd-14-C8180-2014-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 17225, 2014.

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