

Interactive comment on “First observations of global and seasonal terrestrial chlorophyll fluorescence from space” by J. Joiner et al.

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The authors thank the reviewer for the positive comments expressed. The authors thank referee #1 for constructive comments that have helped to improve the manuscript. We added acknowledgment of these helpful comments in the revised paper. We address the detailed comments below:

“Page 8284, lines 15/16 and 27/28: There is a repeat of the statement that reflectance and fluorescence must be differentiated.”

We have rearranged the paragraphs surrounding those two sentences and removed one of the repeated sentences.

“Page 8287, chapter 3: I assume that the simulation was performed for top-of-
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atmosphere (TOA) data and not for top-of-canopy (TOC). Please add one sentence to make the problem of the reabsorption on the oxygen lines clear to the broader audience (vs no atmospheric effects in the K I line).”

We have added a sentence as suggested and also added that the simulation was performed for TOA, not TOC.

“Page 8292, line 4: The statement that fluorescence may have high potential especially in overwintering, ever-green plants is very true. They may also include the work from Soukupová et al (2008) [Functional Plant Biology, 35, 63-76] here.”

We thank the reviewer for pointing out this interesting paper. We have referenced it in the revised version.

“Page 8294f: In some aspects different behavior of fluorescence over Australia: Could there be an effect of the ascending and descending satellites?”

The main difference between the two satellites is the relatively small difference in local (equator) overpass times and thus a small difference the local solar zenith angle. We do not believe this is the major reason for the differences seen over Australia.

Interactive comment on Biogeosciences Discuss., 7, 8281, 2010.