

***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.

BGD

7, C5157–C5158, 2011

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