

Interactive comment on “Unravelling the physical and physiological basis for the solar-induced chlorophyll fluorescence and photosynthesis relationship” by Peiqi Yang et al.

Anonymous Referee #2

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Yang et al. used a unique dataset comprising both active and passive measurements of fluorescence to explore the physical and physiological relationship between SIF and GPP. Considering the large amount work on the SIF-GPP relationships during the last few years, the work conducted is therefore relevant and it will be of interest for the scientific community working on remote sensing of GPP using SIF. The manuscript is a nice addition to the current body of literature and I think it is worth publishing. A few minor suggestions may be taken into account to improve the manuscript.

Line 167: Are the coefficients in Equation 2a obtained from Vina and Gitelson (2005)? If not, please add correct reference.

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Lines 277-279 (Figure 3d-f): The data points are more disperse in the morning than in the afternoon. Please briefly discuss the possible reasons.

Figure 9: Shaded leaves exhibit higher light use efficiency of sustained heat dissipation than sunlit leaves, which is inconsistent with measured results (Figure 7). Briefly discuss the difference.

Line 464 (Figure 10b): The correlation coefficient between PRI and APARcanopy is 0.28, not -0.28 in Figure 10b, right?

In addition, many sentences can be improved, for example: Line 452: per leaf unit area → per unit leaf area

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