

Interactive comment on “Assessing the spatial variability in peak season CO₂ exchange characteristics across the Arctic tundra using a light response curve parameterization” by H. N. Mbufong et al.

Anonymous Referee #1

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The title of the Mbufong et al. manuscript “Assessing the spatial variability in peak season CO₂ exchange characteristics across the Arctic tundra using a light response curve parameterization” tells exactly what the manuscript is all about. All in all it is a very nice manuscript and a good example of collaboration of many researchers from many countries and research institutes. There are interesting findings in the paper and it gives a nice overview of the highest component fluxes during the summer in the Arctic.

Technical notes: page 6421, line 2: “Functional variability”, what does it mean in the
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context of the manuscript? 6421, 21: “Thus, indicating...” I think this sentence is missing a verb. 6422, 25 – 6423, 2: This is a very long sentence, please shorten. 6423, 21: “...that light is not limiting...” You mean lack of light? 6423, 28: “...the best approach...” be more specific, e.g.: “...the best approach associated with EC...” 6429, 26: There are two numbers and three respective parameters. 6431, 17-21: First you write about relative variability, and based on that you make suggestion to the absolute variability. The logic is broken here. 6432, 14: “construction of plant stems...” – For my background “growth of stems, leaves and roots” would be faster to understand, but perhaps construction is all right as well. 6432, 27: “temperature was > 1 stdev above the mean” Perhaps this could be written more clearly? 6433, 15: “These are higher than estimated in our study because...” Are you sure that this is the reason? If so, please explain why. 6433, 25: “...correctly simulate...” There is no ‘correct’ / ‘incorrect’ (or maybe everything is ‘incorrect’. It’s better to say that some simulation methods can be better justified (and better) than others.

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