

## **Response to Reviewer #2**

*We appreciate the comments, questions and references given by both reviewers.  
We repeat the reviewers' concerns and provide our respective responses in italics. The changes take place in the revised manuscript.*

As with Reviewer 1, I find this paper well-written, clear and interesting. The dataset is an interesting one, the analysis is well-done, and the work is clearly presented with only extremely minor errors, nearly all of which are typographical.

*Thank you for the nice words and appreciation.*

I concur with all the points made by reviewer 1, and hence see no need to duplicate them again. I have the following additional typos, but I would be fine with the paper being accepted pretty much as-is, and definitely if the corrections suggested by Reviewer 1 were made:

L010 showed -> 10, but the sentence is a little tricky to read as a whole so could be rephrased.

*We changed the abstract to make it more easily readable.*

L013 budget -> budgets ("or an accurate...")

*Done*

L020 - contribute significantly

*Done*

L035 - a clearer definition of  $m^*$  might be helpful here

*Done*

L055: specific mention of exact instrument resolution jars - is this number special in some physical way, or just what your instrument measures?

*Indeed, the numbers themselves are not significant in this sentence, although high resolutions are required to resolve GWs. We adjusted the sentence.*

L063 - don't think these references should be bracketed? Same for the rest of the paragraph

*Done*

L065: they can also derive non-energy things! Suggest a slight rephrase :-)

*Rephrased*

L083: why is "midnight sun" capitalised?

*Changed*

L126: gain ->gaining, provide -> providing

*Done*

L134: noctilucent (not capitalised)

*Done*

L188: interleaved (again, not capitalised)

*Done*

Intro to section 3 is a single extremely long paragraph - maybe chop in 2 or 3?

*Done*

L289: expand out "approximately"

*Done*

L492: "conforming" is being used here as a calque of the German term I think - in English it think you're after something like "consistent with previous work"?

*It was adjusted to "showing consistent behaviour within each season".*

L496: "severely" -> "significantly"

*Changed to "substantially"*

L508: "significant" -> "significantly"

*Adjusted to "steeper slopes (which are statistically significant)"*

L584: "small" -> "smaller"

*Done*

L683 "even when only the 1-3km band"

*Done*

L728: I wouldn't capitalise the name of these theories

*Done*