

## Review of revised version of Jäkel et al 2023

The authors improved the paper and I very much appreciate that they diligently addressed all my comments and concerns. The language corrections were, however, insufficient. There are still grammatical and logical errors. I strongly recommend that one of the coauthors who is proficient in English will do a language check of the paper before approval for publication.

I will pick few sentences as example of badly formulated text and grammatical errors:

lines 252-253: "In general, we observed a higher albedo for cloudy conditions compared to cloudless situations, which becomes more pronounced when there is a high fraction of sea ice." This sentence is grammatically wrong: I guess "which" does not refer to "cloudless situations" as the sentence construction would imply, but to the difference in albedo between cloudy and cloudless conditions, right? Please reformulate the sentence

lines 304-306: "The smaller second modeled mode (0.77) can be attributed to grid points with a low modeled cloud coverage, such that the snow-covered ice parameter representing cloudless conditions was applied." Same problem as above: the subordinate sentence is not logically linked to the main sentence.

Moreover, the expression "such that" is used 7 times in the paper, I believe all 7 times in the wrong way. It means "to the extent that", but it seems that it is used to mean "so that", or "hence"

line 352: please replace "This is different to ..." with "This differs from..."

line 389: please replace "Different to" in "Different to the radiometer measurements" with "Unlikely ..." or "Differently from what showed by radiometer measurements"

lines 391-392: Please correct as "Three days after the formation of the second melt pond ~~in the field measurements~~, ..."

line 395: "albedo was significantly lower than that observed by the satellite and ~~even more lower than that~~ measured by the RAMSES station"

line 467-472: "The maximum impact of the albedo bias on  $\Delta F_{net}$  is derived for cloudless summer conditions ( $\Delta F_{net} = \pm 80 \text{ W m}^{-2}$ ). For the same range of  $\Delta \alpha$  in spring,  $\Delta F_{net}$  is found to be less than half of its magnitude in summer ( $\Delta F_{net} = \pm 35 \text{ W m}^{-2}$ ). In spring, however, we observed from the flight measurements an increased albedo bias with a wider distribution ( $\Delta \alpha = 0.02 \pm 0.07$ ) than in summer ( $\Delta \alpha = 0.00 \pm 0.04$ ). This means that greater effects on the solar radiation balance between solar incoming and outgoing irradiance due to the surface albedo model bias can be observed in summer, but these are less likely than in spring."

The last sentence refers to the larger  $\Delta F_{net}$  in summer than in spring for the same range of  $\Delta \alpha$ , and not to the immediately preceding sentence. So, I would move the sentence starting with "This means that..." before the sentence starting with "In spring...". Also, I would add few words to explain "...but these are less likely in spring": I guess you imply "as cloudless skies are rare in summer".