The Cryosphere Discuss.,
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Interactive comment on "Glaciological settings and recent mass balance of the Blåskimen Island in Dronning Maud Land, Antarctica" *by* Vikram Goel et al.

Anonymous Referee #2

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This manuscript provides exhaustive details on the field measurements and data analysis over an ice rise in Dronning Maud Land, Antarctica from radar and GPS. While the manuscript provides sufficient data to support their conclusions it falls short of providing a compelling story. I think the main problem may be more due to writing however, than mis-interpretation of the data. Indeed, it seems to be more of a field report than a scientific paper that tells a story. I would prefer for the authors to follow the more traditional style of writing with sections called: introduction, data and methods, results, discussion, conclusions. While these sections are in the text, there are numerous other sections and subsections with detailed headings making it difficult to follow the logical order of the manuscript. Further, the writing could be tightened by combining very short

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Discussion paper

paragraphs and reducing redundant information. For example, instead of presenting info on the ice core records in section 3, simply refer to the reference in your discussion of your measured SMB. Same for temperature info - why is this relevant to the current study? This kind of thing led to my inability to understand what the story is here.

Page 3, Line 21: delete “a” Page 3, Line 30: If you’re using the firn cores to get estimates of density variability it might be nice to include a figure of these data. Page 5, Line 8: This sentence is not needed as it was already said in a previous section. Page 6, Line 6-7: Don’t forget the work of Nereson and Raymond, 2001 Page 7, Line 7: delete “a” Page 7, Line 25: Rignot and Kanagaratnam is a better reference since they (I believe) pioneered the IO method. Page 7, Line 28: Not sure you can assume no melting based on the study by Neumann et al., (2008) which is on the other side of Antarctica. Page 11, Lines 3-9: The authors make an offhand assertion that current DEMs of Antarctica do not properly resolve this ice rise elevation, nor the details contained within their DEM. I think they would have to demonstrate that the added detail is necessary in order to “get the precip right” according to Lenaerts (2014). I might be convinced that gross differences between DEMs are important but I’m not convinced that we need to include every small detail as obtained by a ground survey. Page 11, Line 31-32: your reported slope differences are within the expected range of the model prediction by Lenaerts et al, (2014) not “smaller than” Page 12, Line 19: I don’t see the need for these references here - we already know what Raymond arches are. Page 12, Line 21: refer to Nereson’s work on this Page 12, Line 30-32: I can clearly see double-peaked arches in Fig. 3c.

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