

Review for:

“ICE SHEET AND SEA ICE ULTRAWIDEBAND MICROWAVE RADIOMETRIC AIRBORNE EXPERIMENT (ISSIUMAX) IN ANTARCTICA: FIRST RESULTS FROM TERRA NOVA BAY”

by Marco Brogioni *et al.*

submitted to *The Cryosphere Discussion*

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Synopsis:

In this paper, the first airborne microwave wide-band radiometer observation over Antarctica is explained. It is very well written with great results of the of the campaign. I believe this manuscript is applicable for publication in this journal after addressing few comments (some editorial).

Comments to the Author:

1. The two top figures in Fig. 1 are very close to each other and misleading for readers' eyes. Can you please separate them somehow? Perhaps tag the figures as a, b, c, d. Or add colorbar to the left figure, or make the box around the figure to be bolder and more distinguishable.
2. How much loss of data due to an RFI can be tolerated? Have you looked into this?
3. Regarding the claim in line 5 (in the abstract) where it is mentioned that lower frequency shows warmer since it senses deeper into the ice where it is physically warmer, I think this statement is not necessarily true, and any boundary with a huge dielectric constant difference at deeper layers can drastically drop the L-band or lower frequency TB. Can you mention this point more cautiously, or explain it further?
4. Regarding my third comment, lower right figure in Fig .1, why lower frequency of 540 MHz is the coldest before about 21:13 UTC, then it becomes hottest after that? This is opposite of the claim you had for lower frequency. Can you please explain this?
5. In line 260, I parenthesis after nearly nd) there is a missing 2 I believe. Please correct this.
6. Please explain for the reader that why the RTM model in bottom right figure did not go less than about 4cm.
7. In figure 14, what is the reason of short drop of TB at around 25 km? Is there any ice lens? Same thing happened between 20 and 25 km also.