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Interactive comment on "The role of electrical conductivity in radarwave reflection" *by* Slawek M. Tulaczyk and Neil T. Foley

Anonymous Referee #1

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Dear authors,

Thanks again for your response. Again - this is helpful clarity that further improves my appreciation of the study and the approach you have taken when writing the MS.

Just to confirm: as you gave a justification for providing the background context in sections 2 and 4, I think you can continue to submit as a full-length article if you think it is best for your study. (I will officially notify the editor that my initial verdict was a misplaced way of recommending a brief communication in the TC system). Part of my rationale for recommending a brief communication was that I think it better serves for 'general commentary' of the novel aspects to your work and how it applies to literature in our field.

Re: airborne radar studies and neglect of conductivity

I do agree that the papers you have selected focus on interpreting basal reflectivity in terms of the real permittivity (despite sometimes quoting the full formula from Peters et al. 2005). My best explanation for why Oswald 2008, 2018 and Jordan 2018 do this, is that they are focused on ice-sheet-scale mapping of basal water/thaw (which in both papers required a set of simplifying approximations to move forward). What I still think needs to be developed in more detail is whether your new results will significantly alter how similar airborne/water mapping studies could be influenced in the future given the relative role of other terms in the radar power relation, and the slightly higher frequency of airborne systems.

Hopefully when the dust settles this will be an example where TC open discussions have been useful. I wish you all the best with the resubmission.

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