

Interactive comment on “Bed topography of Princess Elizabeth Land in East Antarctica” by Xiangbin Cui et al.

Anonymous Referee #1

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This manuscript presents new and exciting radio echo sounding data from one of the most sparsely observed regions in Antarctica. Overall, this is a useful and unique data contribution to upcoming topographic compilations like BedMap3 and future versions of BedMachine Antarctica. There are, however, three major issues with the manuscript that would be valuable to address.

First, in the abstract and throughout the manuscript, the authors state that PEL is "the last remaining region in Antarctica to be surveyed by airborne radio-echo sounding techniques." This is a needless over-assertion which weakens the credibility of the authors and manuscript.

Second, the authors highlight the importance of collecting new data rather than using "inversion from poor resolution satellite gravity observations, and ice-flow modelling to

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infer the subglacial landscape", but then use mass conservation, which is a ice-flow modelling inversion, to interpolate their data. This interpolated data is then compared to BedMap2, which is really a straw-man basis of comparison. The manuscript would be much stronger if it compared their presented topography to BedMachine Antarctica. This would show the actual value of the new data.

Finally, the authors use D8 routing for their hydrology analysis rather than more sophisticated routing algorithms or subglacial hydrology models. This needless open questions about whether their results are expressions of the topography or limitations of the overly simple routing.

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