



EGUsphere, community comment CC2
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Comment on egusphere-2022-501

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Community comment on "Impact of the sampling procedure on the specific surface area of snow measurements with the IceCube" by Julia Martin and Martin Schneebeli, EGU sphere, <https://doi.org/10.5194/egusphere-2022-501-CC2>, 2022

I would to thank both authors for their work.

I'm afraid my comment is mostly anecdotal (but with some data!) and relate well to this work.

At the University of Sherbrooke, with Prof. Alain Royer and Prof. Alexandre Langlois, we work with our own version (IRIS) of IceCube as you probably know. The instrument is really similar to IceCube with some differences in the design and sampling procedure.

In a recent publication (Meloche et al., 2022) with arctic snow type, a dataset of snow pit measurements from two different regions in the canadian arctic was presented; Trail Valley Creek (TVC) with SSA derived from IceCube and Cambridge Bay (CB) with SSA from IRIS. Figure 5 a) presented the SSA of each site and year. It can be noted that SSA from TVC is larger for all years and layer types (wind slab and depth hoar). Based on this, it seems that IRIS underestimate the SSA compare to IceCube since IRIS was used in CB and IceCube in TVC. I originally thought this was due to a difference in the location of the observations as TVC can be characterized with sub arctic vegetation. However, I'm beginning to think that based on this paper, the difference is probably due to the instruments and the sampling procedures.

Since both instruments are used extensively in the field, I think the snow community would benefit from analysis like this on error estimate of SSA cause by the sampling procedure.