Review of: **Tethered balloon-borne measurements to characterise the evolution of the Arctic atmospheric boundary layer at Station Nord**

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General Comments:
This is a very well-written article describing an interesting balloon-based dataset. The authors have done a very nice job in describing the measurements and calculations in detail. I have few comments and think that the paper is more or less ready for publication. Below are a few relatively minor things for the authors to think about.

Specific Comments:
Abstract, Line 14: What are "temperature rates"? Should this be "Temperature advection rates"? "Sensible Heat Flux"? Something else?
Line 112: In calculating the winds, how do you handle the ground-relative velocity of the probe? Are we assuming this is zero? There are clearly times where the tether is moving (and hence, the probe is as well).
Line 136: "Deca-minute" is not a commonly used term. While people can figure it out, it will take most some time to think about what this means. Why not make it easier on the reader?
Line 153: Were the measurements time-stamped using a common clock on the data-logger? How was this done?
Line 184: Based on experience, even much smaller tilt angles have significant impacts. These impacts can be calculated and/or potentially corrected for. Has there been any attempt to do so?
Line 216: I do see the tail of the spectrum starting to flatten out. It might be helpful to include an average value as well, given that the spectrum itself has a relatively large range.
Line 278 and throughout manuscript: relative humidity? specific humidity? Please state clearly what is meant by "humidity" throughout the text.
~Lines 335-350: This is starting to border on analysis and discussion on model performance, which is typically not what ESSD articles are for. Recommend removing, as this is only a very limited evaluation. I appreciate that it is meant as an example, but I'm not convinced this is necessary.

Technical Corrections:
I didn't find any, which is very rare! I wonder whether the authors deployed an LLM to help ensure that there aren't any spelling, grammatical, or other issues? If so, great!