Interactive comment on "University of Colorado and Black Swift Technologies RPAS-based measurements of the lower atmosphere during LAPSE-RATE" *by* Gijs de Boer et al.

Anonymous Referee #1

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The authors provide an overview of the data acquired using four different remotely piloted systems operated by University of Colorado and Black Swift Technologies over the one week period of LAPSE-RATE. The article is largely comprised of a general overview of the aircraft and flights that contribute to the dataset referenced in the manuscript. As such, the manuscript provides sufficient detail to understand the contents of the dataset. Although I would have preferred more information about the uncertainty of the measured quantities, the data quality control checks are provided, which provides a broad sense of the data confidence level. I therefore recommend publication in ESSD. However, I do have a few minor comments that the authors may wish to address before publication: 1) Little-to-no information is provided about the data acqui-

sition systems used by the aircraft. At the very least, some indication as to the data acquisition rates should be included, particularly given the scatter shown in Figure 7. Corresponding to this point, I would also have liked to have seen some reference to the different response times/frequency response of the sensors. A broad range of sensors are used, and having some knowledge of the time response of the systems relative to the data acquisition rate is important when utilizing the provided data. 2) There is a typo on page 5: "(cite papers)" should be replaced with the relevant citations. 3) The winds up to 15 m/s measured by the TTwistor shown in Figure 7 seem quite high. Are these values comparable to the winds measured by other LAPSE-RATE systems? If so, some commentary should be provided as to why they are so much higher than the other aircraft (e.g. Talon) which were measuring at the same time.

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