

## ***Interactive comment on “Remote sensing and radiosonde datasets collected in the San Luis Valley during the LAPSE-RATE campaign” by Tyler M. Bell et al.***

### **Anonymous Referee #1**

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The LAPSE-RATE campaign and data sets are unique in providing opportunities for fixed-wing and copter-based UAS and ground-based measurements over a variety of conditions and atmospheric events. In order to enhance and support the UAS platforms, multiple ground-based sensors were deployed as described in this paper along with information on their operating modes, measurements, locations, and data formats. The LAPSE-RATE campaign captured a variety of meteorological events in the San Luis valley area. Therefore, the overall dataset presented in this paper can be both useful for UAS-based atmospheric measurement demonstration and platform inter-comparison observations as well as for providing data of phenomena-based case studies of valley drainage outflows, boundary layer development, and convective initiation. The arti-

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cle provides complete information on the ground-based, vertically-profiled atmospheric measurement systems as well as information on data accessibility, processing, usability, and quality of the data in sufficient detail for future usage. The article is appropriate to support the publication of this quality data set.

The presentation quality of the paper is suitable for this publication in its current format with some suggested edits. Overall, it is well-structured and includes all of the information needed to find, understand and use the data set moving forward.

Listing of suggested technical corrections: Line 6 and Line 28 – NSSL: should “Lab” be “Laboratory” Review sentence starting on line 37 . . .needs minor rewrite. Line 49 – AERI has already been defined Figure 1 caption and Line 64. . .maybe say Moffat Consolidated School to be consistent with later references (or refer to it as the MCS later like in Fig. 3) Line 60 – “with caution” for carefully. Are there specific angles that could be cited for exclusion? Line 65 – I would just write out Doppler Lidars in the section heading. Also, the affiliations for the other sensors are not included in the section headings so I think you can take out the “CU” Line 75 – a.g.l. replace with AGL to match other usages (e.g., Line 239) Line 87 – uncap the “A” Line 94 – “As” previously mentioned Line 217 – U and V inconsistent with prior (lower-case italicized) reference. Line 225 – each “of” Figure 4 – Add in some additional legend to describe all the symbols) and consider adding in additional information since there is room. Also, you refer to Leach Airfield in the text but Leach Airport in the figure. Section 5 feels a bit awkward with the sensors in the main paragraph and the radiosondes in the only subsection

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