

This manuscript provides a valuable dataset of RAAVEN UAV observations in the core of thunderstorms. Its quality control process is scientific and transparent, and the data has been made openly accessible through a trusted data center. However, the manuscript has a significant structural flaw: it leans too heavily on an engineering-style description of quality checks and fails to fully explore and showcase the unique value of this dataset for addressing the core scientific questions in supercell meteorology. As a result, readers only understand the data processing workflow, but not the significance of the data itself.

1. The current introduction only vaguely mentions 'studying near-surface rotation,' which is too bland. It's suggested to clearly point out the scientific bottleneck—for example, that existing radar and soundings cannot resolve centimeter-scale wind shear/temperature gradient evolution in the left-flank boundary layer before a tornado—and then logically justify the irreplaceability of UAS, finally leading to the critical nature of data quality. This way, the QC standards directly match scientific needs.

2. Currently, Section 6 and Figures 10/11 only list statistics showing that left-flank wind speed is higher than the inflow. It's recommended not to just report uncertainty percentages, but to clearly tell readers that, based on this QC dataset, these observational constraints can be directly used to verify the reference value of convective parameterization in high-resolution numerical models.

3. For the 'moisture flag' and 'questionable wind field flag,' only the trigger conditions are defined, but users are not told how to use them. It's suggested to add guidance at the end of the corresponding sections. For example, when RH is capped at 99.9%, advise users to treat this data only as a 'saturation indicator' rather than an exact humidity value. This kind of guidance can greatly enhance the usefulness of the dataset.

4. Was there any cross-calibration or consistency check performed between the 2019 and 2023 sensor configurations?

5. Section 5.1, Equation (2) and subsequent clipping description. The correction Equation (2) is based on humidity chamber experiments, but the humidity/temperature ranges of the experiments are not clearly stated. Users cannot judge the reliability of the correction results when input conditions exceed the experimental range. Values of 100.5% and 105% are all clipped to 99.9%, which affects the variance among samples.

6. According to the guidelines, reviewers should verify the dataset itself as much as possible. Due to time constraints, I was unable to fully download and test the complete dataset, but based on the statistics provided in the manuscript and the transparent disclosure of data quality flags by the authors, the overall quality of the dataset seems reliable.