

Interactive comment on “Comparing lightning observations of the ground-based EUCLID network and the space-based ISS-LIS” by Dieter R. Poelman and Wolfgang Schulz

Anonymous Referee #2

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See attached PDF file.

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Discussion paper



Review of the manuscript

“Comparing lightning observations of the ground-based EUCLID network and the space-based ISS-LIS”

This work presents a comparison between two lightning detection methodologies, a traditional ground-based system (EUCLID) and the innovative space-based ISS-LIS. A detailed comparison between the two different systems has been carried out using data collected from March 01, 2017 to March 31, 2019 within the area covered by EUCLID network.

The authors deal with a topic of relevant interest that full satisfy the scope of AMT journal. The paper is well written and has a linear and clear structure. The results have been discussed after a deep analysis performed through a Bayesian method and more classical approaches. I think that the paper may be published in AMT after the authors have addressed the following questions.

- **Introduction (lines 67-69):** in my opinion, the authors should provide more details about Erdmann et al. (2019) work, in which data from ISS-LIS were compared against observations from on-ground lightning detection networks. The authors should better emphasize the “added-value” of their work compared to the previous study just mentioned.
- **Data (2.1 Euclid).** Why did the authors choose the data from EUCLID network for their analysis? I suggest to provide clear and strong motivations about this choice. It is well known that in European area other lightning detection networks are available, providing data about cloud-to-ground (CG) and intra-cloud (IC) flashes with high detection efficiency.
- **Data (2.2 LIS, Lines 124):** the authors stated that they used a non-quality controlled ISS-LIS dataset. I think that some clarifications are needed. What does mean “non-quality controlled”? How did the authors overcome this problem?
- **Methodology (Line 168):** I suggest to produce a Figure or a Table to support and justify these choices about spatial and temporal criteria.
- **Results:** to improve the quality of the presentation of the findings of this study, I propose to produce one or two additional tables.
- **Conclusions:** please add a brief discussion about the future implications of this work. I think it may have a good impact from different perspectives. Therefore, the conclusions section should not be limited to a summary of the main results.

Finally, I suggest to carefully check the paper to address some minor typos.

Fig. 1.