Dear Authors,

Thank you very much for your detailed answers and the notable improvement of your manuscript. The new version shows a better organization of your Research and provide more curated information about your findings.

Please find below my new comments, some of them appeared from your previous answers (which are marked in bold and between quotation marks):

"We would like to point out that the lightning jump algorithm in use was adapted to the GEO lightning sensor and is described in detail in Erdmann and Poelman (2023). It does not use the same configuration as the LJ algorithms for terrestrial lightning location systems (LLSs). The commonly used algorithms was developed for lightning mapping array (LMA) with radar-based storm tracking. Erdmann and Poelman (2023) tuned the algorithm parameters to be used with GLM lightning observations and satellite-based storm cell tracking."

I fully understand your comment, but after carefully reading the two manuscripts (the presented one and the 2023 one), I think that you should include a graphic which could help the reader understand the differences between the original and the proposed version of the algorithm. This scheme should present the life cycle of a thunderstorm from the point of view of the lightning activity and how you transform in the sigma variable and when a jump or a dive occurs.

"Why is the size of the storms important?"

The difference in size between supercells or normal cells is quite evident and is an indicator of the intensity and wide of the updraft. This is only one example, but there are many more. For example, large squall lines or MCS tend to last more and to produce more severe weather reports, because the organization is higher and helps to extend the duration. These are two examples of the importance of the size. For sure, there are cases where the size does not provide any relevant information, but these examples are less associated with convection.

In fact, you say in your manuscript that: "the mean cell areas in Table 4 confirm the previous finding. On average, severe thunderstorm cells covered an area of 12,812 km2 (median 4,089 km2). Storms with LJs had an average area of 15,780 km2 (median 6,995 km2), whereas while non-severe thunderstorms and those without LJs typically covered about 2,000 km2 on average, with medians around 550 km2)."

About the list of acronyms, I know that is not mandatory, but in your case can result very helpful to the reader, because the large number of items. It is your choice.

Some new comments:

- Typo in caption of table 4: “Torndao” should be “Tornado”
- I suggest merging subsections 3.1.2 and 3.1.3, reducing part of the text. There a lot of results and I suggest you that focus on the main items.
- You say that “It should be mentioned that severe weather is observed in storms without LJs, and that there are non-severe storms that had GLM LJs”. Fortunately, there is not an algorithm able to reproduce the exact behavior of a thunderstorm. Furthermore, as you also indicate in the manuscript (and we previously discussed), there are limitations on the direct ground observations of severe weather. Because of this, I suggest that you replace “Hence, the GLM LJs should not be used as standalone severe weather warning tool but in combination with other data.” By “We recommend the algorithm users to consider its limitations, in special at the time of applying for operational purposes. The algorithm can indicate the occurrence of severe weather in a thunderstorm but, as occurs with all the real-time tools, the user must consider many other elements, such as signatures observed in radar imagery, satellite data or terrestrial lightning detection networks.”