

Manuscript: egusphere-2022-1136

The manuscript is very well written, it introduces in detail a very complete tracker. This reviewer appreciates the very thorough and inclusive literature review of other existing algorithms as well as the authors decision to include the respective websites to advertise the other trackers. This reviewer also appreciates that the authors dedicate a whole section to provide the potential user with post-processing tools and visualization. This reviewer has never seen a tracker description manuscript with that many details and believes that this manuscript could serve as a model for future papers describing new trackers or new versions of existing trackers. The authors have also addressed the concerns from previous reviewers.

It is suitable for publication once the following comments are addressed:

Because the main goal of the paper includes demonstrating the capabilities of the PyFLEXTRKR, this reviewer thinks that some additional prove on how the algorithm manages splits and mergers should be included to support the skilled performance of the tracker (this reviewer acknowledges the conceptual schematic in Fig. 8). Adding statistics on how the number of split and mergers vary using different Tb thresholds sensitivity tests can be a way to go about this for a convective cell and/or MCS case. Statistics can be included in table form (an example can be following Núñez Ocasio et. al 2020 Table 2). This will be especially interesting to include given this tracker has the capacity to provide a comprehensive list of splits and mergers. Below a few minor comments.

Minor comments:

Introduction: Please include in the literature review GTG by Kim Whitehall: Whitehall, K., and Coauthors, 2015: Exploring a graph theory based algorithm for automated identification and characterization of large mesoscale convective systems in satellite datasets. *Earth Sci. Info.*, 8, 663–675, <https://doi.org/10.1007/S12145-014-0181-3>.

Line 208: Why 5-km radius? Did you test other radii? Please include discussion on the reasoning.

Line 240: Also, TAMS