REVIEW REPORT

Review of amt-2022-291

By Kumar Abhijeet, T. Narayana Rao, N. Rama Rao, and K. Amar Jyothi

Manuscript Title – Retrieval of Microphysical Parameters of Monsoonal rain Using X-band Dual-polarization Radar: Their Seasonal Dependence and Evaluation

GENERAL COMMENTS

The manuscript analyzed F5 years of disdrometer data and 2 years of radar data in India to obtain relation for the DSD retrievals from radar data. The influences of different factors on these relations have been analyzed and the comparison between disdrometer DSD parameters and radar based DSD parameters has been performed. The paper is well written and well organized. In my opinion in a bit log and some sections can be very shortened or eliminated (such as section 4.1 and 3.3).

I suggest the publication after addressing my comments:

1. Line 58: I think that also the generalized gamma by Thurai et al. (2018) needs to be added in this list.
2. Line 84: Probably also Italy needs to be added in this list.
3. Line 140: can the authors justifies the choice of 6 minutes of integration?
4. Line 150: "…simulation with other models…" which other models? Please clarify this sentence
5. Lines 184-185: this conclusion is true for Dm but much less marked for Z in particular at high rain rates.
6. Lines 229-230: It should be highlighted that in some cases the differences among the coefficients are very limited. For example, between a1 of Dm-Zdr relation for PRE e NEM. It should be interesting to define the error in terms of Dm in using only one relation for all the seasons.
7. Table 4: Probably this is PRE not PMON
8. Please note that the Authors need to change Figure 7 with Figure 8 and vice versa.

REFERENCE

Thurai, M., & Bringi, V. N. (2018). Application of the generalized gamma model to represent the full rain drop size distribution spectra. Journal of Applied Meteorology and Climatology, 57(5), 1197-1210.