

Comments by Referee 2:

The author addressed all my comments and in my opinion added important information that improve the manuscript. I have just two minor comments to share with the Author. In my opinion the following suggestions can improve the quality of the results but they are not mandatory.

1) Regarding the new section 3.4 added by the Author. I suggest to the author to take a look at the paper of Adirosi et al. (2023) that describes a methodology to improve the quality of disdrometer data starting from the raw data (i.e. Field 93 in the Parsivel2 documentation).

2) Several papers in the literature used 1-minute disdrometer data to obtain Z-R relation. Of course to obtain climatological value of the Z-R coefficient a long time series is needed, however the Z-R relation can be obtained also for each event, although their validity will be more limited.

REFERENCE

Adirosi, E., Porcù, F., Montopoli, M., Baldini, L., Bracci, A., Capozzi, V., Annella, C., Budillon, G., Bucchignani, E., Zollo, A. L., Cazzuli, O., Camisani, G., Bechini, R., Cremonini, R., Antonini, A., Ortolani, A., Melani, S., Valisa, P., and Scapin, S.: Database of the Italian disdrometer network, Earth Syst. Sci. Data, 15, 2417–2429, <https://doi.org/10.5194/essd-15-2417-2023>, 2023.

Point by point response:

1) Regarding the new section 3.4 added by the Author. I suggest to the author to take a look at the paper of Adirosi et al. (2023) that describes a methodology to improve the quality of disdrometer data starting from the raw data (i.e. Field 93 in the Parsivel2 documentation).

Response: Thanks for sharing the reference but I do not see any valid reason to cite this paper within the context of my work. I categorically refuse requests to cite papers that do not meaningfully contribute to the topic, and do not help improve the scientific quality of the work. In my opinion, the question of how to process raw DSD data from Parsivel optical disdrometers is not the main focus of this paper. Many other, more influential papers about this topic are already available but I see no valid reason to cite either of them.

2) Several papers in the literature used 1-minute disdrometer data to obtain Z-R relation. Of course to obtain climatological value of the Z-R coefficient a long time series is needed, however the Z-R relation can be obtained also for each event, although their validity will be more limited.

Response:

Thanks for the comment. I fully agree. The paper already contains a sentence that conveys this idea (see line 60):

“The application of this technique can, however, be rather challenging. The substantial measurement uncertainty that impacts Z-R measurements, along with the reliance on strong modeling assumptions (specifically, the fact that Z-R relationships can be approximated by a power-law) imply that large sample sizes are needed to reliably estimate α and β .”