

## Comment on **essd-2021-203**

Alan Blyth (Referee)

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Referee comment on "Deployment of the C-band radar Poldirad on Barbados during EUREC<sup>4</sup>A" by Martin Hagen et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-203-RC1>, 2021

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This paper describes the observations that were gathered by the Poldirad radar mainly during the EUREC4A field campaign. The paper is very clear, well written and the figures are well chosen. The paper provides a very useful summary of the Poldirad radar and the operations during EUREC4A and good description of the data files.

I have only very minor comments and suggestions.

Line 31. Change "In this view" to "With this in mind"?

Line 32. "The non-polarimetric..."

Line 79. Latter

Line 90. I think reference to Fig. 4 comes before Fig. 3.

Fig 4. Caption. It would be worth adding (MDS) even though it's obvious.

Line 163. Parameters.

Line 193. "according to the procedure outlined in Sect. 3.5"?

Line 197. "... twice the rain rate for the same reflectivity..." is a bit ambiguous.

Line 210. Should "cells" be "rain cells" throughout? But then does that depend on the value of Z? Sometimes "cloud system" seems more appropriate.

Line 212. Clouds had a multi-cell structure?

I wonder if "high precipitation" should be "heavier precipitation" so there is no ambiguity with altitude?

Line 214. Flower pattern.

Line 222, Figure 9. It is interesting to see an example of such deep clouds that will have contained ice and graupel particles during EUREC4A. (Just a comment!)

Line 227. Approximately. And thus lower?

Line 235. Is it possible that there was a very small concentration of precipitation-sized drops?

Line 239, Figure 12. Would it be helpful to somehow include the information in the middle diagram of Figure 4 in Fig. 12?

Figure 13. Would it be useful to include the altitude of the 0 deg level in the bottom diagram?

Lines 311-312. Was the diurnal cycle observed on several days? Is that the meaning of the full sentence on line 228?

Line 326. Where are the black ellipses in Fig A1? There is one ellipse in the top diagram.

Line 329. Is there any information at all on the possible effect of the deformation on the observations?

Line 333. It becomes clear?

Line 339. text books such as.

Line 348. sedulously.