Dear Reviewer #1,
we thank you for your new revision of the manuscript. We have fixed in the text the technical corrections. Herein we report specific answers to some of your comments which deserve a more detailed clarification.

- **Equation 2: That's neat but unusual - why the 1.14?**
  The unbiased estimator of the mean was investigated and defined in a work by our group project (Nebuloni et al., 2020), cited in the text, where we relied on CML data with high temporal-resolution (10s) and we simulated the 15-min MIN-MAX logging process. We verified that the unbiased estimate of the mean over the considered data set could be obtained by averaging MIN and MAX rainfall rate and dividing by 1.14.

- **The 20 and 40 GHz and CML match well, but the 10 GHz is a bit 'off' - [why not briefly explain in the caption?]**
  The 10 GHz curve does not perfectly fit the points representing the CMLs as they are characterized by frequencies slightly above the 10 GHz, in fact they range from 11.4 to 13.1 GHz.

- **This new figure is 'busy' and very difficult to unpack - the captions do not help me. I suggest separating the symbols onto 8 separate panels of the same size, but perhaps a bit smaller to get your message over to the reader. Your article is not over-long.**
  This figure should be interpreted qualitatively rather than quantitatively. The message we want to convey with this figure is the different behaviour of CML estimates with respect to *low* and *high rain rate* events. If we created multiple panels it would be less easy to interpret the figure, so we prefer to keep it as it is.

Dear Reviewer #2,
we are pleased that you appreciated our revision of the work. We fixed in the new version of the manuscript the minor requests and the technical corrections you provided us in the second report. Herein we report specific answers to your comments. Please note that the number of lines refer to the track-changes manuscript.

- **Fig.4: Please clarify in the figure caption or in the legend of the figure that the numbers correspond to the individual events that you studied and that the markers are the individual CMLs (if I understood correctly).**
  You understood correctly, we added this information in the caption of Figure 4.

- **L45: As far as I am informed the US radar network already used the dual-pol A(R)-Method for the operational product. Hence, this sentence should be reformulated since it suggest the QPE will benefit from dual-pol radar technology in the future, while it is actually already benefiting now.**
  We reformulated the sentence so as not to convey a wrong message (line 44).

- **L198: I do not find the description of the „hysteresis method" in Nebuloni et al., 2020b. What does „hysteresis" and „thresholded" mean here?**
  We changed this statement. We think now the concept is better explained. The modified text is from line 175.

- **L254: I found it confusing that this paragraph starts with this sentence because, as I found out after reading halfway through the paragraph, this paragraph is about the validation of the processing. It would be easier to read if the paragraph already starts with this topic.**
  We deleted the first statement of the paragraph in line 222, as you suggested.

- **L259: I do not really understand what the purpose of the two sentence is („To carry out...„). Also „fully fair comparison" and „is seldom feasible" do not sound correct to me.**
  We deleted this statement and replaced it, at line 225, with the one below as we believe that the message is important.
  "In this respect, we highlight that CMLs carry out path-averaged rainfall measurements. Hence, it is not straightforward to validate CML-based outcomes with measurements from rain gauges, that are single-point sensors, unless ad hoc-deployments are used, which is not the case of this study."

- **L412: Why „120 samples (8 high rain rate events x 15 HRUs)"? I thought the analysis is carried out at hourly basis, hence, I expected much more data points. Please be more specific in the text.**
  The boxplots were built by using the percentages of false negative/positive hours calculated, for each event and in each HRU, after the spatial interpolation. Hence we could rely, in total, on 15 (HRUs) × 12 (events) = 180 percentages. The boxplots are then subdivided with respect to *low* and *high rain rate* events. Hence the boxplots are built respectively from 60 and 120 percentages. We specified it better from line 350.

- **Figure 13: I am not sure why I did not add this comment in my initial review, but would it makes sense to show the results from Fig 13 also separately for high and low rain rate events? Given that CMLs perform much better during the strong events, this should also have an effect here and could highlight the potential of CMLs for hydrological applications during strong rain events. This is just an idea, though.**
Many thanks for the kind suggestion, which we have appreciated. Presently for the modest size of events (12 events) we have preferred to keep the figure like it is without splitting in high and low rain rate events, but we keep the suggestion for further analyses.

- **L504: I do not understand what „. . . due to a mitigation effect" means here.**
Here we mean that the spatial interpolation of data could mitigate the bias that is observable in the comparison between single CMLs and nearby RGs. We reformulated the sentence at line 424.

- **L518: In my first review I suggested to add in „some subsections". Now you have added one. In my opinion this results in a bit of a skewed structure of the discussion section with one long text on top and then this one subsection. Furthermore, I think it is very uncommon to add an unnumbered subsection here where 5.1 would be an appropriate numbering. I suggest to reconsider the structure of the subsection. Maybe you can add one or two more to split things up e.g. into a part about the data set size, a part about operational platforms and a part about ARF (just some ideas, not a definitive suggestion for the structure). In general, you should make a distinction between discussing the implications of your results and discussing potential future work.**
We added some subsections as you suggested.

- **575: Since you remove the last part of the conclusion here, there is now a very abrupt end after the summary of your results. I suggest to add two to four „concluding" sentences that briefly sum up the implications and potential of your work.**
We added some sentences which summarize the work from line 499.