Comments to the Author

Review of the paper “Technical note: Overview and comparison of three quality control algorithms for rainfall data from personal weather stations”.

In this paper, the authors describe a new source of rainfall data: personal weather stations that promise to improve rainfall monitoring. However, their reliability may be seriously inferior compared to professional rain gauges, so quality control algorithms are necessary. Three quality control algorithms are applied to a PWS network based on four rainfall events in Amsterdam to demonstrate its performance compared to a radar gauge-adjusted KMNI product. The results show a better consistency in mean regional rainfall and an improvement in long-term correlation, although it does not perform well on rainfall maps. Finally, recommendations for the application of the three quality control algorithms are given.

The logic of this paper is clear and rigorous, the writing aspect is also good for reading. This author tries to give a comparison of the performance of PWS after different quality controls, but the limited amount of data (only 4 events) leads to the fact that the persuasive power is not strong, and, the analyses seem to be inadequate (also possible that due to the small number of samples being shown). There are also a few deficiencies in the writing of the paper, and this paper can be published after these are resolved. Therefore, my suggestion is major revision.

Below are some specific comments.
Major comments:
1. More information about rain gauges in PWS needs to be presented. Why does it exist? How does it differ from professional rain gauges? Is it just the operation being personal? What are the ways in which these private PWS data are contributed? What are their motivations?
2. Line 51: The gauge-adjusted radar product from the Royal Netherlands Meteorological Institute (KNMI) is used as a reference data set. Please describe its performance indicators.
3. Line 105: The aim of this paper is “a first demonstration of their applicability and performance”. Would just four rainfall events be too little. Can the robustness of the assessment results be guaranteed? More rainfall events are expected.
4. “These rainfall events were selected in such a way that the majority of the PWSs registered significant rainfall for a large duration of time.”. Whether PWSs do not exhibit significant rainfall in many rainfall events, even if significant rainfall does exist.
5. Figure 2: Both underestimated rainfall in the south-west of the region What is the reason? Is it because of the absence of stations here? It is helpful to have the stations labelled on the map to help understanding. Also it is expected that rain maps that have not been revised are placed.

Minor comments:

1. Line 9: Full name of the QC.
2. Line 47: “Figure 1” or “Fig. 1”.
3. Figure 1: Please examine the chart carefully. Does the red rectangle in the small map in the upper left corner overlap with the red rectangle in the larger map? Also, the addition of longitude and latitude is helpful.
4. Line 67: “R software”?
5. Table 1: Text alignment in table.
6. eq. 3: ‘*x’* and ‘*y’* need to be specified.
7. Line 4: “May 2017 - May 2018”, Line 47: “May 2016 and June 2018”, whether or not it matches. Such a description is also misleading to the reader, as it seems to actually involve only four days.