

Review-V1

Title : Degradation of Commercially Available Digital Camera Images due to Variation of Rainfall Intensity in Outdoor Conditions

The manuscript addresses commercial camera-based rainfall observation is a useful technology that contributes to the densification of rainfall observation networks. The study investigates the main and interactional effects of different commercial interval cameras (outdoor images) and rainfall intensity, which is interesting for measuring rainfall with high spatiotemporal resolution and low cost. The topic is important, and manuscript fits with the scope of the journal. but it has some weaknesses associated with the presented data and discussion have shortcomings as discussed below. Therefore, the current version of the manuscript needs major revision to be published in (HESS Journal). There are several issues must be addressed.

Minor comments

1. Regarding the title of manuscript, the title should show the novelty of the research and tell the main finding of the study.

The title explains the problem... For example, you could write a title like this: “The effect of fluctuation and change in rainfall intensity when using commercial cameras on the accuracy of rainfall measurement”

Major comments

2. For all tables and figures, no SD or SE. How the statistical analysis has been done with replicates.
How many replicates are used for each camera? Please describe it in materials and methods section.
3. The experiment has been conducted at outdoor sitting using three commercial camera, which are the brand type and specifications of each camera separately (country of origin and description number of the device) such as “the UV visible spectrophotometer (model T80 × UVNIS Spectrometer PG Instruments Ltd, England)”. This must be included in the material section. And what is the camera's shooting range (km)?
4. Details about the monthly meteorological data (wind speed, relative humidity, max and min temperature) for the experiment period are missing. Please describe it in figure...
5. As for the figures (4,5,7) and the table (2), there is very dense data in them. Please simplify the presentation of the results in a way that makes it easy for the reader to understand and grasp the information easily and without feeling any distraction.

6. The discussion section needs work. There are no comparisons with other studies. The discussion section must be rewritten in-depth highlighting the limitations of the present study.
7. As for the results section ... it shows very valuable and very important results, so it needs to be written in more detail and more clarity.
8. The research is based on how commercial cameras are used to measure rainfall and the effect of this rainfall on the measurement accuracy of each type of camera separately.... But how can we overcome the problem of the inefficiency of commercial cameras in measuring rainfall with high accuracy... Can the efficiency of the camera be improved... What is the best type of the three camera ... How can we help stakeholders in manufacturing a high-resolution surveillance camera at a low price... Please explain this
9. How to solve the problem of commercial cameras deteriorating due to increased rainfall.... please explain
10. Can farmers use a rainfall monitoring camera on their farmland to track rainfall and calculate irrigation rates efficiently.... Or will it be too expensive for them? Please clarify.
11. The research compares types of commercial cameras... please clarify which categories can benefit most from these results and apply the research results on a practical and real-world scale.
12. Please clarify at the end of the discussion section what are the weaknesses and future studies that should be conducted for improvement and to reach the best results that help in solving problems related to hydrology and rainfall.
13. References are generally very good, but they need to be expanded and cite recent research related to the research topic. (The references must be recent, as there are many articles related to this topic that were published during this period).