Reviewer 2:

This study analyzed hail reports as well as disdrometer and upward pointing radar measurements of hail events at one station in the central Andes. The text, including structure, title, and abstract, and the Figures are of good quality. In my opinion, given my specific comments 2-4, the results lack representativeness and are not very impactful. However, some of the results are perhaps worth publishing and given the wealth of different analyses, including recent topics such as polarimetric radar identification, I could see the study having some relevance for the community. Some points should be clarified before publication.

Overall response:
We appreciate the comments of reviewer 2. Following the reviewers' suggestions, several changes were made to the manuscript. The main changes are:
- A description of the synoptic conditions of the study cases was included.
- Satellite observations (GOES-16) were included to analyze the dynamics of the study cases.
- An analysis of the Doppler spectra of the study cases was included, with special focus on the spectral LDR.
- The discussions and conclusions were rewritten to provide more information on the study results and contextualization.

Specific comments:

1. l. 97 a map with elevation and the station location would be very helpful I think

    Answer: We included a map for the study area.

2. l. 97 Hail is typically infrequent on high mountain regions and more frequent in foothills (see Allen 2017 for Rocky mountains in US and Punge 2017 for the European Alps). I'm missing some justification for why this location was investigated. Is hail an often observed threat there (this doesn't seem to be the case from the hail sizes that you observed, <14mm)? If not, I think it should be made even clearer (in intro and summary especially) that the observations are only representative for the high mountain range, not other regions of Peru (probably not even the whole mantaro river valley which you mention in the intro, give its complex terrain).

    Answer: This the only hail observation so far in the central Andes. The meteorological observations overall are very scarce in the Andes.The Huancayo Observatory is trying to fill this gap. Also, the hail is a problem for agriculture in the zone as is explained in the introduction.

3. l. 97-103 Are there any other observatories such as this one in Peru which you could add to the analysis? This would increase the robustness of the results.
    Answer: We are using all the data set that we were able to find, there are not any other reports nor study about hail observations in the central Andes.

4. I'd also personally be very interested in the spatial distribution as our satellite-based detections show some strong activity in Peru, but more in the foothills to the East. Perhaps you can share your experience on this.

   Answer: I included satellite observations from GOES16 for the study cases. It seems like the strong activity occurs only at a small scale in the Andes.

5. section 2 in general: Do you have events of Graupel in this region? How did you make sure events were correctly classified as hail? Was there a minimum size? Later you comment on the observed sizes (line 340), which are almost exclusively small, so I'd wager some of the cases were in fact Graupel. Graupel is also not considered in the Disdrometer (probably because it is indistinguishable from small hail for there), which leads me to suspect that many of the "Hailstorms" in section 3.2 are Graupel. I think this is very important because Graupel can never become large, while hail can. If most of your events are Graupel, then calling this study an analysis of hail events is very misleading. This should at least be made very clear already in the intro and methods, not late in line 340.

   Answer: This is a good point, actually we cannot differentiate between hail and graupel in this study. The Parsivel does not make the distinction and the hail reports are likely including graupel as well. The issue is not stated in the manuscript.

6. l. 297 (also l. 385) I'm not a microphysics person but in the reference below, high LDR aloft is attributed to the alignment of ice chips in the electric fields (Melnikov, et al. 2019).
   Perhaps in general, you could compare your results more to those of other studies (I'm sure the one I found is not the only one using polarimetric radar signatures to classify hail)

   Answer: We now rewrite the LDR description to accuracy.

7. l. 315-319 The radar only sees a vertical section at one point, not the whole 3D cloud, while hail growth happens in 3D trajectories and the stones are advected relative to the updraft (even several km outside the main updraft in some cases), see e.g. Kunjian et al. 2020. Perhaps some perspective on how you relate your 1D (or 2D segments) of measurements to these 3D processes would be insightful. It wasn't clear to me what you mean by "Intuition".

   Answer: In fact now we included satellite observation we realized the radar is only observing a small part of the storm. The issue is now detailed in the manuscript. We rewrote the sentence that included "Intuition".

Technical corrections and suggestions:

1. l. 44 add space after "severity"
   Answer: Corrected.

2. l. 47 I suggest adding Allen et al. 2018 as reference in the brackets
   Answer: Thank you, we are now citing Allen.
3. l. 52 remove "Beal" once
   Answer: Corrected.
4. l 60-79 repeating all these points here seems a bit redundant. Consider summarizing them in 2-3 sentences or picking the ones most relevant for your study (such as the microphysical aspects)
   Answer: Actually, we are making a resume of the Raupach recommendations, we think that give a good insight of the state of art, for our study.
5. l 80-81 "In the Andes" is repeated 3 times here
   Answer: Corrected.
6. l. 101 The text seems broken here, do you mean "...sorrounding the observatory."?
   Answer: We removed this broken text.
7. l. 106-107 I don't understand this sentence. Weren't the reports localized before 2016 as well?
   Answer: The reports were discontinued in early 2016. So our 2016 hail events is 0. I specified this issue in the text now.
8. l. 107-110 I recommend starting this sentence with "However, instruments ..."
   Answer: Suggestion accepted.
9. sections 2.1 and 2.2 A lot of this technical information seems irrelevant for the study. I recommend sticking to what is important for hail accuracy and just include a reference for further reading
   Answer:
10. Fig. 3 and elsewhere: I'm assuming the times are in local time not UTC? Be clear (if I haven't overread it)
    Answer: Now we are being specific with the local time use.
11. section 3.3: Just a question, do you think the LDR relationship typically observed in horizontal pointing radar (higher LDR for hail) is better or worse here because you use a verticall pointing radar, which sees falling raindrops from the bottom?
    Answer: Certainly it is easier to observe microphysical properties at vertical incidence due to high vertical (and time) resolution, Also the velocity is a good proxy of the particle sizes, information that is more complex to derive at horizontal incidence.
12. l.334 "Friedrich" twice
    Answer: Corrected.
13. paragraph starting at l. 328 Good discussion of weaknesses!
    Answer: Thanks, the reliability of Parsivel2 to identify hail is still under study, which is part of this work.
14. l. 405-413 Just my opinion, but his high self-appraisal seems a bit unprofessional. This is an interesting "pioneering study" yes, but I recommend being a bit more humble about the impact in a scientific publication, if it is not ground breaking.
    Answer: You are totally right, we rewrite the conclusion section. Now we included the new results as part of the conclusions.