Referee comment

General comments:

Natural seeder-feeder process is one of the cloud microphysical processes that have yet been well understood. The authors used observations of bilayer cloud cases collected by MMCR to conduct an analysis on the seeder-feeder mechanism, some parameters are defined to reveal the changes of cloud macro and microphysical characteristics during the seeder-feeder process. Further analysis of the radar moments also gives some interesting results. The manuscript is well organized and easy to follow. However, I have some concerns about the accuracy of retrievals and some technical methods are not well described in the manuscript. Please see my comments below.

Response: Thank you very much for your nice comments. Your question and suggestion are very helpful for us to improve the quality of our paper. We appreciate the reviewer's thoughtful review and constructive comments. The following is our point-to-point replies.

Major comments:

1. The authors classified the collected cases based on the height difference (HD) and effective seeding depth (ESD) of seeded cloud, both of these parameters need to be calculated from height of cloud top and bottom (either seeding cloud or feeding cloud) but it's not clear how the authors determine them. If the radar echo is used to determine the THSC, BHSC and THFC, then the height is affected by the sensitivity of the MMCR. Further, the authors should also consider how to determine these parameters when the cloud top or cloud bottom is not flat enough.

Response:

The heights of cloud top and bottom are determined from radar echo signals. Before determining the two heights, the clutter mixed in signals observed by millimeter wave cloud radar were filtered out. The sensitivity threshold of the radar used in this study is -40dBz, which is sufficient for accurately observing the positions of cloud base and cloud top (Yuan yun,et al. 2023,Atmosphere Measurement Technique).

Usually, the cloud base or cloud top is not flat enough, so reviewer's question for this part is reasonable. However, as our study focuses on stable stratiform clouds, the cloud tops and cloud bases observed in these cases are relatively flat. In this study, THSC is the average height of seed cloud tops during the observation period, BHSC is the average value of the seeder cloud base during the t1 period, and THFC is the average value of the feeder cloud top during the t1 period.

We will supplement the above content in the revised version. Thanks again.

2. The "small particle tracer" method was used to retrieve the vertical air motion, which we all agree is more suitable for stable clouds with small turbulence, I would like to see the authors verify the retrieved vertical air velocity with the radiosonde data in-situ since the authors carried out SP broadening correction.

Response:

The opinion of reviewer is right that the "small particle tracer" method is more

suitable for stable clouds with small turbulence. Generally, the results are affected by turbulence, wind shear, and beam width, so the correction is needed. In our study the horizontal wind of sounding data was used to correct the echo power spectrum caused by possible wind shear. However, there is no vertical air velocity in the sounding data, so it is not possible to verify the retrieved vertical air velocity with the radiosonde data in-situ. Perhaps we can do it in the future by other way. Thanks your nice question.

3. In section 4, the authors set the HD threshold as 1 km for classification, is there any statistical analysis performed to determine the threshold?
Response:
    The HD threshold in this study is obtained based on the statistical results of the 11 cases listed in Table 4. Thanks.

Minor comments：

1. I understand the authors use "final particle falling velocity" refer to the particle falling velocity in static air, but it's not appropriate to say "final" velocity, "particle terminal velocity" or "particle falling velocity" is encouraged to use.

Response:
   Thank you for the suggestions. In the revision, we will revise from "final particle falling velocity" to "particle terminal velocity".

2. P3L61: "retrieval" to retrieve
Response: OK, thank you very much.

3. The use of "observational data" is in question.
Response: Thanks. Now it is modified as "observation data".

4. P15L380: I guess the authors means both seeder and feeding clouds?
Response:
   Thanks your nice reminding. P15 L380: "seeded and seeded cloud increase during the seeding period" should be "seeding and feeding cloud increase during the seeding period".