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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Evaluation of hygroscopic cloud seeding in liquid-water clouds: a feasibility study" *by* Fei Wang et al.

Anonymous Referee #1

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This study attempts to estimate the hygrpscopic seeding in liquid water clouds by combining the observations from radar, surface precipitation and airborne Cloud Droplet Probe (CDP) measurement. Their findings in this study confirm that cloud seeding had altered the course of cloud development and their parameters, and suppressed precipitation. Although this study only focuses on the case study, the related results may help for understanding about the course of hygroscopic seeding and provide a feasibility method for cloud seeding assessment. Generally speaking, the paper is interesting, and tables and graphics are well constructed. The objectives of the study are clearly mentioned in the introduction and the results associated with their significances are stated in the conclusion. As a result, I am recommending the paper be accepted with minor revisions if the authors response properly my comments. The some main com-

ments and suggestion I have are listed below in the specific comments to the authors.

Specific Comments:

1. Page 1, Line 24: CDP—>Cloud Droplet Probe (CDP).

2. Figure 1(b), the unit of CTH—>km.

3. Page 3, Line27-28: This study only focused on the warm liquid water cloud, right? Are the supercooled water clouds excluded in the analysis?

4. For the Figure 2, a detailed information is needed in the figure caption. Such as, what's the mean of the top left and bottom right subplots in the figure 2.

5. Page 6, Line 19: domain 1—–>domain A.

6. Page 7, Line 1: the reflectivity threshold of CR is 19dBz, please give the reference.

7. Page 7, Line 5: I am a little bit confused by your results in the Figure 8. In my feeling, the cloud seeding may alter cloud properties and suppress precipitation, it means that clouds should have more longer lift time. But, the seeded cell appears to have the shortest life cycle in your study, why?

8. Please add the color bar in the Figure 6c, 6f and Figure 7.

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