The reviewer's comments are in black, and responses are in blue.

Thank you to the authors for thoroughly answering the comments of all reviewers. I only have minor comments in this second round, which can be swiftly addressed before acceptance of the manuscripts.

- The authors nicely responded to the reviewer comments, but many points / questions raised have not been implemented in the manuscript. I would like to see more of the resolved comments also in the main manuscript, as also other readers may stumble upon the same questions and should not be forced to check the open discussion documents. This goes for the SEED / NOSEED definition, ice nucleation, precipitation significance (which actually was not properly discussed after reviewer comments, even though indicated), signatures of the observed radar reflectivites, etc.

- Colormap Jet: I have to disagree with the authors, because there are various colormaps allowing for more contrast among a broader range of values. I am adding a few examples here: PyART is a specific package for colormaps for remote sensing instruments and the scientific colormaps by Fabio Crameri have been designed specifically for the purpose of allowing maximum distinguishability while having color-vision deficiency friendly colormap. I am aware that jet is a prominent colormap, especially in the remote sensing community, however, it has been proved to induce biases and not being color vision deficiency friendly, and with that contradicts the guidelines by ACP. I strongly urge the authors to adapt their figures. Moreover, adequate ranges in the colormap could help to increase the contrast in the signals.

Upon these changes (which should be minor in nature), I am fully recommending the manuscript for publication.

Reply: We appreciate your comments and the paper is revised accordingly. The definitions of the SEED and NOSEED areas have been revised in Line 203 of the manuscript, and an explanation of why no-seeding simulations were not designed has been added in Line 210. The description of natural ice nucleation in the model has been added in Line 155, while the discussion on whether to activate the natural ice nucleation is presented in Line 206. The discussion of precipitation significance (i.e., simulation

uncertainty) is presented in Line 367, while the calculation methodology for differences in SEED and NOSEED areas and the clarifications of the numbers in the text have been added in Lines 336 and 368, respectively. Signatures of the observed radar reflectivity have been supplemented in Line 126. Additionally, some omitted explanations have been added into the manuscript, including new clarifications in Lines 266-268 that resolve potential ambiguities in Fig. 7. The figures related to the jet colormap have been recreated as follows, which are now match the guidelines by ACP:

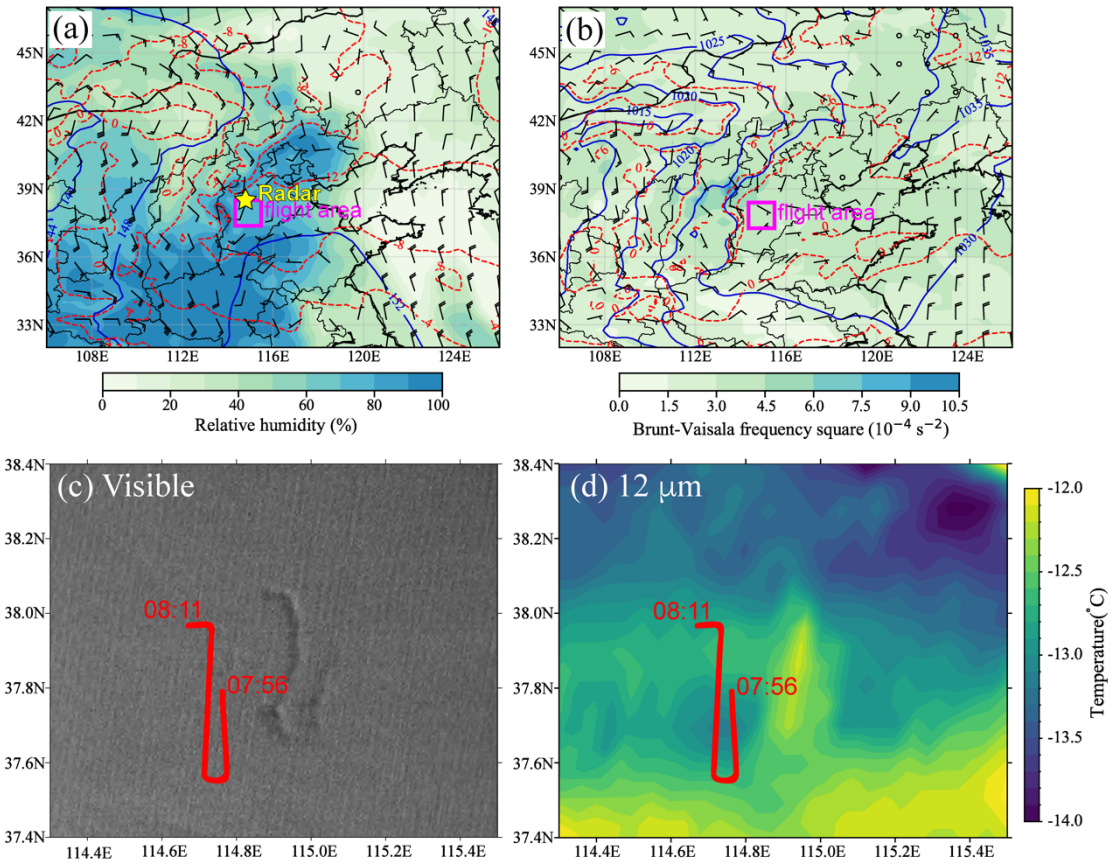

Figure R1. (a) Synoptic conditions at 850 hPa in North China at 06:00 UTC on 20 Jan 2022 obtained from ERA5 reanalysis data, including the geopotential height (dam, blue contours), isotherms (C, red contours), wind barbs, and relative humidity (shaded). The yellow star indicates the location of radar and the magenta box is the flight area. (b) Map of sea-level pressure, surface temperature, 10-m wind and BV frequency squared at cloud layer (1.3-1.9 km above ground level). (c) Visible image and (d) brightness temperature at 12 microns obtained from FY4A satellite at 08:45 UTC. The blue lines

indicate the seeding trajectory.

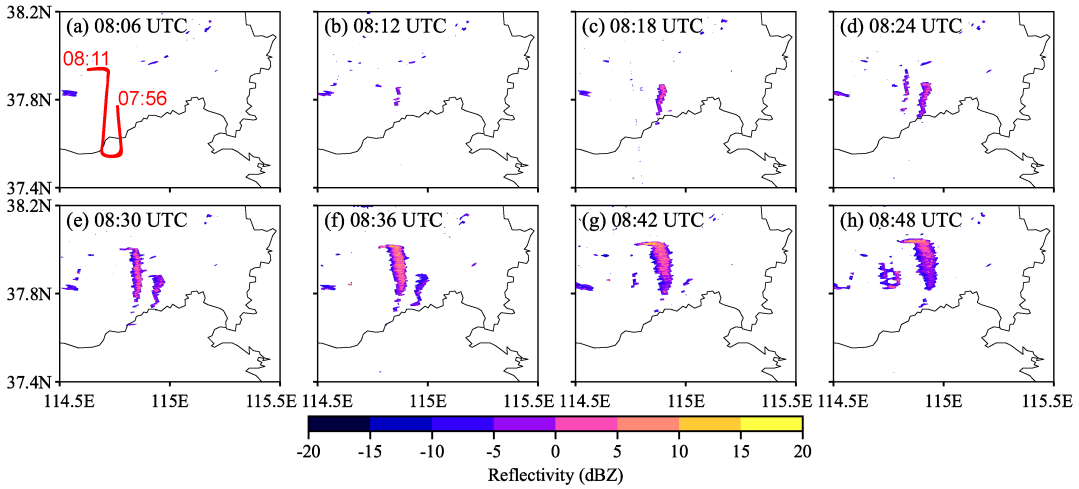

Figure R2. The radar reflectivity at 1.5° elevation from 08:06 UTC to 08:48 UTC measured by a ground-based S-band radar located north of the flight area.

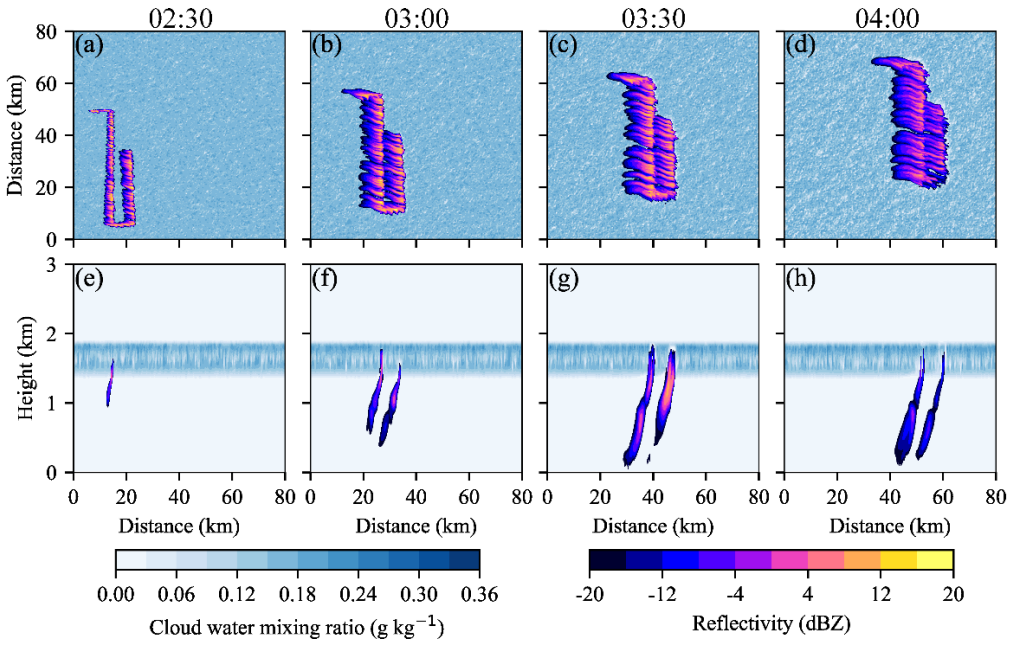

Figure R3. (a-d) Maps of composite reflectivity and cloud water mixing ratio from the Control experiment at seeding height from 02:30 to 04:00 Model Time. (e-h) Cross-sections of reflectivity and cloud water mixing ratios from the Control experiment along y = 40 km from 02:30 to 04:00 Model Time.

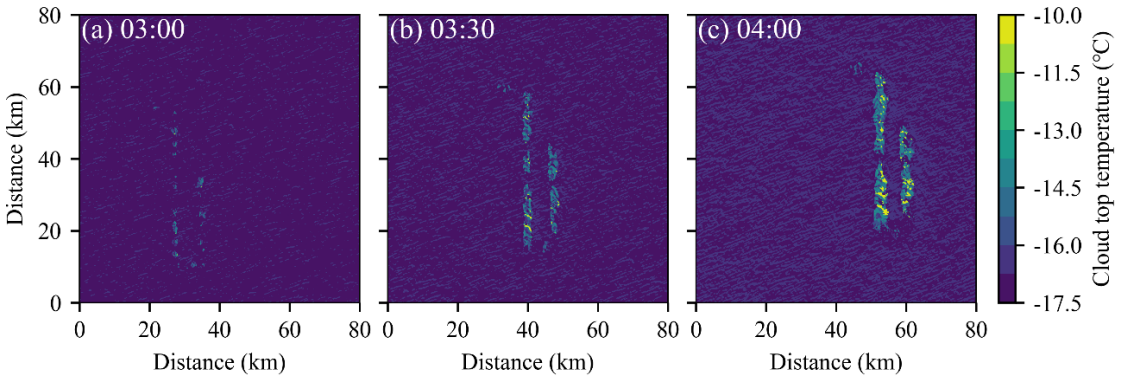

Figure R4. Maps of cloud top temperature in the Control experiment from 03:00 to 04:00 Model Time.

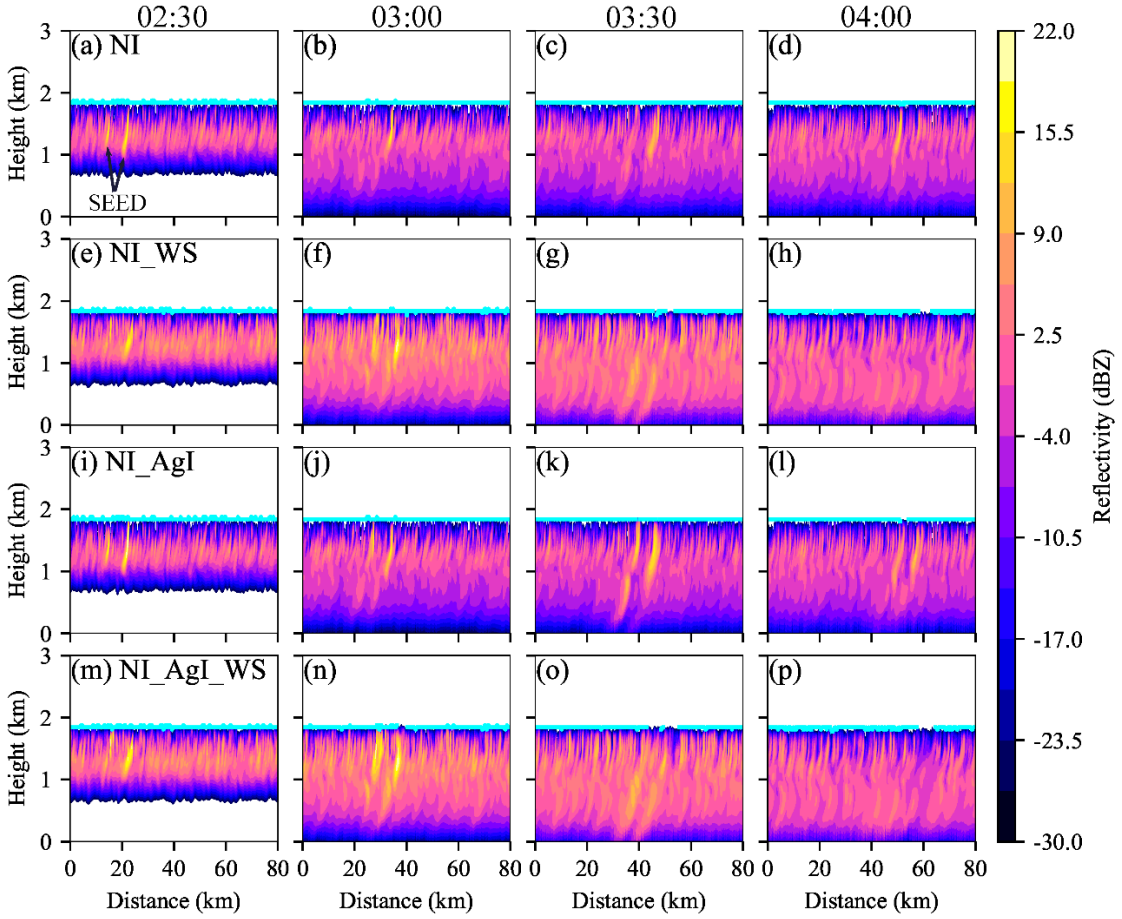

Figure R5. East-west cross-sections of reflectivity from (a-d) NI, (e-h) NI_WS, (i-l) NI_AgI, and (m-p) NI_AgI_WS experiments from 02:30 to 04:00 Model Time. The cyan lines indicate the top of the liquid layer. Natural ice nucleation is allowed in the simulations. The cross-sections are selected at y = 20 km, y = 20 km, y = 40 km, and y = 50 km at 02:30, 03:00, 03:30, and 04:00 MT, respectively.

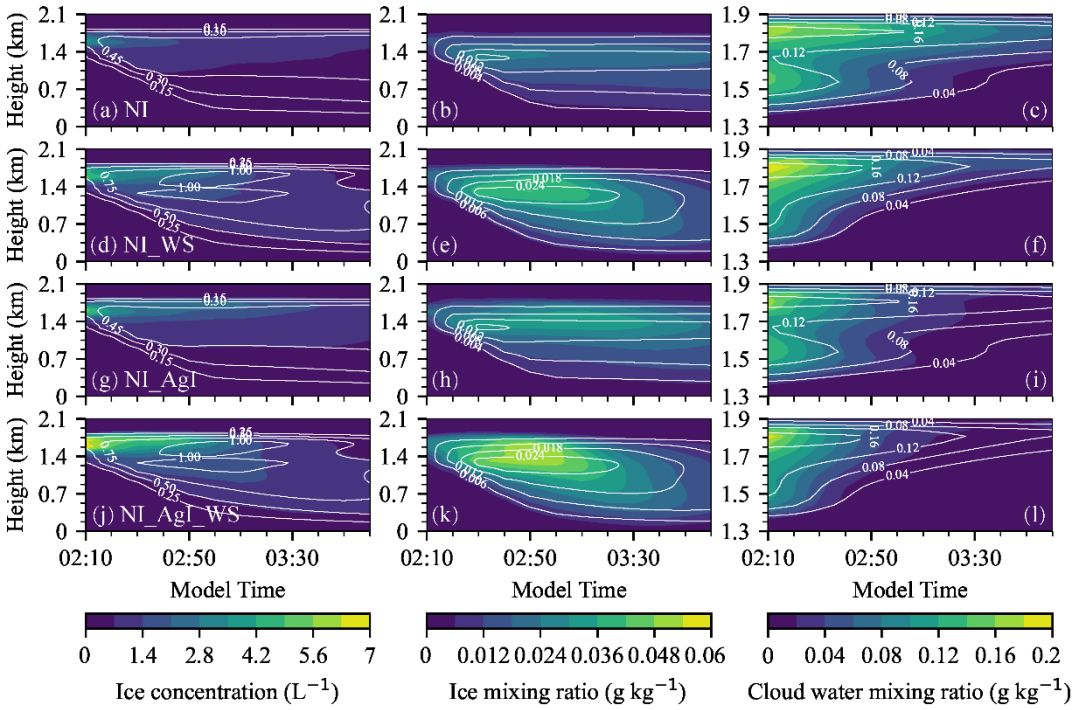

Figure R6. Time-height diagrams of ice concentration (left panels), ice mixing ratio (middle panels), and cloud water mixing ratio (right panels) from the (a-c) NI, (d-f) NI_WS, (g-i) NI_AgI and (j-l) NI_AgI_WS experiments. The color-shading applies to the SEED areas, and the white contours are for the NOSEED areas.