

First of all, thank you for your comments. In response to your questions, I have made the following responses.

- (1) Yes, the amount of snow correction is really small. At that time, the error generated during matching was not considered, but in general, the correspondence relationship with the ground-based S-band radar during snowfall is relatively good. In the case of convection, the attenuation of ice will be significant and complicated, and I will continue to improve it in the follow-up work.
- (2) In this paper, the quadratic spline interpolation is used for the S-band radar. Because there is no other radar on the aircraft we use as a verification standard, we chose the ground-based S-band radar for verification.
- (3) The manuscript did not actually consider the attenuation of the echo from the melting layer. Of course, this is a relatively complicated task. More in-depth research is needed in the follow-up.
- (4) Regarding the non-Rayleigh effect, the difference between S-band radar and Ka-band will also be considered in subsequent work.

Thank you for your valuable comments on my work. In this research, there are indeed many works that have not been studied in depth, especially the attenuation of the echo from the melting layer. I will use your valuable comments in the follow-up. Perfect in the work.