We want to thank the editor and both anonymous referees again for reviewing the changes made to our manuscript. We are addressing their comments in a point-by-point way below. In addition, we want to propose one more change to the abstract of our paper.

Change to the Abstract: We noticed that the abbreviation FR$_{ANN}$ is not properly introduced. We propose to change the relevant part of the text as follows:

"Training data are extracted from a data set acquired during winter 2014 in Finland, containing both Ka- and W-band cloud radar and in-situ observations of snowfall by a Precipitation Imaging Package, from which the rime mass fraction (FR$_{PIP}$) is retrieved. ANNs are trained separately either on the Ka-band radar or the W-band radar data set to predict the rime fraction FR$_{ANN}$."

Referee #1: I have very minor comments as follow. The page numbers and line numbers refer to the authors' tracked changes document, amt-2021-137-ATC1.pdf:

P10, L8-9: Should this say "...while the remaining two folds..."?

You are right, thanks for spotting this error. We changed the text accordingly.

P11, Figure 2 caption: Capitalize "scatter".

Done.

P12, L11-12: Perhaps place this statement defining FR_ANN a bit earlier in the text, around P10 L33-34, with the initial discussion of Figure 2.

Good point, we moved the sentence *"We will refer to the predicted quantity in the following as FR$_{ANN}$, to distinguish it from the FR$_{PIP}$ retrieved from in-situ observations"* a little up in the text.

P16, L27-29: For clarity in this statement about the correlations of FR_ANN values, could you add information about what variable(s) the FR_ANN values are being correlated against?

Thanks for pointing us to this poorly understandable sentence. We changed it as follows:

"The correlation of the predicted FR$_{ANN}$ values for all considered TRIPEx-pol cases is high for both ANN sets, the R² of the Ka- vs. W-band-based predictions being 0.73 for ANN #1 and 0.81 for ANN #2, respectively."

Referee #2: I am satisfied with the authors revision and responses. My additional comment is on attenuation correction: According to the authors, attenuation correction for liquid is mandatory particularly for shorter wavelength radars. Please also give short comments about attenuation effects by supercooled liquid droplets (including the limitation impacting the technique), because this study focused on riming.

We added the following sentence to the description of the attenuation correction to make this more clear:
"This means that attenuation caused by SLW droplets is only corrected for in SLW layers detected by the CloudNet classification mask, i.e. limited by lidar signal attenuation."