

Point-by-point response to the reviewer comments on the revised manuscript

Manuscript egusphere-2026-992: *Enhancing weather radar data by removing non-meteorological echoes, using neural networks trained on synthetic weather data*

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We thank the referees and the editor for their careful reading of the revised manuscript. In the following, we reply to each of the remaining comments.

Major comment

Reviewer comment 1

In section 2.6, the number of feature channels is selected by training the model over a small training subset (size 144 samples). Do I understand correctly that this trained model is then the final version of the model that is used to produce the results? Or is the model with optimal number of feature channels re-trained using a larger training dataset? Section 2.5 would lead me to understand that the training dataset which is sampled should be significantly larger (at least $16/17 * 180 * 2$) and sampling it with only 144 samples, while it might make sense for hyperparameter selection, seems weird for the final model version. Please clarify in sections 2.5, 2.6, and beginning of section 4.

Author response: Thank you for this comment. Section 2.6 now states more clearly that the 144 samples are only used as a validation dataset, i.e., for selecting which of the trained models performs best. We also mention that the training data is generated as described in Section 2.5.

Technical comments

Reviewer comment 2

Line 188: “dual-polarimetric weather radars”: please use either “dual-polarization” or “polarimetric”

Author response: We changed to “dual-polarization”.

Reviewer comment 3

Line 347: “divide the number of feature channels by three” is this supposed to be “by two”? If three is correct, please review Figure 4 to make sure it matches the description

Author response: Three is correct. We have added a clarifying sentence to explain why the number of channels at that point is divided by three.

Reviewer comment 4

Figure 4: It would be useful to show the size of the input ($3 \times 600 \times 360$), before the first convolutional block ($64 \times 600 \times 360$)?

Author response: Thank you for this comment, the input of size $3 \times 600 \times 360$ is now shown in front of the first convolution block.

Reviewer comment 5

Table 4: To aid the reader, it would be useful to indicate the best value in each column and group e.g. by bolding the value (also in other tables where the comparison of values between rows is relevant)

Author response: We have now bolded the best value in each table where SotA and neural network are compared.

Reviewer comment 6

Lines 562–563: Given that the moving average is calculated over 5 surrounding epochs, should it not be valid starting from epoch 3 (assuming epoch numbering starts from 1) and up to $e_{n_f}^{\text{end}} - 2$?

Author response: The manuscript now states explicitly that the moving average is also defined for epochs 1, 2, 99 and 100.