

Interactive comment on “Order of operation for multi-stage post-processing of ensemble wind forecast trajectories” by Nina Schuhen

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Response to R2

We thank the reviewer for their thoughtful comments and overall positive assessment of our paper. Please find below a point-by-point response to the comments.

Specific comments

1. P3,L82: The name "non-homogeneous Gaussian regression" is misleading, as there are several EMOS approaches where the predictive distribution is non-Gaussian. Use simply "non-homogeneous regression".

This has been corrected in the revised manuscript.

2. P5,L100: σ^2 is not the variance of the truncated normal distribution. It is a scale parameter.

This is correct and has been changed at multiple instances in the document.

3. P5,L116: Is there any explanation why the optimization procedure is more stable for wind speed forecasts given in knots?

While we have not investigated this in detail, we think it occurs because the CRPS optimization routine is less stable if the wind values are smaller and thus closer

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to zero, the cut-off point for the distribution. Our results showed very inconsistent EMOS parameters for some lead times, as compared to its neighbours. This resulted in some unrealistic jumps in forecast skill between lead times.

4. P15,L331: I don't think that the slight deviation of the PIT histograms from uniformity is coming from the use of instantaneous wind speed data. E.g. in [2], where in the case studies both maximal and instantaneous wind speed is considered, the truncated normal EMOS model results in rather similar PIT histograms.

We thank the reviewer for making us aware of this and will omit this sentence in the revised manuscript.

5. The blue and green lines of Figure 7 are hard to distinguish in BW, a different choice of colors or using solid and dashed lines would be better.

We changed one of the lines in Figure 7 to dashed, so that it should now be possible to differentiate between the two lines in both color and BW.