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Interactive comment on "A non-stationary stochastic ensemble generator for radar rainfall fields based on the Short-Space Fourier Transform" *by* Daniele Nerini et al.

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Dear Carlos

Many thanks for your detailed comment on the use of the Hanning window for the localisation of the 2D signal in space. Your concern that the shape of the window might alter the reproduction of the correct power spectrum does make a lot of sense. During our analysis, we tested the method with some of the most common window functions (namely the rectangular, Bartlett, Hanning, Hamming, Blackman and Kaiser windows) and found the Hanning to deliver the best results (most of the others were easily excluded since they produced strong discontinuities at the edges).

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Your idea to use a top flat window to capture more of the rainfall field and hence improve on the above is really relevant. As you suggest, a dedicated study on the spectral properties of different window types and their impacts on the reproduction of the local spatial correlation structure of the rainfall field might bring some insights on choice of the optimal window function and help to reduce some of the artefacts that are currently associated with the method.

Following your Short Comment, we took the opportunity to add a small paragraph in the future perspective section in our manuscript. We now mention your idea of using a top flat window and more generally the relevance of investigating in detail the choice of the window type.

Kind regards,

Daniele Nerini

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