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Atmospheric Measurement Techniques Discussions

Interactive comment on "Simulating precipitation radar observations from a geostationary satellite" *by* Atsushi Okazaki et al.

Anonymous Referee #2

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General Comments

The manuscript "Simulating precipitation radar observations from a geostationary satellite" details a theoretical study of the performance of a hypothetical geostationary weather radar using both a uniform rain layer and more realistic cloud model output. Offering a cogent analysis of the challenges of observing precipitation in the presence of surface clutter due to the coarse resolution of a geostationary platform, the paper is straightforward, well-written, and highly relevant, and should be published after minor revisions.

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Specific Comments

There is one point that is really lacking from the discussion: sidelobe clutter. The idealized antenna pattern in the paper neglects antenna sidelobes. Given the attention focused on realistic distributions of precipitation, such analysis can be considered outside of the scope of the paper; however, discussing the results presented in this manuscript in the context of other studies that look at sidelobe clutter (Kubota et al., 2016; Li et al., 2017) would add more depth to the conclusions of the paper.

Technical Corrections

Throughout the paper, “incident” should be “incidence.”

Lines 44-45: contaminations from the surface clutters -> contamination from surface clutter

Line 51: the surface clutters -> surface clutter

Line 122: The word “power” should come between “path” and “beam”

Line 182: The word “image” after “schematic” is unnecessary.

Line 227: Include “the” before “Marshall Islands.”

Line 228: Remove “the” before “generation.”

References

Kubota, T., T. Iguchi, M. Kojima, L. Liao, T. Masaki, H. Hanado, R. Meneghini, and R. Oki, 2016: A Statistical Method for Reducing Sidelobe Clutter for the Ku-Band Precip-

itation Radar on board the GPM Core Observatory. J. Atmos. Oceanic Technol., 33, 1413–1428, https://doi.org/10.1175/JTECH-D-15-0202.1

Li, X., J. He, C. Wang, S. Tang, and X. Hou, 2017: Evaluation of Surface Clutter for Future Geostationary Spaceborne Weather Radar. Atmos. , 8, https://doi.org/10.3390/atmos8010014.

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