Reply on RC1

Luca Bugliaro et al.

Author comment on "VADUGS: a neural network for the remote sensing of volcanic ash with MSG/SEVIRI trained with synthetic thermal satellite observations simulated with a radiative transfer model" by Luca Bugliaro et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2021-270-AC1, 2022

Answer to anonymous reviewer 1

We thank reviewer #1 for his positive feedback! In the following we report his review comments in italic and provide answers to them directly after.

Nonetheless, I feel like the whole manuscript could be simplified and shorten in order to better highlight the novelty of the presented results. The procedure used to simulate satellite observations and the VADGUS retrieval algorithm are well written but could be shorten significantly. I think that there are too many details that can be referred to the cited articles or by moving them to an appendix

We have shifted Section "2.3 Validation metrics" to "Appendix C: Validation metrics", shortened "1.2 Atmospheric profiles of gases and clouds" considerably and moved a large part of these explanations to "Appendix A: Atmospheric profiles of clouds". Finally, we have transferred the text about the refractive indices used for the radiative transfer simulations to "Appendix B: Refractive index and optical properties of volcanic ash". The manuscript is now significantly shorter and it leads much faster to the validation part. For further changes please refer to the answer to reviewer #2.