

Atmos. Meas. Tech. Discuss., referee comment RC2 https://doi.org/10.5194/amt-2021-175-RC2, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

Comment on amt-2021-175

Anonymous Referee #1

Referee comment on "Leveraging machine learning for quantitative precipitation estimation from Fengyun-4 geostationary observations and ground meteorological measurements" by Xinyan Li et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-175-RC2, 2021

- The title could be revised as: "Leveraging machine learning for quantitative precipitation estimation from Fengyun-4 geostationary observations and ground meteorological measurements"
- "Large-scale and high-quality precipitation products derived from satellite remote sensing spectral data have always been a challenging issue in satellite quantitative precipitation estimation (QPE). Moreover, QPE research related to China's Fengyun-4A (FY-4A) geostationary satellite is still very limited." could be revised as: "Deriving largescale and high-quality precipitation products from satellite remote sensing spectral data is always challenging in quantitative precipitation estimation (QPE), and limited studies have been conducted even using the China's latest Fengyun-4A (FY-4A) geostationary satellite."
- Line 156: "We constructed an RF model through the RF data package in R language, and established a relationship model of the satellite spectrum, cloud parameters and precipitation for the inversion and prediction of precipitation" could be changed to "A data-driven regression model was established between the observed precipitation and satellite spectrum as well as cloud parameters using the RF method."
- Figure 1: legend notations should be corrected, e.g., all_station should be automatic station?
- Figure 4: the results indicate significant over-fitting issue of these two prediction models, what are possible reasons? Also, the high precipitation was underestimated, is there any possible way to address this?
- Figure 9: large biases were observed for stations located in mountain areas, maybe the inclusion of DEM as a predictor could account for such biases.