

Interactive comment on “Real time rainfall estimation using microwave signals of cellular communication networks: a case study of Faisalabad, Pakistan” by Muhammad Sohail Afzal et al.

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Dear Authors, as the previous comments suggested, using the CML technology for rain estimation, and testing it especially in new regions is interesting and should be encouraged.

However, I think that some details of the estimation procedure should be better presented. Specifically: what values of the different parameters and/or coefficients you used exactly in the rain retrieval process, and how you calibrated them? Indeed,

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Overeem et. al. (2016) algorithm is a well established one, but, it relies on parameters and coefficients (such as the power-law coefficients, the wet-antenna attenuation, etc.) which may have some variations from region to region (e.g., see (1))

In addition, in the manuscript conclusion, you express that: "The spatial error analysis also proved that rainfall is a stochastic variable". If you consider the rainfall to be a stochastic variable, then it might be interesting to consider discussing or even comparing your current work with recent models of rain estimation from CMLs which take advantage of the statistical properties of the rain-rate (e.g., (2))?

With Kind Regards,

Jonathan Ostrometzky.

1. Ostrometzky, J., Raich, R., Eshel, A., & Messer, H. (2016, March). Calibration of the attenuation-rain rate power-law parameters using measurements from commercial microwave networks. In Acoustics, Speech and Signal Processing (ICASSP), 2016 IEEE International Conference on (pp. 3736-3740). IEEE.

2. Ostrometzky, J., & Messer, H. (2018). Dynamic Determination of the Baseline Level in Microwave Links for Rain Monitoring From Minimum Attenuation Values. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 11(1), 24-33.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-740>, 2018.

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