Interactive comment on “Rainfall measurement from opportunistic use of earth-space link in Ku Band” by L. Barthès and C. Mallet

Anonymous Referee #1

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This paper proposes a method to obtain opportunistic rainfall rate measurements from satellite microwave emissions by using an inexpensive receiver. It is an interesting approach, which would allow rainfall measurements in areas that for whatever reason are not covered by the existing radar and rain gauges networks. The structure of the paper is clear and in general terms sufficiently well written although there remain some linguistic issues. I therefore recommend the paper to be accepted for publication after addressing several issues.

General comments: 1- The main reason argued for the deployment of such network is the cost but I would argue that the installation costs of such a device may be higher than that of a rain gauge. I see more advantages respect to the maintenance cost since rain gauges require constant surveillance. Therefore I would stress the fact that such
setup can provide relatively inexpensive measurements in unpopulated areas where there would be otherwise no measurements at all. 2- I understand the need for a simplified model for the Attenuation-Rain relation but in my opinion the authors should not neglect the temperature dependence. They go a long way analysing the sensitivity to DSD but such relation is much more sensitive to temperature than to DSD. 3- I do not understand why they use spherical drops to compute R and Kfp from the measured DSDs. There are well established relations between drop size and axis ratios so there is no need for this simplification. 4- There are many small grammatical mistakes along the text. (I have only pointed some of them in the specific comments). Please consider revision by a native English speaker.
