

Interactive comment on “Time Series Analysis of Ground-Based Microwave Measurements at K- and V-Bands to Detect Temporal Changes in Water Vapor and Temperature Profiles” by Sibananda Panda et al.

Anonymous Referee #3

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1) To improve the dissemination of the manuscript, please add a paragraph describing the physical phenomenon at the basis of the sensing 2) For the Bayesian Optimal Estimation section: 2.1 If the equation (1) is the updating iterative minimization step of the cost function in eq. (2), it necessary to define first the cost function and after to provide the minimization step. In other words, please eq.(1) becomes eq.(2) and eq.(2) becomes eq. (1). 2.2 How do you choose the value of m in eq. (3) to define the convergence criterion ? 2.3 Please, comment more in detail about the effect of parameter \hat{I}_S on the local minima problem. 3) The section about the Neural Network (NN) estimation should be enlarged. What is the number of the unknowns searched

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for in the NN estimation ? How long was the time to train the network ? 4) By looking to figure 8, please comment the fact (maybe, by providing a “physical justification”) that the RMS error for NN estimation, has a decreasing behaviour with kilometres for the water content profile whereas increases with the distance for the temperature profile.

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C2