

Interactive comment on “Mind-the-gap Part II: Improving quantitative estimates of cloud and rain water path in oceanic warm rain using spaceborne radars” by Alessandro Battaglia et al.

Anonymous Referee #2

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The authors should study the sensitivity of the Cloud Liquid Water Path (C-LWP) retrieval performance with respect to the cloud microphysics scheme used in simulation of the radar observations. Specifically, the simulated cloud water and rain variables are not completely independent and implicit statistical relationships (embedded in the cloud-observation simulation database) are exploited by the retrieval procedure to "separate" cloud water from rain. While the simulations used in the manuscript are realistic, it is conceivable that these implicit statistical relationships are not exactly the same as in nature. The additional study of different microphysics scheme would enable cross validation experiments and facilitate insight on the impact of the joint cloud water-rain distributions on the retrievals of the C-LWP.

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