

# ***Interactive comment on “Retrieval of the total precipitable water vapor and cloud liquid water path over ocean from the Feng-Yun 3D microwave temperature and humidity sounders” by Jun Yang et al.***

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Received and published: 12 March 2020

The manuscript presents the considerable work done by the authors to apply the ATMS TPW and CLW retrieval algorithm to the instruments on the Feng-Yun 3D platform. This is an interesting project, as observations from Feng-Yun 3D potentially fill a gap between successive orbits of other satellite-borne microwave instruments. However, the approach adopted by the authors is based on the reconstruction of observations in the window channels at 23.8 and 31.4 GHz, which are not available to MWTS and MWHS. Machine learning is arguably a very powerful tool, yet it cannot re-create information

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unique to the missing channels from the observations in other channels. Therefore, the suggestion by both reviewers is to develop a new algorithm based on the strengths of the channels that are available to MWTS and MWHS.

In its current form, the manuscript cannot be accepted for publication in AMT. But I encourage the authors to use the reviewers' recommendations to improve the algorithm, perform extensive validation, and submit an updated version of the paper in due time.

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-447, 2019.

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