

## ***Interactive comment on “Representativeness of Total Column Water Vapour Retrievals from Instruments on Polar Orbiting Satellites” by H. Diedrich et al.***

**Anonymous Referee #2**

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This article uses GNSS measurements to assess the diurnal cycle of TCWV and the representativity of satellite measurements that are limited to clear-sky conditions and one overpass per day. I recommend publication after the following minor issues are addressed:

- p.1 l.15: It is not clear that variability mean standard deviation here.
- p.2 l. 12: The influence of precipitation cannot be neglected for MWR measurements.
- p.3 l.3: "can only [be] provided"
- p.4 l.13 / Fig. 2: the text says mean TCWV while the figure caption says median

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- p.4 l.15: The meaning of the last sentence is not clear to me. Do you mean: TCWV at 95% of the stations varies between -5% and +5%? - Fig. 8: caption: positive: red, negative: blue
- p.9 l.5: there is a typo: SDS instead of DSD
- p.9 l.17: typo: "where" instead of "were"
- Chapt. 5: Please describe shortly how you decide between clear sky and cloudy cases.
- Fig. 9: "Histogram of [DSD]" instead of bias
- p.11, l.2: "...has to be accounted for [] the interpretation..."
- p.12, l.5: typo: rain gouge instead of rain gauge

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