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Atmospheric Measurement Techniques Discussions

Interactive comment on "High resolution humidity profiles retrieved from wind profiler radar measurements" *by* Frédérique Saïd et al.

Anonymous Referee #1

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The authors present and discuss a technique for retrieving vertical humidity profiles from both UHF radar measurements and radiosonde measurements. The general approach is well known and has been documented in several journal papers published during the last 30 years or so. The retrieval technique relies on quite a number of non-rigorous physical and meteorological assumptions and simplifications and is known to be not as robust as, e.g., the retrieval of wind velocities and of the refractive-index structure parameter. Improvements in our ability to retrieve humidity profiles from clear-air radar observations have been incremental, and a fundamental breakthrough is not to be expected.

The manuscript is much too long in comparison to its scientific content. If the paper contains results that might be worthy of publication, they are well hidden under a large

amount of unnecessary material. The figure captions are not self-explanatory. The abstract does not state the underlying physical hypotheses, assumptions, simplifications, and approximations, and it contains no information about the precision or accuracy of the retrieved humidity profiles. The conclusions section is much too long and does not present hard conclusions in a compelling and concise manner.

I recommend to reject the paper.

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