

***Interactive comment on “Preliminary observation of temperature profiles by radio acoustic sounding system (RASS) with a 1280 MHz lower atmospheric wind profiler at Gadanki, India” by T. V. Chandrasekhar Sarma et al.***

**Anonymous Referee #1**

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The paper describes a new RASS system developed in India to get virtual temperature profiles. The RASS was added to an existing 1280 MHz wind profiler. The technical characteristics of the system are well described and very preliminary results from a 4-day intermittent measurement campaign are presented.

The major part of the paper is dealing with technical specifications of the system, and very little on results. Based on the 4-day campaign, it seems to me that some adjustments/improvements still need to be undertaken in order to have a really operational

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system.

The RASS technology was developed during the late nineties in USA, and the author refer to this period. It is meanwhile surprising to note that references mention only (excellent) papers before 2000, but nothing between this period and the period when the group was developing its own system (2010).

In order to have a paper of interest for the scientific community, the authors still need to prove the robustness/quality of their RASS system based on a longer measurement period than a 4-day intermittent period! Moreover, I still miss information on the quality of the obtained profiles (compared to radiosoundings, microwave radiometers, and/or NWP models for example), for various weather types and for a significant period of time. Statistics (bias, RMS, STD, etc..) are also missing, as well as errors and uncertainty estimates.

The authors need to explain what is new from their setup compared to existing (and commercially available) ones. It seems to me that this paper does not bring anything new from previous RASS systems to the scientific community.

In conclusion, the authors should undertake more measurements and comparisons before to publish on this RASS system. The reader should learn how good (or maybe better than other ones) it is, what are its strengths and weaknesses compared to other profiling systems, and how it can be optimally used.

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