

Interactive comment on “SI²N overview paper: ozone profile measurements: techniques, uncertainties and availability” by B. Hassler et al.

Anonymous Referee #2

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This is part of an ambitious and highly valuable series of three overview papers for a project (“SI²N”) intended to result in an integrated assessment of ozone trends, derived from many data sources. This paper is a detailed summary of the characteristics of the measurement techniques and data sets to be used; it is a critical piece of the larger puzzle represented by the three overview papers.

I recommend publication after the minor issues and questions below have been addressed.

p 9866 ln 11: “below 26 km” Should this be above rather than below?

p 9866 ln 4-15: The discussion of bias among sondes is confusing and may be partly contradictory. In ln 5-8 a low bias of 5% is discussed, while on ln 14-15 the bias
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between sondes and between sondes and other techniques is < 5%. Please re-write.

p 9867 ln 15 ‘essentially no a priori dependence’ That is identically the same as saying it has no smoothing error, but in lines 9-10 smoothing error of 5-20% is quoted. More generally, Umkehr is a fundamentally low vertical resolution technique of remote sensing, which will always have a priori dependence by its very nature.

p 9870 line 2: The FTIR height information comes primarily from the pressure broadened line shape, and the instrument line shape is critical for profiles of the absorbers, not only for trends.

p 9900 Comment on why HIRDLS and SABER were not included in the study

Table 1a; FTIR retrieves height information primarily from the pressure-broadened line shape, as does the microwave measurement

Table 1b; the native vertical grid of FTIR should really be same as microwave

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 9857, 2013.