

Interactive  
Comment

## ***Interactive comment on “Correction of water vapor absorption for aerosol remote sensing with ceilometers” by M. Wiegner and J. Gasteiger***

**Anonymous Referee #2**

Received and published: 14 September 2015

The paper is well written and is ready for publication as is, although some tables and schemes summarizing procedures and results might be added to clarify the method, as described hereafter.

The article deals with the problem of the water vapour absorption at the wavelength of 940 nm, used in many ceilometers operating worldwide in several national and international networks. Since the WV absorption cross section shows a very complicated structure in that spectral region, an accurate correction of its effects should require a very time-consuming calculation involving the laser spectrum, the WV cross section spectrum and the WV vertical distribution. Moreover, the way of performing the lidar equation inversion also affects the result. So, a very deep investigation of these effects is performed under different scenarios and an approximated solution to the problem

C2938

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



is described. The method has been called WAPL and relies on the calculation of an effective cross section through a radiative transfer model, using different standard atmospheres. All calculations seem correct, and the effectiveness of the correction is unquestionably valuable for automated retrievals from this class of ceilometers. The references are well described. However, I just feel that a flow chart of the procedure is missing. Such a figure would be very useful for readers to figure out the entire procedure. I strongly recommend the authors to insert that, in order to make the paper more easily comprehensible. A synoptic table summarizing some results (accuracies and remarks for backward and forward inversion scheme, for different atmospheric states) are welcome, too.

---

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 6395, 2015.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

