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www.atmos-meas-tech-discuss.net/8/C5158/2016/

Atmospheric Measurement Techniques Discussions

Interactive comment on "Dead time effect on the Brewer measurements: correction and estimated uncertainties" *by* I. Fountoulakis et al.

Anonymous Referee #2

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General comments:

This paper provides a very sound study on the impact of dead time from the Brewer instrument photomultiplier detector system on the uncertainties of different products derived from the Brewer instruments such as UV irradiance, total ozone column and aerosol optical depths. The authors well describe the detector system, the theoretical framework of dead time determination and the practical determination of the dead time with different approaches. The results of the study are also useful to correct the dead time effect in order to reduce the overall uncertainties of the products. Both the correction and the calculation of the uncertainties are important to be published in the scientific community to improve the Brewer measurements.

There is one issue which would complete the thorough study: The uncertainty of the

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raw signal in terms of counts as a function of dead time effect and depending on the different conditions should be summarized. With such a summary the reader can apply the results of the study for other quantities derived from the raw signal.

The submitted paper is well written and organized and the methods and data are fully described.

The paper can be published with minor revision.

Specific comments and smaller issues are available in a supplement .pdf file.

Please also note the supplement to this comment:
http://www.atmos-meas-tech-discuss.net/8/C5158/2016/amtd-8-C5158-2016-supplement.pdf

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Interactive comment on Atmos. Meas. Tech. Discuss., 8, 12589, 2015.