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Atmospheric Measurement Techniques Discussions

Interactive comment on "A Calibration Procedure Which Accounts for Non-linearity in Single-monochromator Brewer Ozone Spectrophotometer Measurements" *by* Zahra Vaziri Zanjani et al.

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Reply to Referee #1 An additional day of data has been included in the paper to show the mathematical model works with more than one day of data. The application of this method to a series of data is part of the future work intended and is beyond the intended scope of this paper. 1) DB and SB have been changed to DBr and SBr. 2) Pg 3, Ln 17, the difference between the wings has been clarified. 3) Pg 3, Ln 30, I0 has been corrected. 4) Pg 3, Ln 33, differential absorption method added. 5) There is no transition. F is calculated from the counts and substituted in Eq 2.5 6) One alpha

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Discussion paper

is calculated for each instrument, the sum of the filters is used and is now shown in the model equation. 7) Pg 5, Ln 1, k is the number of components of v that are to be retrieved added to the text. 8) This correction is applied at the same time as the others. 9) Discussion of results has been clarified and figure 6 has been called out. Reply to Referee #2 1) Pg 1, Ln 26-32, references and a short discussion of the papers mentioned has been added. 2) It is just and example of how a very large slant column amount can occur. Ozone columns in excess of 500 DU are not unusual in the Arctic spring when measurements still must be made at large solar zenith angles. Clarification has been made in the text, Pg 1, Ln 18 3) Izana Observatory has been added, Pg 1 Ln 19 4) At wavelengths above 300 nm, the presence of stray light may be problematic as well. This paper addresses this issue. Pg 2, Ln 29 5) A reference to the weighting coefficients has been added. Going into more detail about this is outside the scope of this paper. Pg 4, Ln 14 6) Effects of deadtime have been referenced. Pg 6, Ln 15 7) Corrected the dots. Pg 5, Ln 7 8) The slope of Langley plot is alpha.x which has been corrected. Pg 5, Ln 9 9) Eq 2.8 has been corrected. Pg 5, Ln 19 10) Reference to figure 6 has been added. Pg 7, Ln 17-23

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