**Atmospheric
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Interactive
Comment

Interactive comment on "Improving the solar zenith angle dependence of broadband UV radiometers calibration" *by* M. L. Cancillo et al.

Anonymous Referee #2

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General remarks

Some aspects reviewed in this paper are yet explained at previous bibliography. The developing of the one step angular method wich improve results with regard to other one step methods is the new contribution.

The paper can be called interesting by the innovation in the calibration procedure it shows and I suggest to review the aspects I expose as specific remark before accept the publication of it.

Specific remarks

1.- Used data for the model's adjust and validation.

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It Would be interesting to know de distribution generated by the random data selection in the model's adjust (77%) and in its validation (23%) especially about the SZA values, ozone and clear days.

2.- Ozone frequency (UD) and number of clear days during the campaign.

The paragraph number 2 "Instrumentation and data" page 7877 shows a valuation of the UD average at El Arenosillo. And it shows that the campaign days represent the annual averages. I think it would be very illustrative to extend that information with the frequency graphic representation as in the ozone values as in clear days for the campaign time.

3.- One step angular method: Comparison and validation.

3.1 Comparison of one step angular method and two step method behaviour in the solar zenith angle SZA, ozone and cloudiness average, can be very illustrative in the target of this study. That comparison analysis could shows interesting results in both methods analysis.

3.2 Additionally, the figure number two shows the difference between the irradiance measures by the Brewer spectrophotometer and the one estimated by the broadband radiometer #1 using the four one step methods (ratio, first and second order and angular). It would be interesting to compare in the same graphic the behaviour of the two step method.

3.3 It would be interesting if this job could shows the validation of angular one step method in front of the Brewer spectrophotometer measurements.

4.- Measurements's uncertainly.

Presentation shows any mention to the measurements uncertainly, its propagation in the calculation and in the final results. Also there's nothing about the results of traceability. It would be advisable that authors tackle this subject in the convenient length.

5.- Explanations.

5.1 In page 17877. paragraphs 2 and 3, it shows in that study its been used an average of 733 minutes from higher to 80ž solar zenith angle. It would be convenient to clarify and enlarge this information about higher to 80ž angles.

5.2 Also they have to clarify the SZA value in the next paragraph: page 17881, line 22 “...where the limits of the interval for the differences are reduced to (-5%, 7%) and if only SZA values up to 60ž…”.

5.3 I think it’s necessary that similar radiometer #2 and #3 detours that are quoted in page 17881, line 23 be assess for all one step models.

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Interactive comment on Atmos. Chem. Phys. Discuss., 7, 17873, 2007.

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