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Discussions

## *Interactive comment on* "Characterization of an EKO MS-711 spectroradiometer: aerosol retrieval from spectral direct irradiance measurements and corrections of the circumsolar radiation" *by* Rosa Delia García-Cabrera et al.

**Anonymous Referee #2**

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The current work presents AOD retrievals form EKO MS-711, compared with CIMEL retrievals at Izaña Observatory and most importantly proposes an approach to correct DNI in respect to different FOV of the instruments using CSR. The paper fits perfectly the purposes of AMT and the proposed correction could find greater use in a number of instruments. Details of the approach are well presented and described sufficient in order to be repeatable. Results presented fortify the validity of the approach and are a guide for future studies of other spectroradiometers. The structure of the presentation is very steady and bibliographical review of the subject is more than sufficient. I suggest

the acceptance of the article for publication at AMT, after some minor corrections and clarifications.

More specifically

L22. This sentence seems a little poor and inadequate. I suggest to restate.

Paragraph 2.2 I think some information on the measuring schedule should be added. There is one spectra per minute or they are multiple spectra averaged and stored per minute? Exposure time is steady or it is changed according to the intensity of the irradiance? Are there oversaturation problems? Are there any filters used?

L105 Level 1.5 are automatic cloud screening and the quality assured data are L2.0. Please restate to be clear

L. 155 Have you used O3 in the calculations? There is nothing about it and at least for 340nm is important. If you have not calculated ozone absorption probably it could explain a part of the differences at 340 nm. L166-167 Please restate this sentence because it is not clear.

Paragraph 3.2 The measured spectrum has a resolution of 0.4nm with FWHM of 7 nm. When referring to monochromatic retrievals of AOD, have you used just one channel (which?_) or do you have convoluted multiple channels to a slit function? Please clarify this because it is crucial for understanding the differences with AERONET. For example lines 293-295 confused me on this matter. Also, I think it should be cleared if there any other difference with AERONET calculations (air masses, Rayleigh etc).

L248 There is no equation 15 in the manuscript

Paragraph 3.4 I understand that dust aerosols are the main in Izaña, but I think it is important to add some discussion of potential differences for other aerosol types.

Table 4. There is typo and all columns seem to be uncorrected.

L296-298. Please refer the number of datapoints used for each of the two periods.

L.3131 Also refer the number of data with AOD>0.1