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Atmospheric Measurement Techniques Discussions

Interactive comment on "Atmospheric extinction in solar tower plants: the Absorption and Broadband Correction for MOR measurements" *by* N. Hanrieder et al.

Anonymous Referee #2

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Review comments on "Atmospheric extinction in solar tower plants: The absorption and broadband correction for MOR measurements" by Hanrieder et al.

This study used tow commercially available instruments, i.e. the Vaisala FS11 scattermeter and the Optec LPV4 transmissometer to measure MOR and then convert to broadband transmittance. To account for the influences of atmospheric absorption and the transition from spectral wavelength to the broadband, the authors applied ABC procedure to the measurements. The measured transmittances from the two instruments showed a generally good agreement. The topic of this study is in the scope of the AMT and should be found useful in the relevant studies on CSP plants. I suggest this paper

be published if the author can address the following comments.

More important comments: 1. This study only compared the transmittances from the new-developed techniques. However, this is not evident that the techniques are both correct. Note that most of the transmittances are between 0.9 and 1 since the extinction of aerosol usually has minor effect. The measurements from the two methods still demonstrate non-ignorable relative differences though they have generally a good agreement. As the authors have simulated the broadband transmittances in Fig. 3, I wonder if it is possible to verify the results in Fig. 6 using model simulations. 2. The authors should try to explore the reasons for the differences in Fig. 6. For example, why LPV4 has smaller transmittances than FS11 when the atmospheric extinction is large? 3. I found that there is an upper limit ($\sim$0.95) on the transmittances from FS11 while those from LPV4 do not. Why?

Minor revision: 1. page 1, line 2: remove "strongly".

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