

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

N. Hanrieder et al.

natalie.hanrieder@dlr.de

Received and published: 4 June 2015

Thank you for carefully reading our paper and for your reviewer comments. We considered most of your comments and already performed changes in the manuscript before uploading it to AMTD.

Answer to more important comment 1: We will include a comparison of the modeled broadband transmittance data to the ABC corrected MOR measurements in the AMT paper.

Answer to more important comment 2: We extended “Data points for which the trans-

C1432

mittance measured by the FS11 is exceeding the LPV4 measurement might be explained by local disturbances. While the FS11 is located in the Northeast of the PSA, the LPV4 is mounted in the South.” to “Outlier data points for which the transmittance measured by the FS11 is exceeding the LPV4 measurement might be explained by local disturbances. While the FS11 is located in the Northeast of the PSA, the LPV4 is mounted in the South. Additionally, the distance between transmitter and receiver unit and therefore the sampled air volume is small for the FS11 compared to the LPV4 which is mounted with a horizontal distance of about 485m between the transmitter and the receiver. The LPV4 is therefore also more sensitive to local disturbances as for example dust plumes being transported through the sampled air volume by passing by cars.” in the manuscript which is online. Please see page 15 of 32 (4751), line 18 ff.

Answer to more important comment 3: The upper MOR detection limit of the FS11 scatterometer is 75 km. High MOR results in low scattered irradiance which has to be detected. The limit corresponds to an upper limit of 0.961 in transmittance for a slant range of 1 km. We extended “The MOR measurement range includes 5m to 75 km. This corresponds to a measurable transmittance for 1 km light path of 0 to 0.961.” to “The MOR measurement range includes 5m to 75 km. This corresponds to a measurable transmittance for 1 km light path of 0 to 0.961 (see upper limit in Fig. 5).” in the script which is online available. Please see page 8 of 32 (4744), line 7 ff.

Answer to minor revision: We already deleted “strongly” on page 1, line 2.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 4737, 2015.