

## ***Interactive comment on “Quantification of Uncertainties in OCO-2 Measurements of XCO<sub>2</sub>: Simulations and Linear Error Analysis” by Brian Connor et al.***

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Received and published: 22 September 2016

Response to Anonymous Referee #1

We thank referee #1 for reviewing of our manuscript and for his/her favorable comments and judgment. We will now address the questions raised.

The reference wavelength for MERRA AOD shown is 750 nm, which is very nearly the same as the reference wavelength used in the OCO-2 L2 algorithm (755 nm). In both its forward model and state vector that algorithm utilizes composite aerosol types based on the original MERRA sub-types, as discussed in detail in <http://disc.sci.gsfc.nasa.gov/OCO-2/documentation/oco-2->

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v6/OCO2\_L2\_ATBD.V6.pdf, p 28-31 This exact reference will be inserted in the revised text. The Angstrom coefficient is never explicitly calculated but is implicit in these calculations.

The blank areas in Fig. 1-6 represent latitude/longitude cells where fewer than 3 simulated soundings converged in the L2 retrieval and passed the screens described in the first paragraph of p 3 (line 89-93 of the revised manuscript). The MERRA data in Fig 4b are only shown in the corresponding regions.

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-128, 2016.

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