

## ***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.***

**Anonymous Referee #1**

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This paper provides a theoretical estimate of OCO measurement error. This instrument has been launched two years ago for the monitoring of CO<sub>2</sub> from space. To my knowledge, the analysis of the products shows an excellent random error, but systematic errors (biases) remain and prevent any significant insight on the carbon cycle. In the context, an understanding of the causes for measurement uncertainty is certainly welcome.

The paper is very clearly presented and its structure is appropriate. It is certainly of interest for those who want to understand the origin of measurement errors with OCO or similar remote sensing observations. It can be published as is.

I nevertheless have one simple request : Please provide more information on the  
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aerosols MERRA product. What is the reference wavelength for the AOD and what is the range of variation of the spectral Angstrom coefficient. Finally, Figure 4b shows many areas with no estimates (white). How are these absence of data dealt with ?

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