

# Aerosol optical depth in the European Brewer Network: Reply to Anonymous Referee #2, RC2 and RC3, 27 Nov 2017

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We thank the referee for their positive comments on our manuscript. Below we include in italics a copy of their review and address their suggestions.

*This is a well-written article that does identify an important gap for Brewer AOD calibration. The authors have modified the manuscripts in three aspects. Improvements of Brewer AOD data. Comparison Brewer AOD with other instruments. The uncertainty of Brewer AOD. There is an interesting finding in this research about Brewer AOD data. The paper would be significantly improved with the addition of some details.*

## *Section 2. Method*

*Line 15 and Line 24 Equation (1), (2) and (3) add  $\lambda$  into the equation, for example  $I = I_0 e^{-\tau m} \rightarrow I_\lambda = I_0 \lambda e^{-\tau m}$*

10 In Sect. 2.3 we have explicitly added the  $\lambda$  dependency to  $I$  and  $\tau$  using brackets. For example, Eq. 1 is now written as

$$I(\lambda) = I_0(\lambda) e^{-\tau(\lambda)m} \quad (1)$$

However, we have dropped the explicit dependency on  $\lambda$  in subsequent sections to avoid encumbering notation.

*Line 16 add  $I_\lambda$  is the direct solar irradiance at the ground doe each wavelength.*

Done.

5

*Section 2.3 AOD CALIBRATION OF Brewer instruments*

*Line 22 so we don't → so we do not*

Done.