

... by assessing and scattering incoming solar radiation. During this intensive observational period is to determine the AOD using a sun photometer. It is well known that AOD is wavelength dependent.

Method and Materials

AOD for each wavelength is derived based on Beer's Law:

Measured Solar Irradiance $\rightarrow \frac{I}{I_0} = e^{-m\tau_{tot}}$ Total Optical Depth

Solar Irradiance on Top of the Atmosphere $\rightarrow I_0$

Airmass ($= 2$) $\rightarrow m$

$$\tau_{tot} = \frac{\ln(I_0) - \ln(I)}{m}$$

$$\tau_{tot}(\lambda) = \tau_{aer}(\lambda) + \tau_{Ray}(\lambda) + \tau_{O_3}$$

$$\tau_{aer}(\lambda) = \tau_{tot}(\lambda) - \tau_{Ray}(\lambda) - \tau_{O_3}$$

Results