

This paper presented an evaluation of aerosol microphysical, optical and radiative properties measured from a multiwavelength photometer, named CW193. As introduced by the authors, the instrument has a highly integrated design, smart control performance, and is composed of three parts (optical head, robotic drive platform, and stents system). Then the CW193 product was inter-compared and validated using reference data from the AERONET based on the synchronous measurements. The results of this preliminary evaluation indicated that the CW193 is appropriate for monitoring aerosol microphysical, optical, and radiative properties, characterized by the good agreement of raw digital counts, accurate AOD results and comparable retrievals with AERONET. In summary, this paper is a good work and has lots of general interest for Atmospheric Measurement Techniques and related communities. Therefore, I have no more major comments and have recommended for acceptance after a minor revision. I suggested the following few comments may improve and strengthen the quality of the manuscript.

### **Specific Comments:**

Line no. 61-64: Authors can be mentioned about the limitation of the polar orbiting or lower earth orbiting satellites with relevant references. For example, due to poor spatial and temporal resolution of such satellites, there are about 50% data lost over high-altitude sites mountainous sites in particular at 0.05x0.05 degree spatial resolution of MODIS (Terra) data (Ningombam et al., 2021).

Line no. 79-80: It is also very important to expand such robotic measurement made at high-altitude and mountainous region where there are limited ground based data available due to harsh climatic condition and lack of manpower support for operating the instruments.

Line no. 134: Please put the unit of water vapor (mm or cm ?) after +/- 0.10. Also, I found several places in the manuscript where the authors did not put the unit.

Line no. 249: Please mention which version of AERONET data is used as a reference in the present work.

Line no. 306-308: Authors may be added few more relevant references about the importance of quality controlled data over high-altitude and clean environments where the estimated aerosol parameters are of the order of measurement uncertainties.

Line no. 315: Table 4: PM<sub>10</sub> for Level I on 7 November is found to be high. Please check if there are any issues in the data. Moreover, aerosol measurement on the same day for Figure 6 might have disrupted due to frequently passing cloudy which may be attributed the high AOD.

Line no. 346: Please correct the wavelength range '70 nm', I think it must be 870 nm.

Figure 12: Please put the unit of water vapor (mm or cm ?) in the Figure. Also, I found several places where the authors did not put the unit.

### **References:**

Shantikumar S Ningombam, H-J Song, S K Mugil, Umesh Chandra Dumka, E J L Larson, Brijesh Kumar, Ram Sagar, Evaluation of fractional clear sky over potential astronomical sites, *Monthly Notices of the Royal Astronomical Society*, 2021, Volume 507(3),pp.3745–3760, <https://doi.org/10.1093/mnras/stab1971>.