

This manuscript demonstrates innovation and practical value in the research of nighttime aerosol optical thickness retrieval methods, with a clear description and adequate demonstration. The proposed method has practical implications for monitoring air quality and aerosol loading, especially in regions where nighttime data are crucial but traditionally lacking. However, there are still some contents and details that need further improvement and discussion.

1. The manuscript compares nighttime VIIRS/DNB AOT retrievals with other spatial collections of aerosol observations, such as daytime satellite AOT from MISR and MODIS. How significant is the impact of wavelength differences on the comparative analysis of AOT?
2. The author's analysis is comprehensive, but it is recommended to further delve into the anomalies and biases present in the results, and their potential implications on the accuracy of AOT retrieval. Furthermore, the author may consider incorporating additional discussions on the impact of aerosol types, seasonal variations, and geographical distributions on the results, in order to offer a more profound understanding.
3. In Figure 8, the blue and black scatter points are not easily distinguishable. Please use more contrasting colors or apply a color gradient to differentiate the frequency of the data points.
4. The manuscript mentions the portability and universality of the algorithm as one of the strengths of this study. The author is advised to further discuss the specific application scope and limiting conditions of this portability and universality.