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Comparison of spectral ultraviolet irradiance measured from ground-based and satellite instruments at Nakhon Pathom province

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In this study, comparison of spectral ultraviolet irradiance at 305, 310, 324 and 380 nm at satellite overpass time retrieved from OMI/AURA satellite with that from ground-based measurement was performed at Nakhon Pathom (13.82 N, 100.04 E), Thailand. The analyzed data period comprises from 1 January 2010 to 31 December 2015. The comparison results clearly show the overestimation of satellite data with root mean square difference (RMSD) between 22.9 and 48.9% and mean bias difference (MBD) between 5.3 and 39.8% for all sky conditions, and reduce to 10.6-40.5% and 0.18-34.9% for clear sky conditions. Further results show that the differences between the two data sets depend on atmospheric aerosol loads and clouds.

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