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## Development of DOAS O<sub>3</sub> radiometer using D-UV LED

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The UV ozone radiometer has been widely used to measure atmospheric ozone concentration for monitoring the environment and for industrial purposes. Because it uses a Hg lamp as a UV source, much Hg waste is produced. Because it used single (253.7 nm) wavelength for the absorbance measurement, it needs frequent zero-level calibration, leading to slow response.

Recently, LED emitting deep UV (D-UV) near 250 nm is developed. By using D-UV LED, a prototype differential absorption radiometer for measuring ozone has been developed. Using two wavelength, 255nm and 285nm (FWHM 15 nm), LEDs with about 30-cm absorption cell, it can measure ozone between 0 to 10 ppm with an accuracy of about 5 ppbv. Now, high-precision and accurate version of this type ozone monitor is produced.

Keywords: ozone, measurement technique, UV LED