



## **Open-path in situ measurement of the nitrate radical concentrations during the CAREBeijing-NCP 2014 summer campaign**

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We describe the application of an incoherent broadband cavity-enhanced absorption spectrometer in an open path configuration (OP-IBBCEAS) for in situ detection of nitrate radical ( $\text{NO}_3$ ) and aerosol extinction. The optical cavity was 3.35 m long with separate transmitter and receiver units, and the instrument was installed on top of a residential complex (elevation of 17 m) near the CAREBEIJING–NCP 2014 supersite in Wangdu, 200 km southwest of Beijing. Despite high aerosol loading,  $\text{NO}_3$  was detected on all nights when the instrument was operational (28-30 June, 2014). The maximum concentration measured was 170 pptv with a detection limit of 40 pptv for measurements. Preliminary quantification of the aerosol extinction is also described. The results presented here demonstrate the sensitivity and specificity that can be achieved from open path measurements and its application to polluted environments.