



## Atmospheric HONO and NO<sub>2</sub> measurement based on a broadband cavity enhanced UV-LED spectrometer

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Nitrous acid (HONO) is a key component in tropospheric oxidant chemistry due to its contribution to the cycles of nitrogen oxides (NO<sub>x</sub>) and hydrogen oxides (HO<sub>x</sub>). Though numerous laboratory, field, and modeling studies were performed to explain the observed HONO concentrations in the atmosphere, the knowledge of atmospheric HONO chemistry is still not well understood and sometimes controversial [1]. Accurate measurements of HONO and its precursors with high precision should aid in understanding the HONO chemistry.

In this paper we report on the measurements of HONO and NO<sub>2</sub> concentrations at a suburban site of Tung Chung in Hong Kong during a field intercomparison campaign using a broadband cavity enhanced UV-LED spectrometer. 1σ detection limits of 0.3 ppbv for HONO and 1 ppbv for NO<sub>2</sub> were achieved with an optimum acquisition time of 120 s. The measured HONO and NO<sub>2</sub> concentrations were compared with the data from commercial HONO (LOPAP) and NO<sub>2</sub> (NOX-analyzer) measurement instrument. Typical diurnal pattern of HONO have been observed and the potential formation sources have been analyzed [2].

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### References

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