



## **HOx radical chemistry in the Pearl River Delta in summer 2006**

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The PRIDE-PRD 2006 campaign took place close to the mega-city Guangzhou in the Pearl River Delta (PRD) in South China in July 2006. It offered, for the first time, an opportunity to investigate the tropospheric photochemistry in a densely populated region in China by direct radical measurements. Concentrations of OH and HO<sub>2</sub> were simultaneously measured by laser-induced fluorescence (LIF) with high time resolution, together with the OH reactivity (reciprocal OH lifetime), which was recorded by a newly developed UV-pump LIF-probe technique. In addition, a comprehensive set of other important trace gases (e.g., O<sub>3</sub>, H<sub>2</sub>O, CO, CH<sub>4</sub>, NMHCs, isoprene, NO, NO<sub>2</sub>, HONO etc.) and photolysis frequencies were measured. The experimental data indicate that the photochemistry was very active under the polluted conditions encountered in PRD, with high OH levels reaching  $2 \times 10^7 \text{ cm}^{-3}$  during daytime. In this presentation, the chemical OH budget will be analyzed with respect to its chemical sources and sinks, and HOx radical concentrations will be compared with box model calculations that are constrained by measurements. Consequences for the photochemical formation of ozone will be discussed.