



Budget of nitrous acid (HONO) and its impacts on atmospheric oxidation capacity at an urban site in Guangzhou of China

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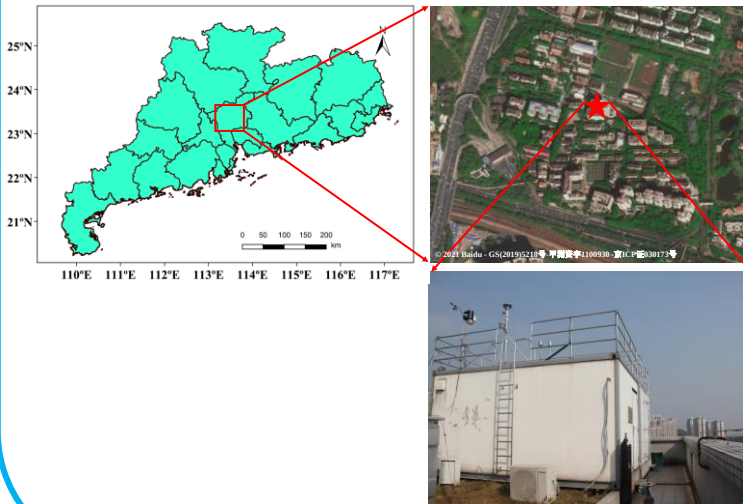
Introduction

Nitrous acid (HONO) can produce hydroxyl radicals (OH) by photolysis and plays an important role in atmospheric photochemistry. Over the years, high concentrations of HONO have been found in the Pearl River Delta region (PRD), which may be one of the reasons for the high atmospheric oxidation capacity.

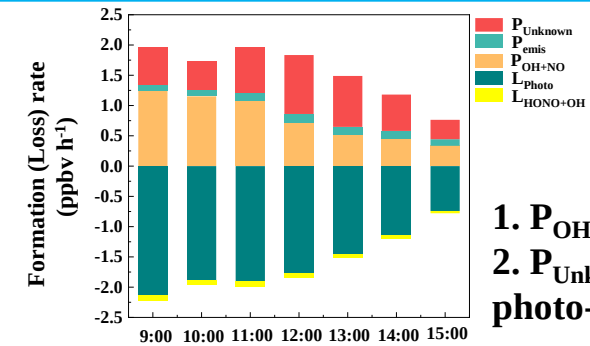
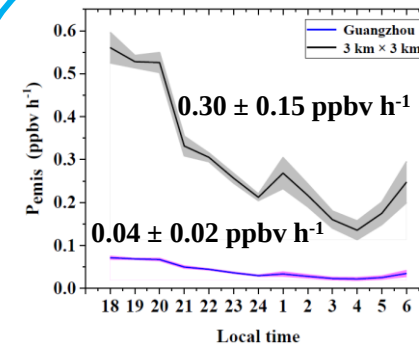
Experiment

Observation site: Guangzhou Institute of Geochemistry Chinese Academy of Sciences (GIGCAS)

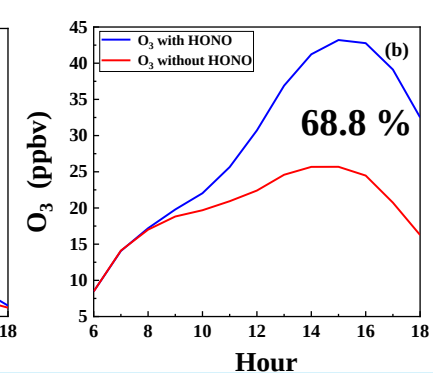
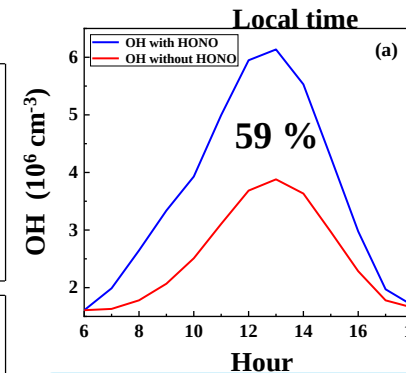
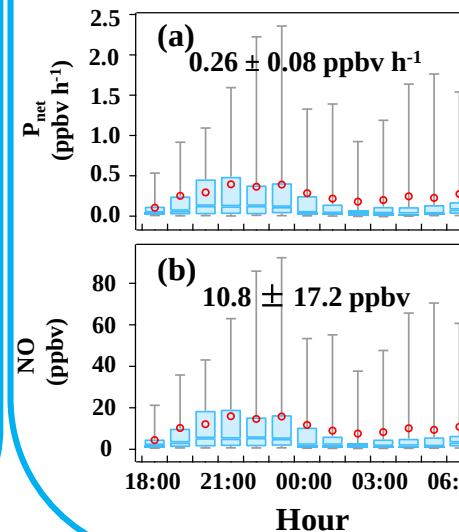
Measurement: HONO—custom-built LOPAP (Long Path Absorption Photometer)



Results



1. $P_{OH+NO} > P_{Unknown}$
2. $P_{Unknown}$ showed a photo-enhanced feature



Conclusions

1. Primary emission contributed significantly to HONO formation
2. HONO can significantly enhance atmospheric oxidation capacity