



Atmospheric Chemistry
Observations & Modeling

ACOM Seminar

Measurement of Atmospheric Oxidation Reactants and Products using Broad Band Cavity Enhanced Absorption Spectroscopy.

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Link: <https://operations.ucar.edu/live-acom>

ABSTRACT

Oxidation of volatile organic compounds (VOCs) and other gasses in the atmosphere contribute to undesirable concentrations of pollutant gasses in the ambient atmosphere such as ozone (O_3) and nitrogen oxides (NO_x). The understanding of the concentrations of these compounds and their precursors is important as governments and communities seek to mitigate health effects of air pollution on their populations.

Hydroxyl radical (OH) is the most important daytime oxidant in the atmosphere in most environments. Glyoxal and formaldehyde represent two important primary and secondary by products of the oxidation of a majority of organic compounds in the atmosphere by OH. In this presentation we will discuss the development of an instrument for measurement of OH by Broadband Cavity Enhanced Absorption Spectroscopy. Cavity Enhanced Spectroscopy pairs a high finesse optical cavity with a broad band light source (often an LED) and a wavelength dispersive detector (optical spectrometer). Recent developments and results including measurements of other trace gases including glyoxal and formaldehyde will be discussed.

For more information, please contact Qing Ye (qingye@ucar.edu) or Kyle Zarzana (kzarzana@ucar.edu).

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