NICE-OHZMS

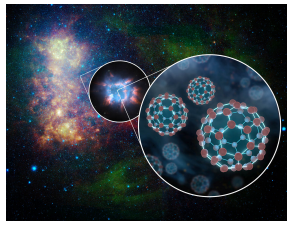
UCDAVIS
DEPARTMENT OF CHEMISTRY

Radicals are important reactive intermediates

Combustion

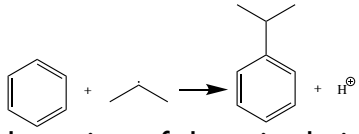
Atmospheric Chemistry

Astrochemistry



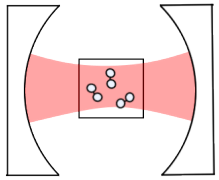
$CH_4 + 2O_2 \rightarrow 2H_2O + CO_2$

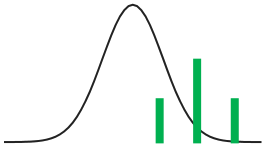
Radical Intermediates: CH_3, CH_3O

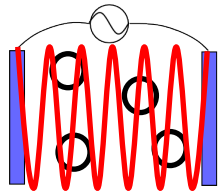


Need high resolution spectra of radicals for detection of them in their natural environments

Noise Immune Cavity Enhanced Optical Heterodyne Zeeman Modulation Spectroscopy (NICE-OHZMS)





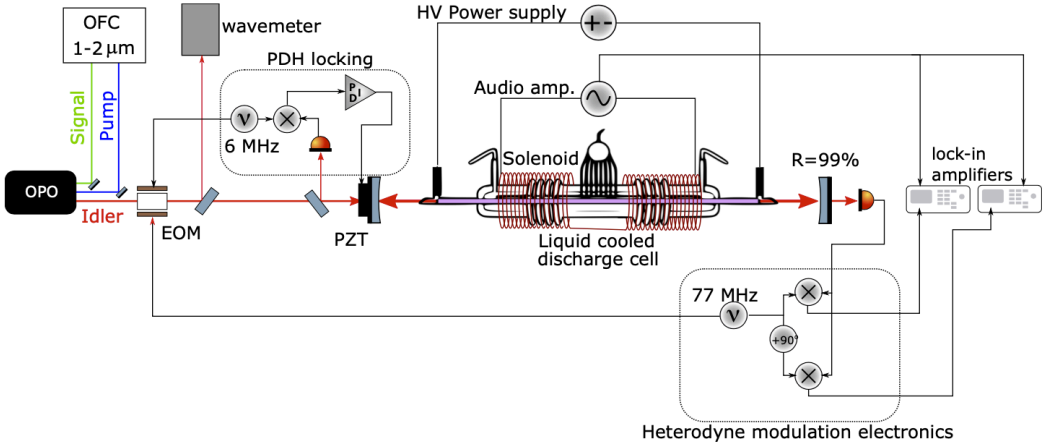


Increased Signal and Precision

Improved Sensitivity

Open Shell – Closed Shell Discrimination

NICE-OHZMS Instrument



Simulated NICE-OHZMS spectrum for R-branch rovibrational transition of doublet radical.