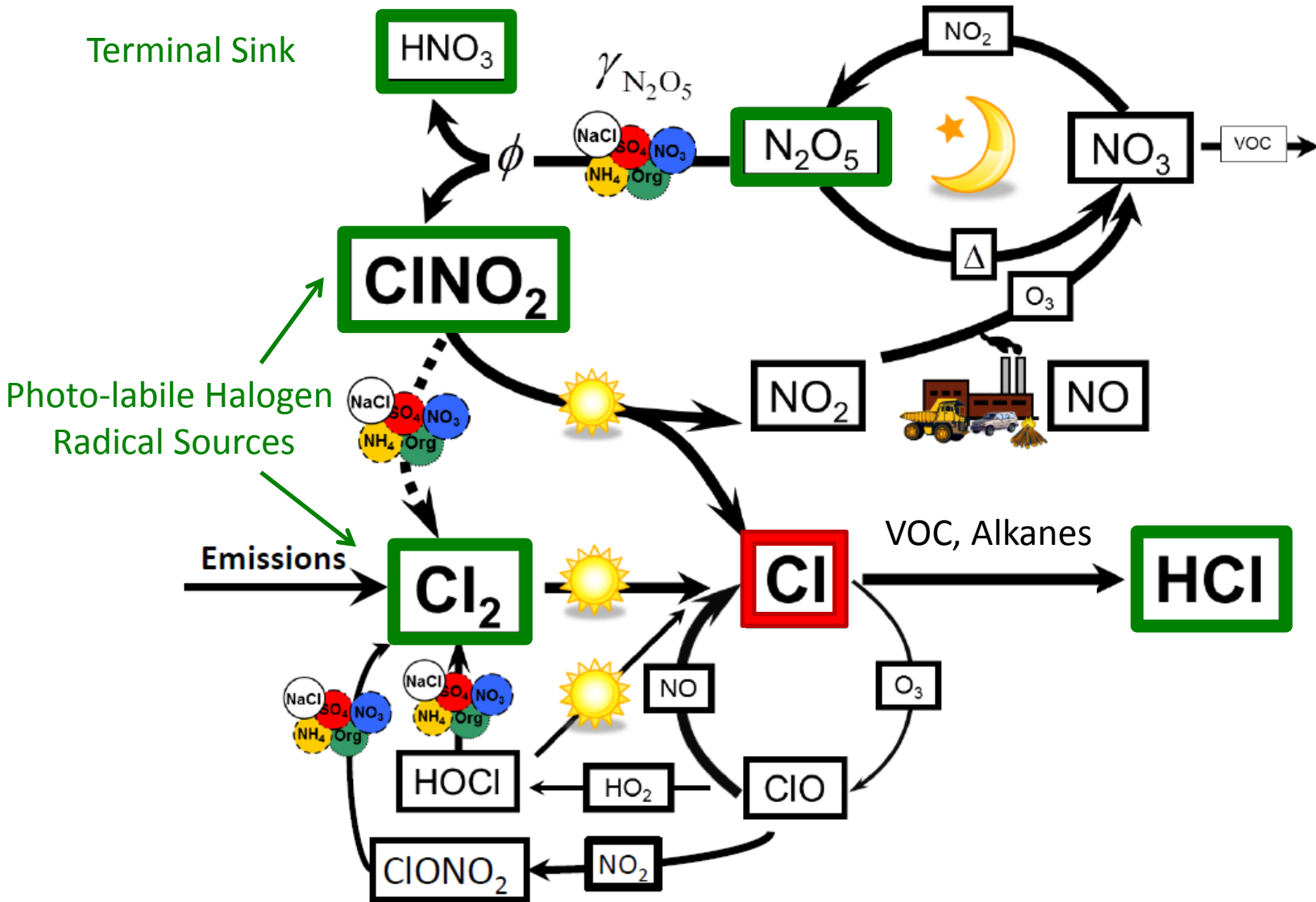


University of Washington

Iodide Time of Flight Mass Spectrometry

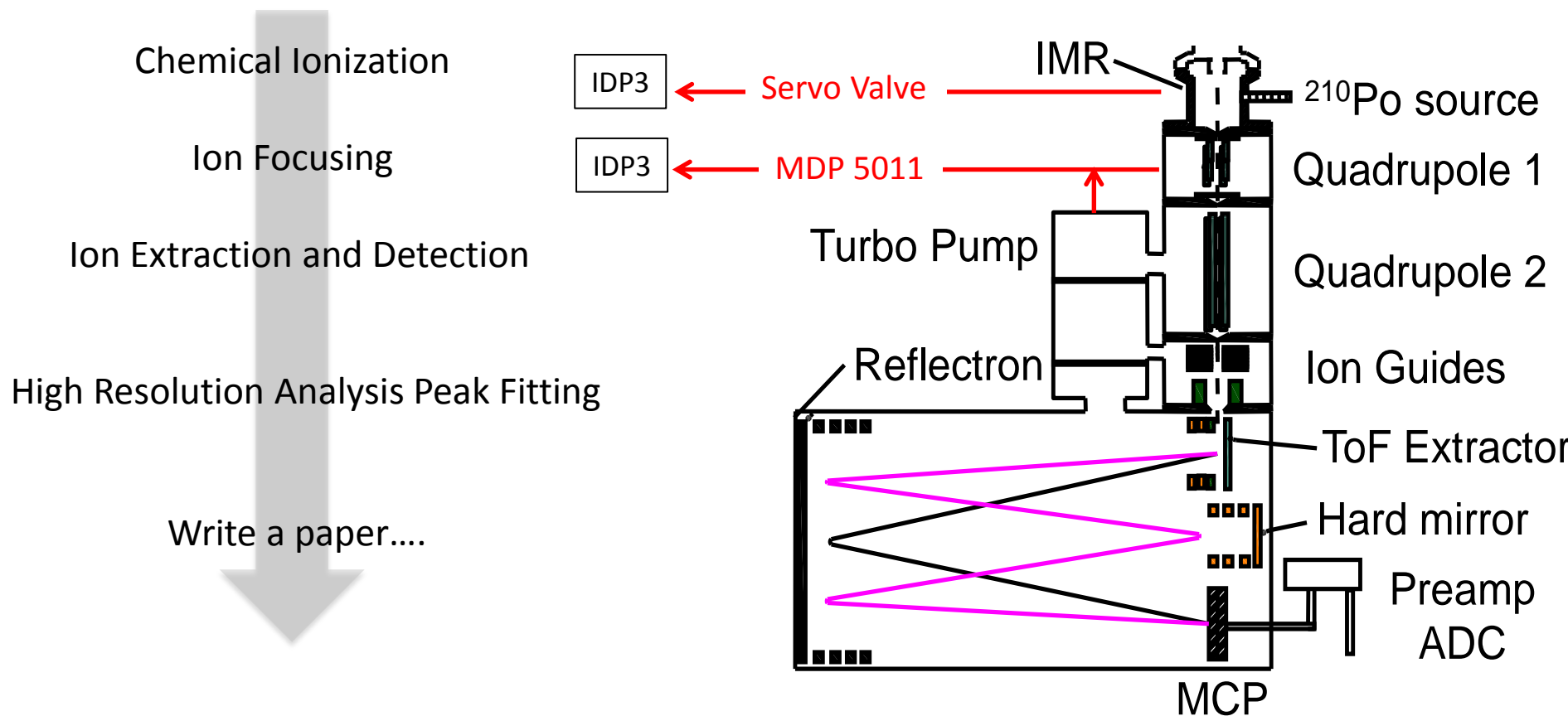
Felipe Lopez-Hilfiker, Ben Lee, Joel Thornton

# Target ClNO<sub>2</sub> and N<sub>2</sub>O<sub>5</sub> Chemistry



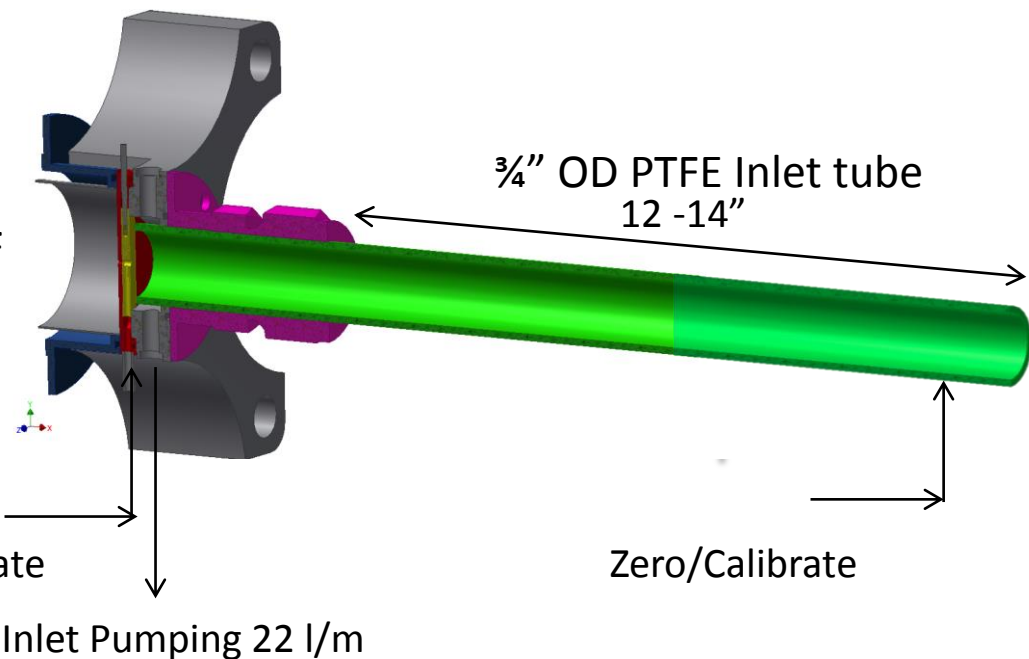
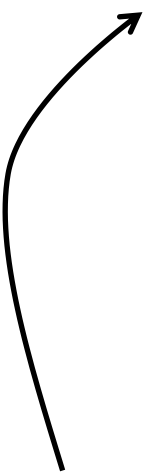
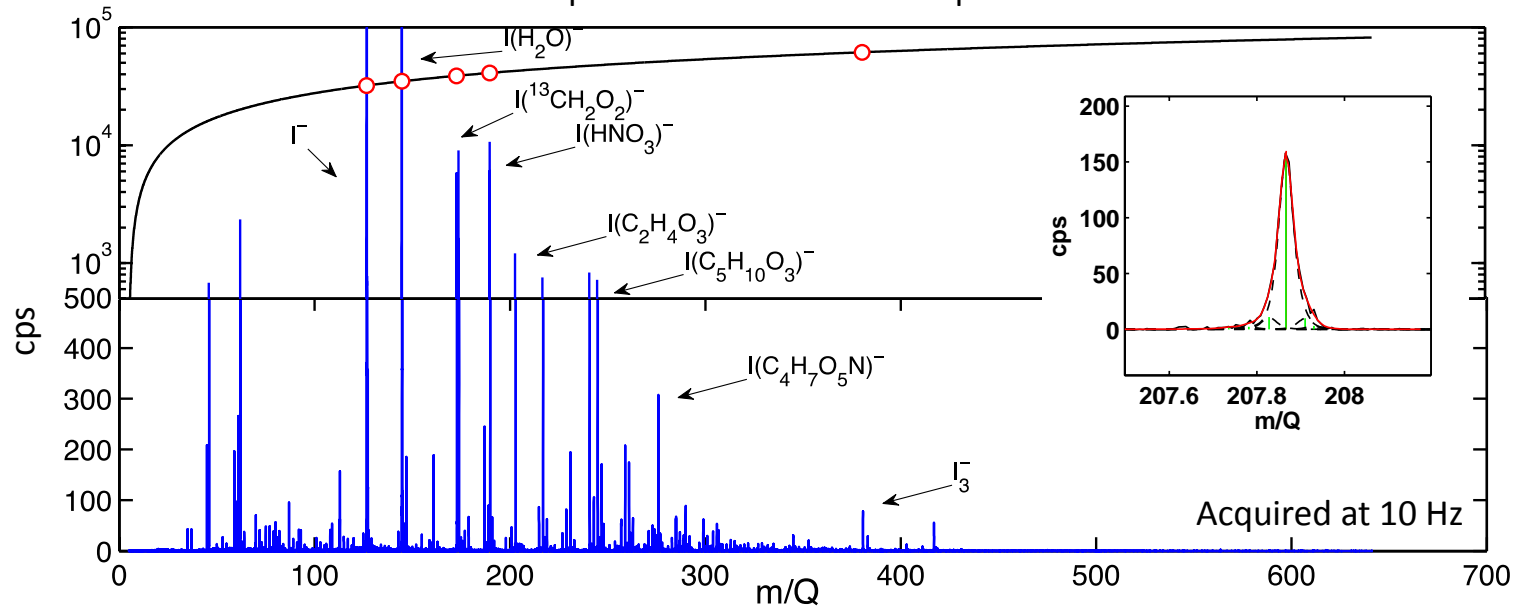
# How can we further our understanding of halogen chemistry?

- **Chemical Ionization Mass Spectrometry**, sensitive (sub ppt) and selective
- **Time of Flight Mass Analyzer** (up to 2000 Hz acquisition with elemental analysis)
- Accurate (5 ppm) and High Resolution (6000 FWHM) allows isobaric separation

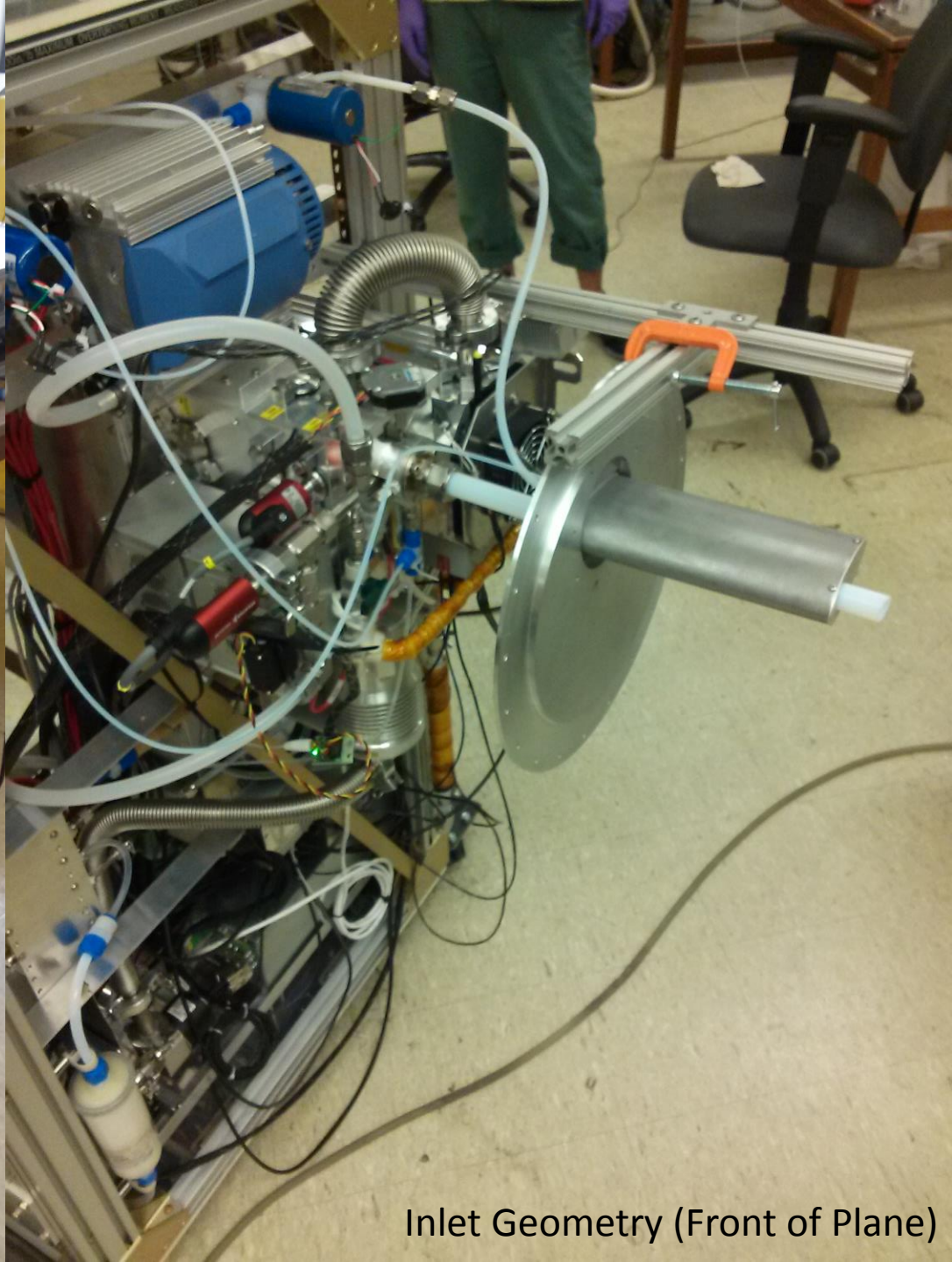
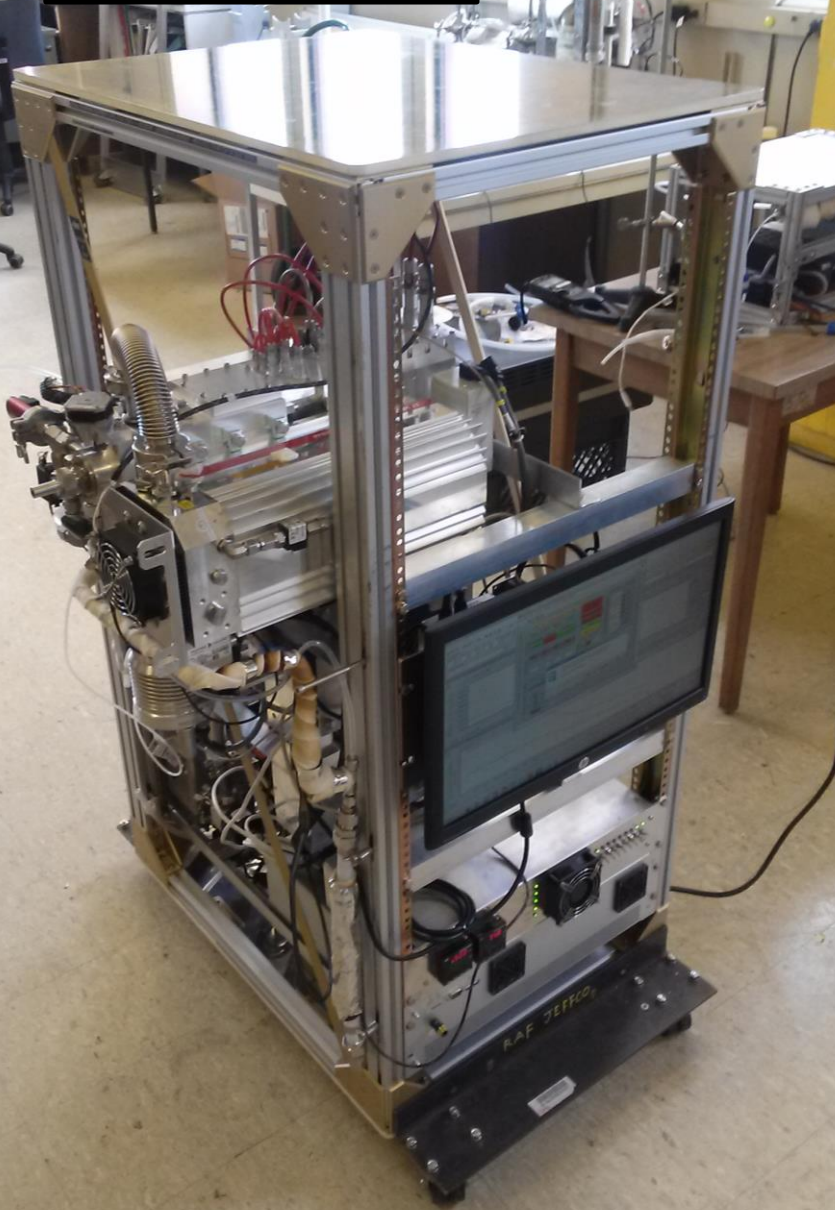


# Our C-130 Deployment

## Example SENEX Out of Plume Spectrum



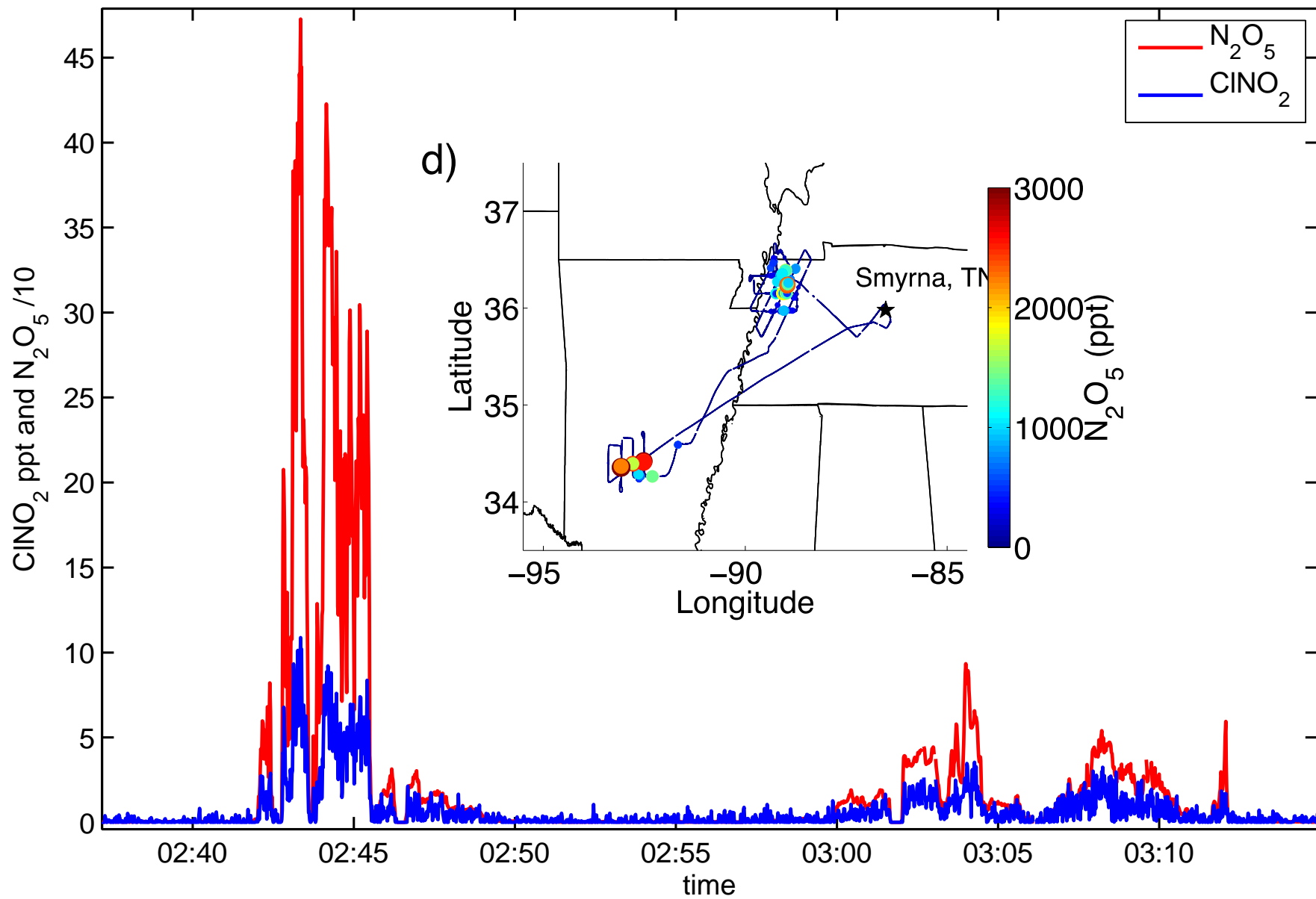
What it looks like:



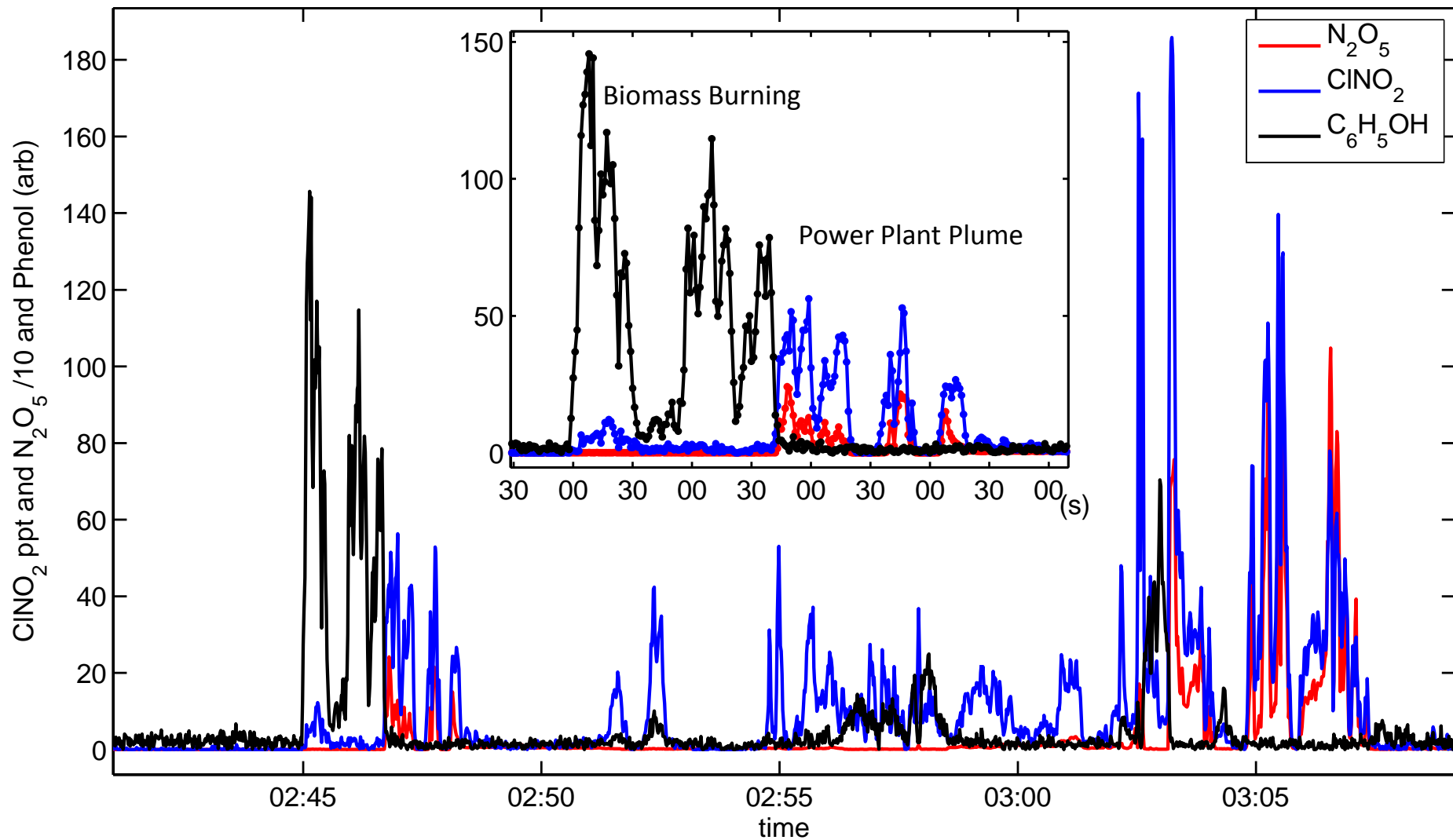
Standard GV Rack

Inlet Geometry (Front of Plane)

# Example Data from SENEX – Atlanta at Night



# Example Data Arkansas and Missouri Power Plants and Biomass Burning



# Initial Flight Results

## Organic nitrates in urban and power plant plumes

