

Hydrogen Peroxide and Methylhydroperoxide Measurements in RICO

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honor... courage... commitment...

Peroxide Data Status

- Post field calibrations of stock solutions are complete.
 - All chromatograms have been re-processed.
 - QA and QC of the flight data for LOD, system down time, and instrument mode (URI ambient, CVI ambient, and CVI cloud).
 - Completed URI ambient data reduction.
 - Data are ready for submission for all flights except RF05 and RF06.
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C-130 Rack

Instrument Rack Forward Facing View



HPLC systems

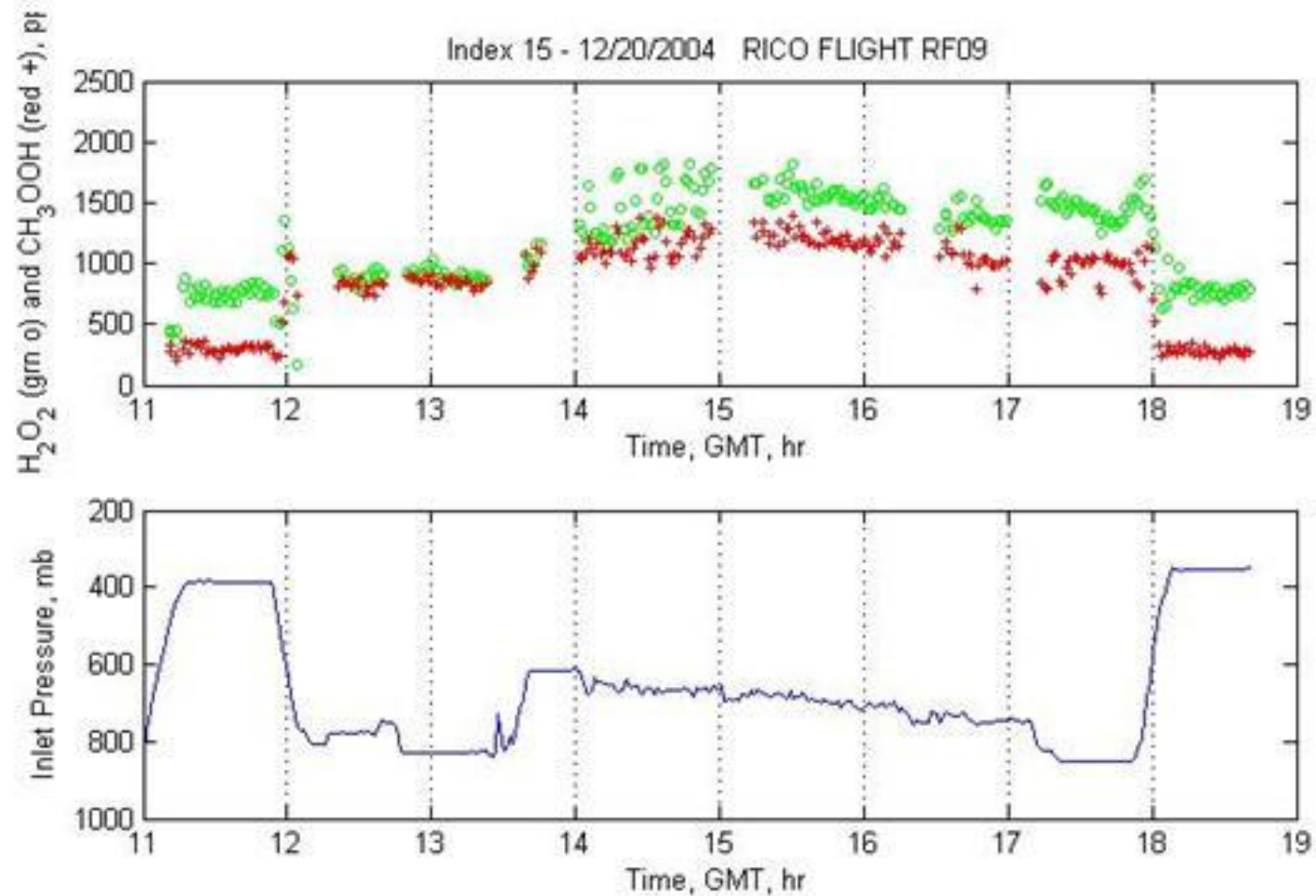
Gas phase collection system

Instrument Rack Aft Facing View

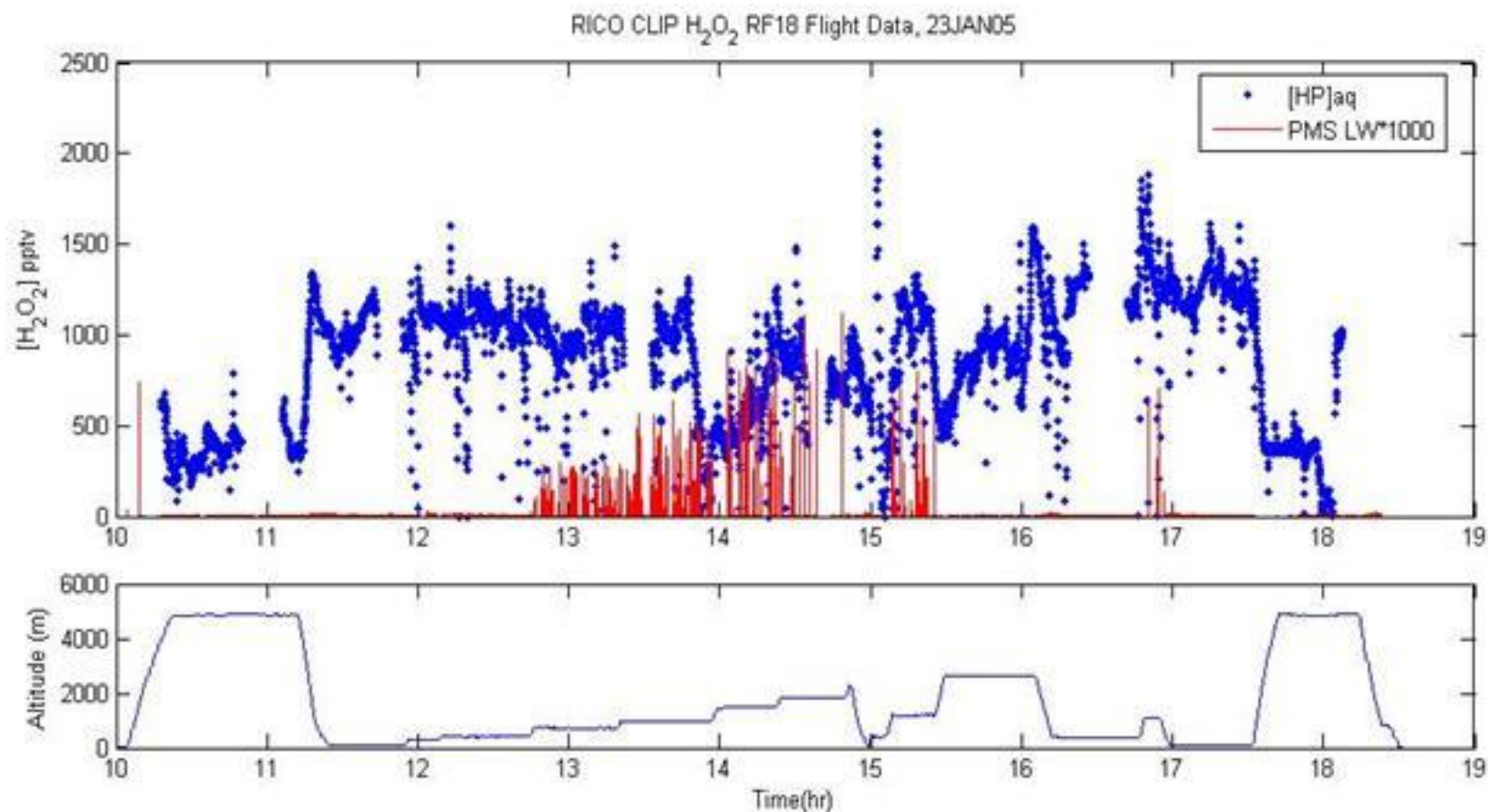


Chemiluminescence System for H₂O₂

LC Peroxide Data



Experimental Fast Response H_2O_2



To do

- **Adopt missing data, LOD, and ULOD codes.**
 - *Respectively, -999, -888, -777.*
- **Reconcile differences between the hydrogen peroxide LC and experimental system.**
- **Convert flight data files to netcdf format and submit to the archive.**

Goals of the RICO Peroxide Component

- to help constrain estimates of SO_2 oxidation in cloud free air by constraining other photochemical oxidants like hydroxyl radical, HO, and to understand H_2O_2 and CH_3OOH distributions in clear and cloudy air in the marine boundary layer and lower free troposphere,
- to evaluate the H_2O_2 and CH_3OOH ratio as a diagnostic of precipitation or in-cloud chemistry,
- to understand the impact of H_2O_2 and CH_3OOH on aqueous SO_2 oxidation in wet haze, and cloud, and the evolution of aerosol sulfate,