

CCN and Microscopy Summary for ISDAC

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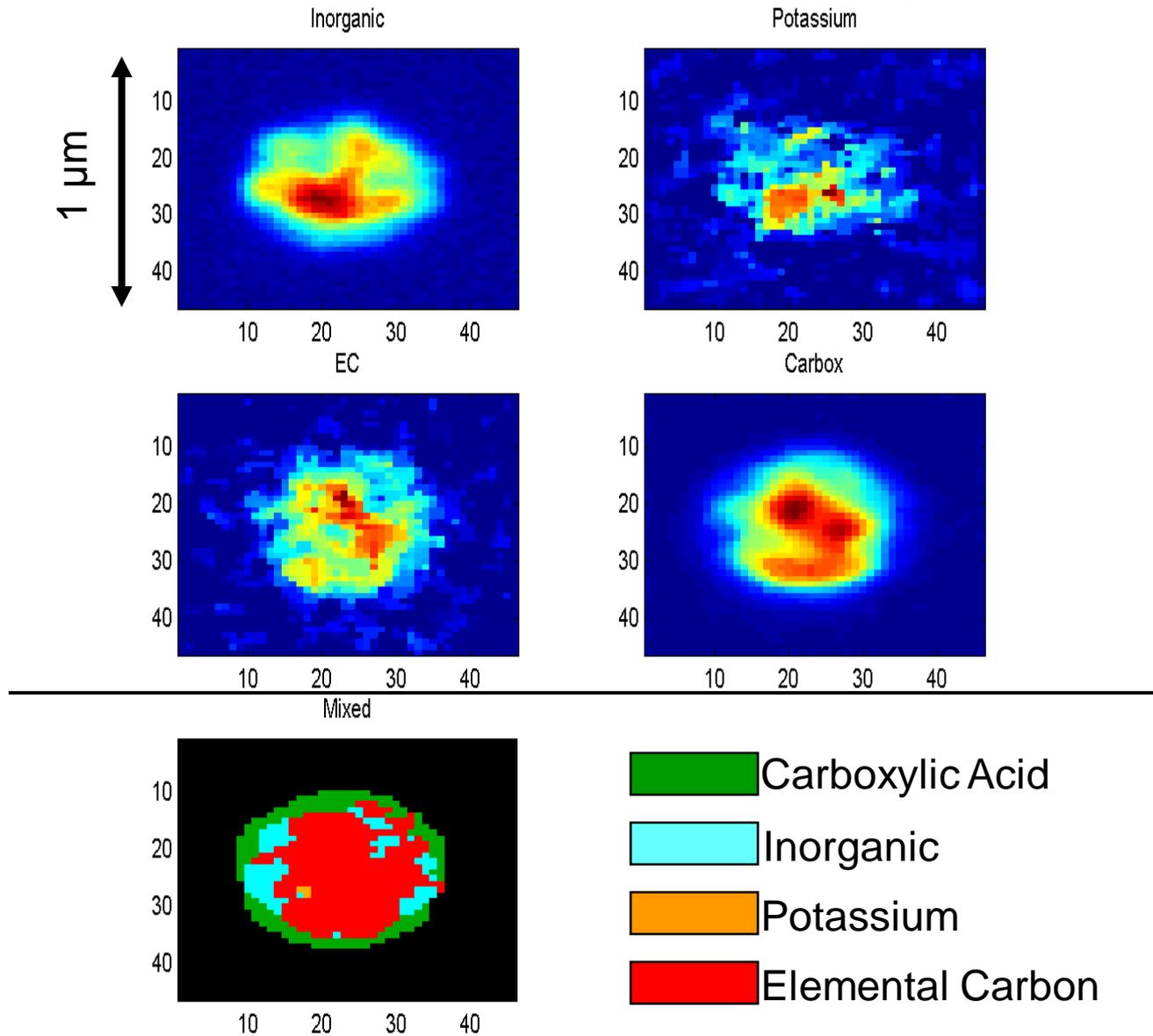
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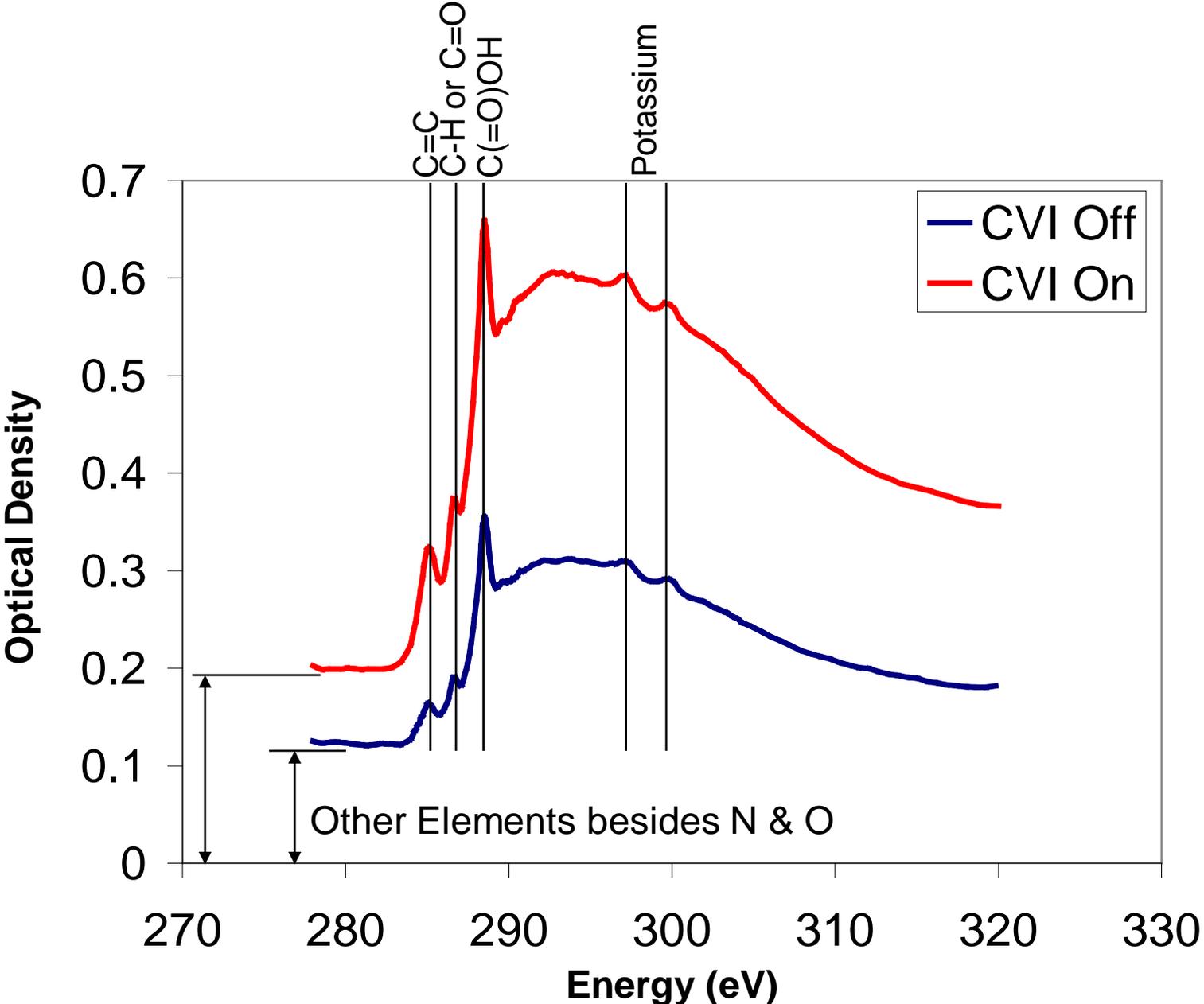
What have we been up to?

- Microscopy analysis of CVI on vs. CVI off periods
- Analysis of biomass burning plume of Apr 19
- Made CCN data available—preliminary look at Steve's periods of interest

Spatial Mixing



Carbon Edge X-Ray Spectrum for Flight 31



Statistical Summary Flight #31

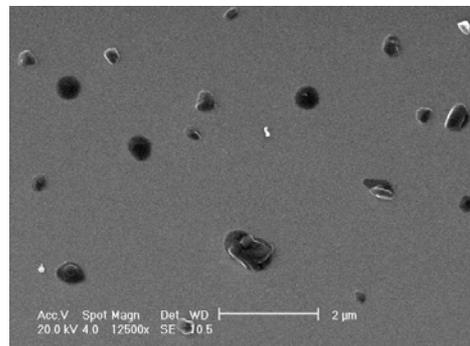
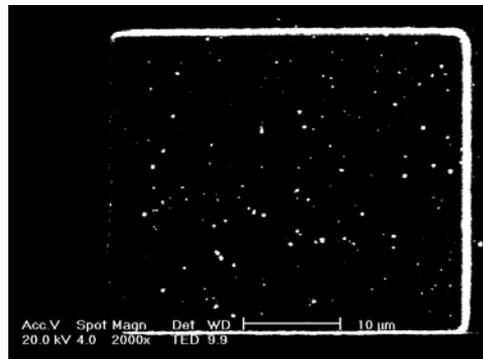
	CVI OFF	CVI ON
Organic	0.60	0.13
Elemental Carbon	0.07	0.31
Inorganic	0.33	0.56
Number of Particles	15	16

Continuing work with cloud residuals/interstitial aerosol

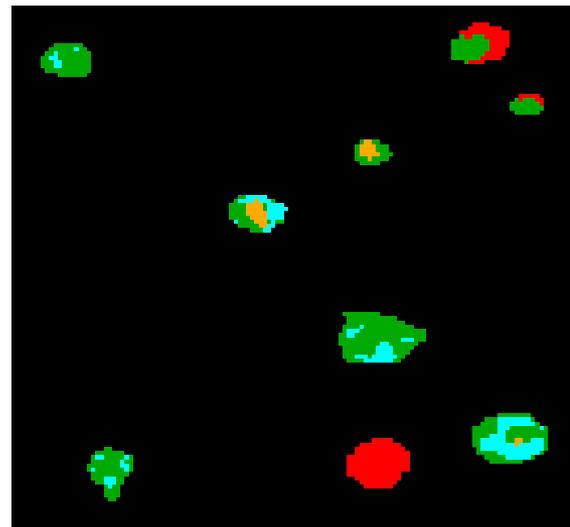
- Collaboration with Sarah Brooks and student
 - SEM analysis of inorganics

Microscopic analysis of forest fire particles

Scanning Electron
Microscope

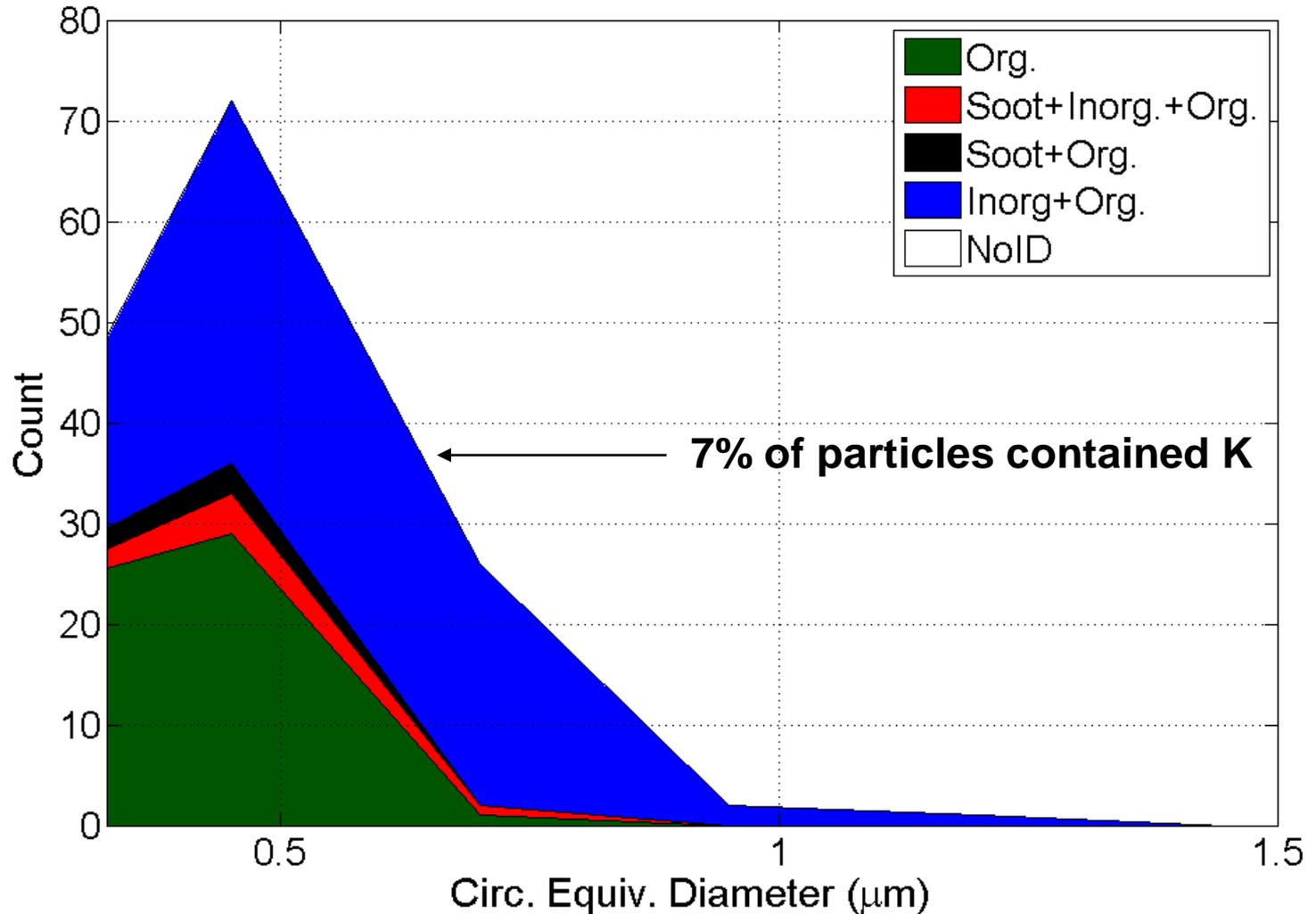


Synchrotron Based
Microscope



- Organic
- Inorganic
- Potassium
- Soot

Size Resolved Chemical Composition of Fire Plume



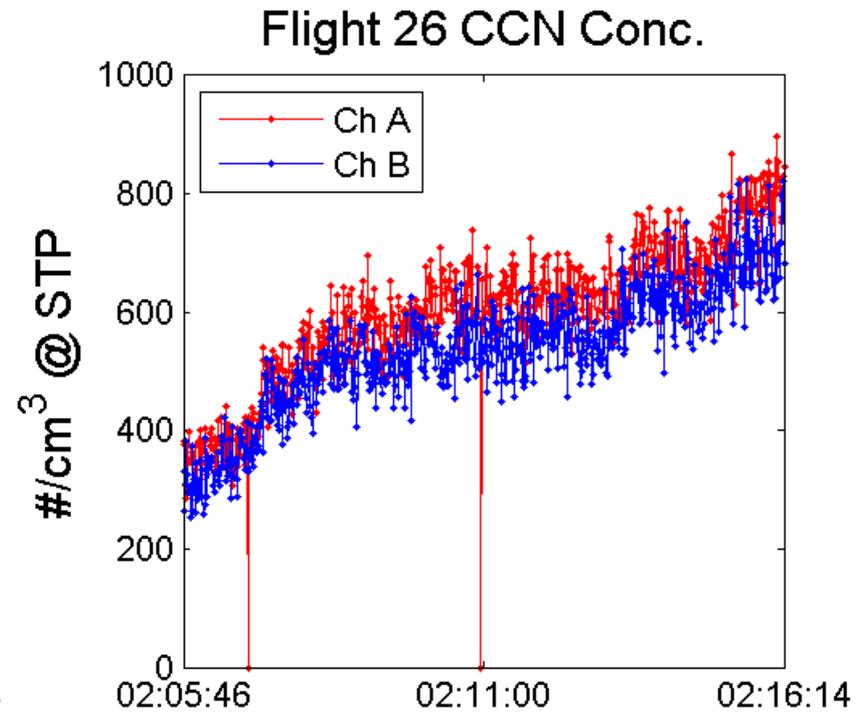
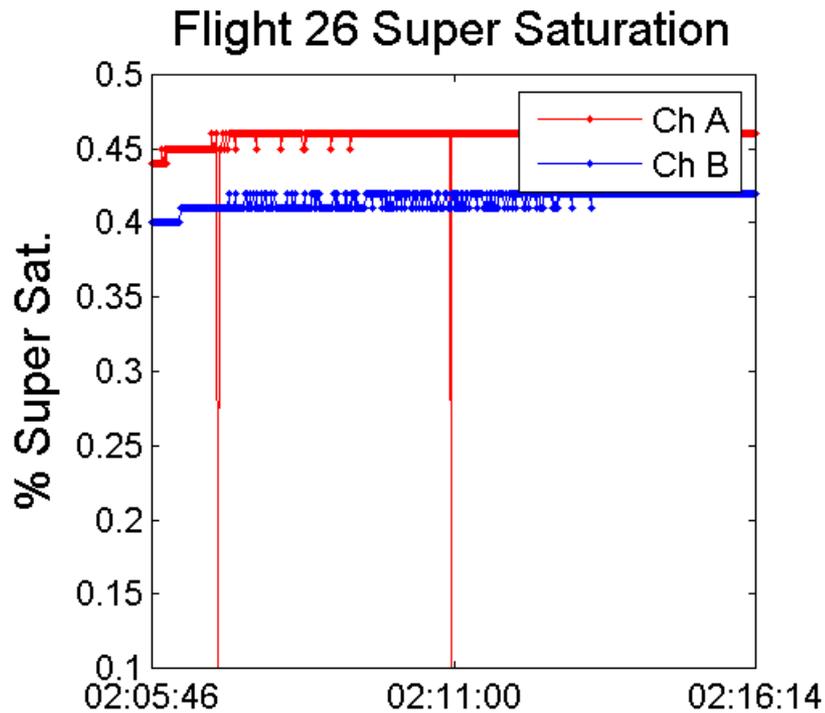
Work in progress with biomass plume

- Comparison with SPLAT (Zelenyuk)
 - SEM of inorganic species
- Comparison of carbon X-ray spectrum with those obtained from controlled burns
 - Quantify soot core-shell ratio

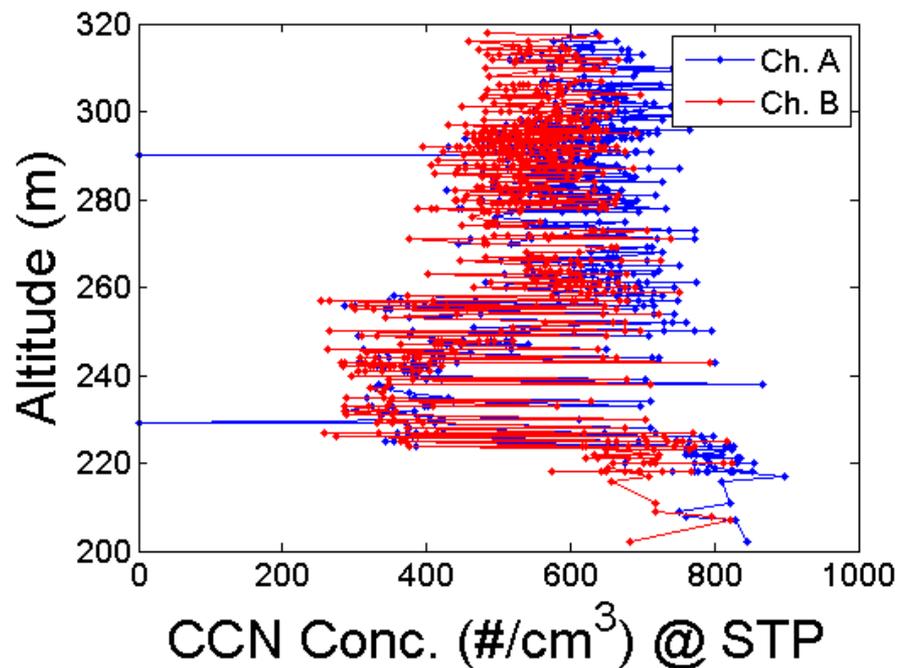
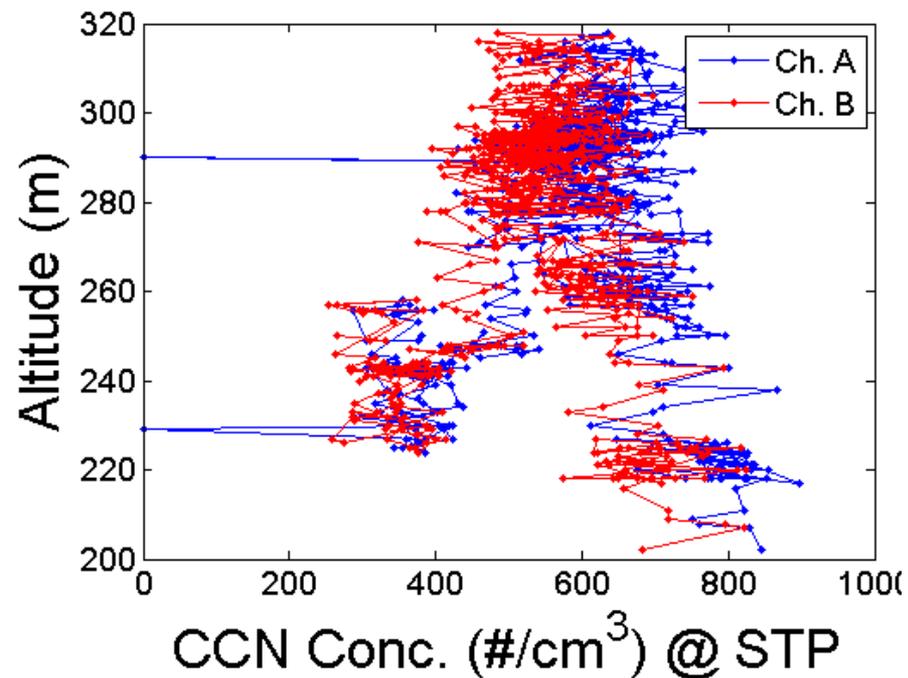
CCN Data

- Data uploaded to archive
- To be used in closure study
- Selected times determined Peter Liu to be over Barrow and below liquid cloud.

Flight 26, Below Cloud, Over Barrow

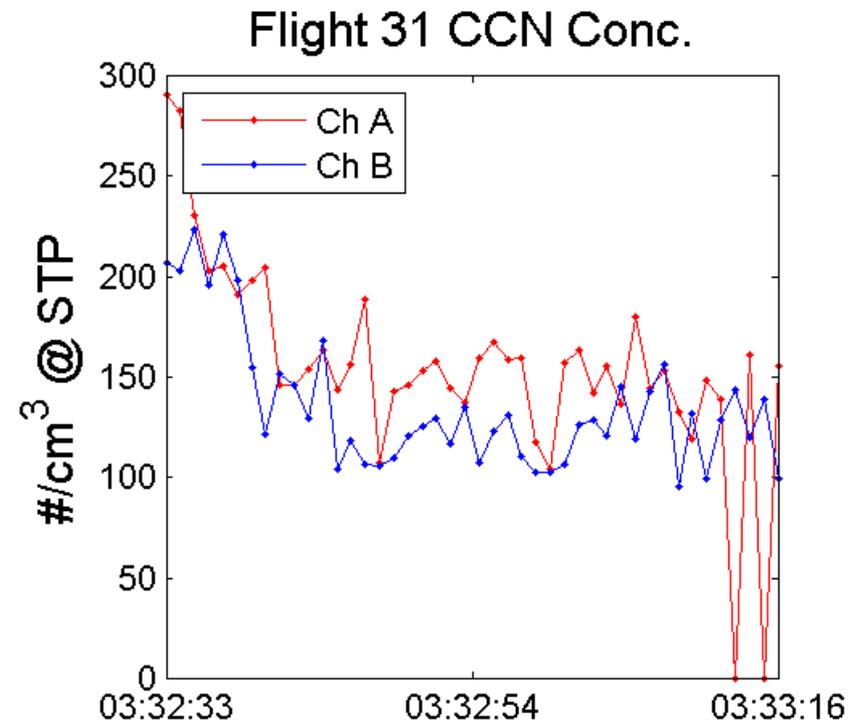
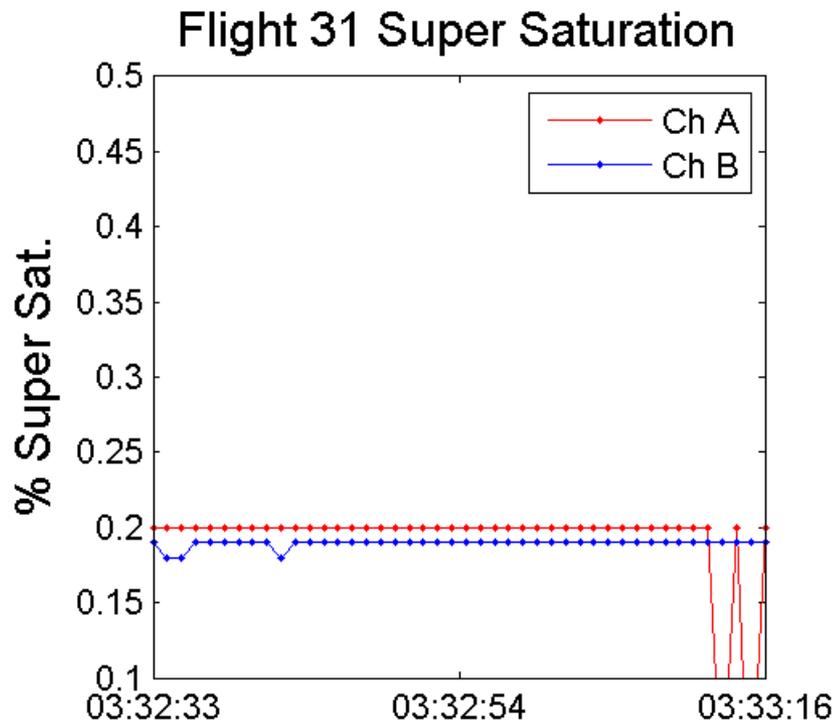


Flight 26, Below Cloud, Over Barrow

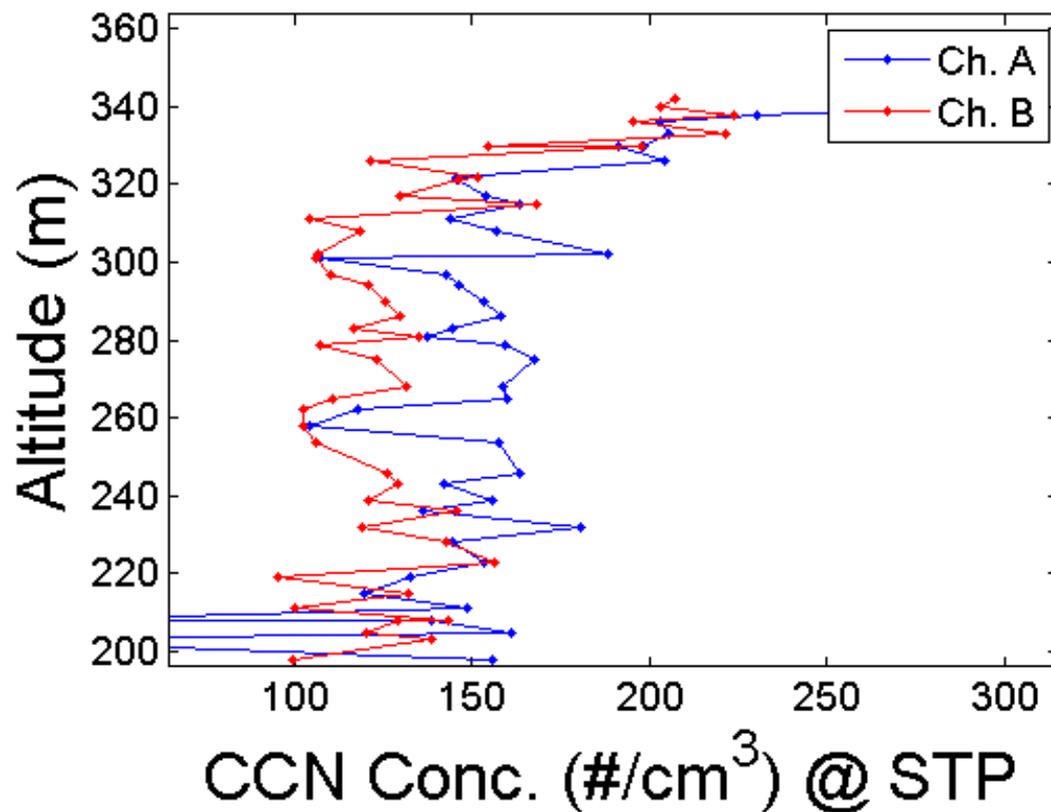


Sorted by altitude

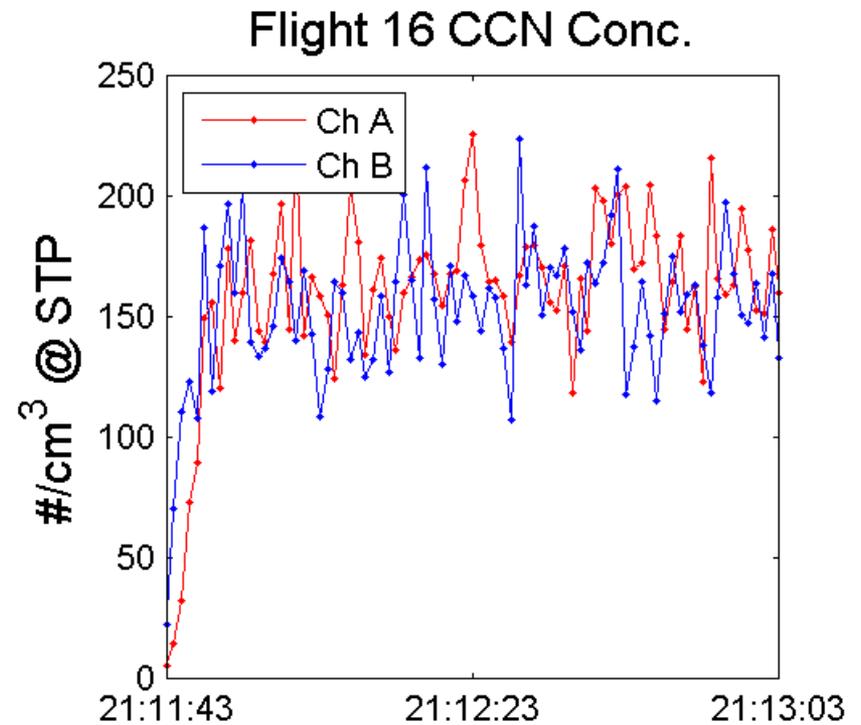
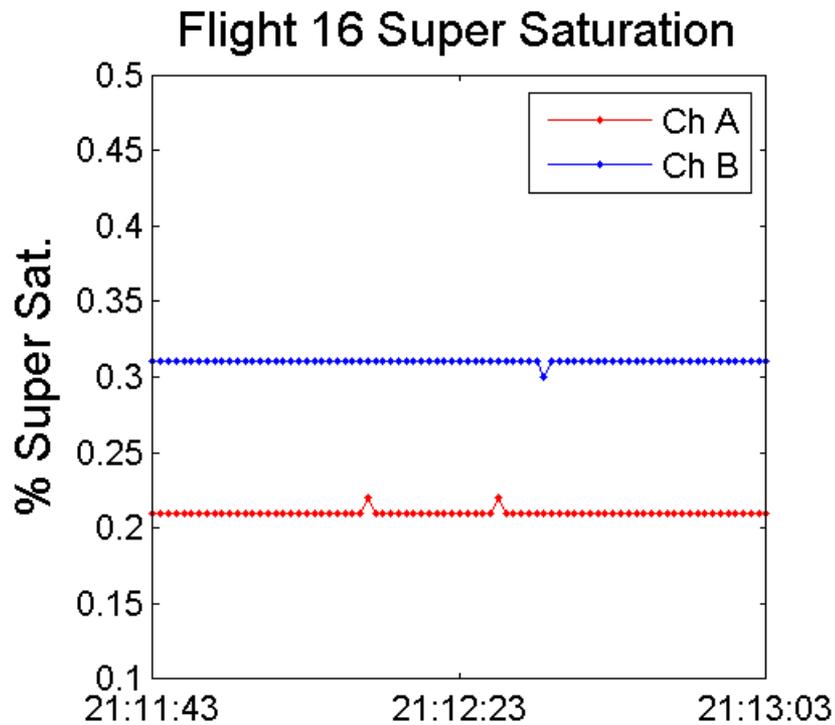
Flight 31, Below Cloud, Over Barrow



Flight 31, Below Cloud, Over Barrow

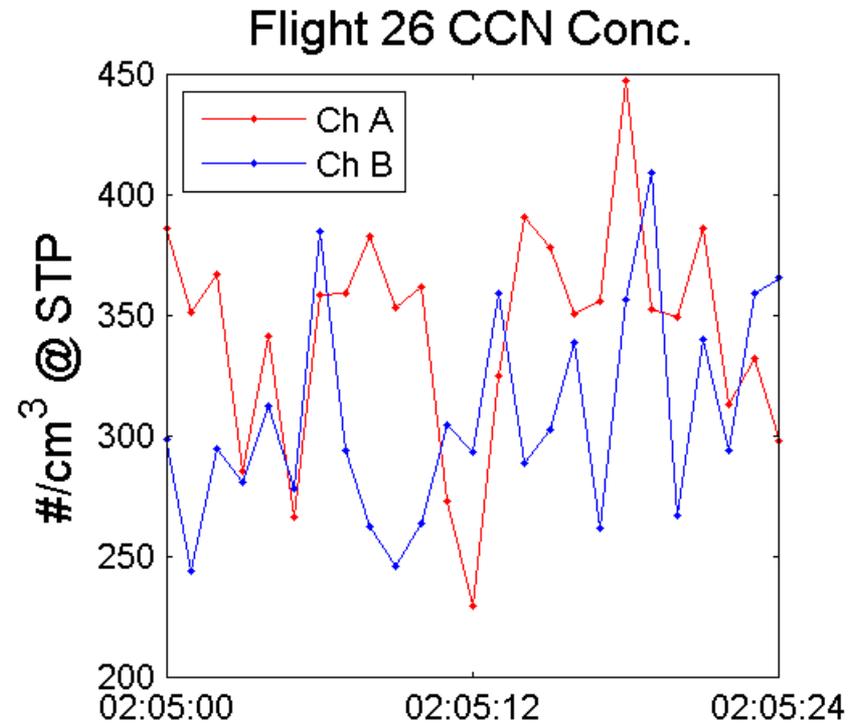
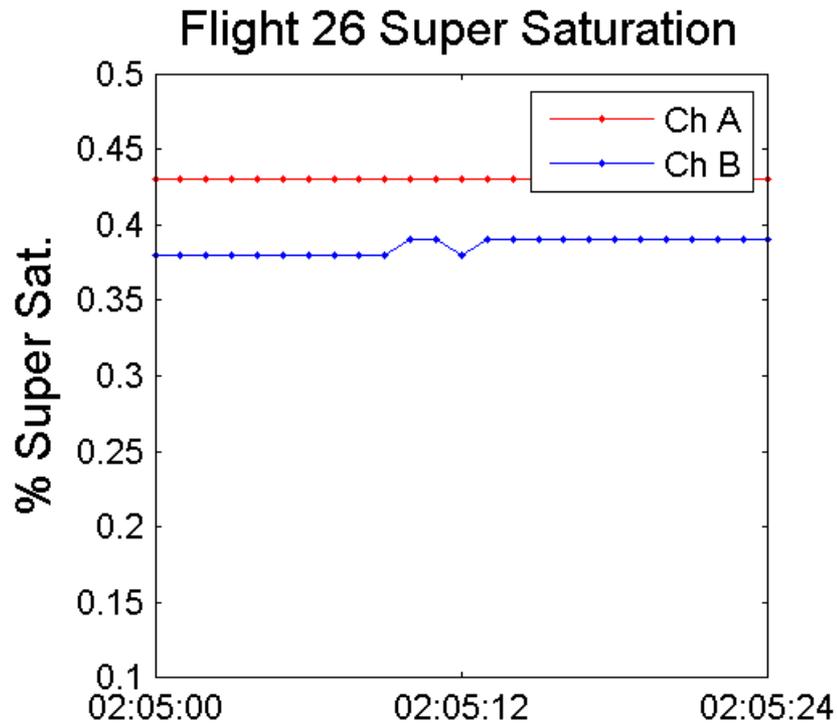


Flight 16, Below Cloud, Over Barrow

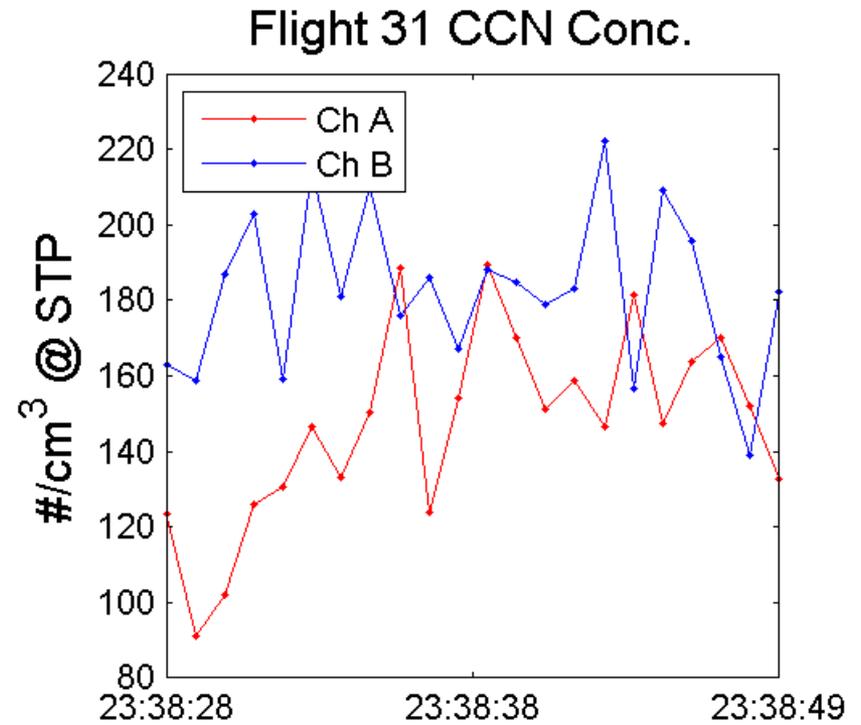
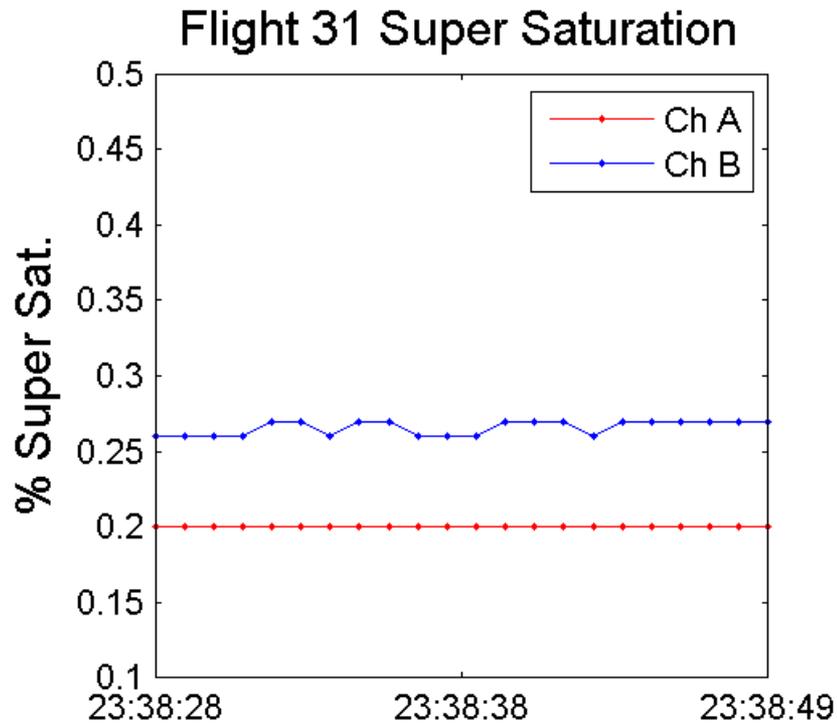


Note: Altitude relatively constant

Flight 26, Below Cloud, Over Barrow



Flight 31, Below Cloud, Over Barrow



Conclusions

- Microscopy analysis in progress – hope to be wrapping up data collection by end of summer
- CCN data is available for use in closure study