

# Gary Hodges

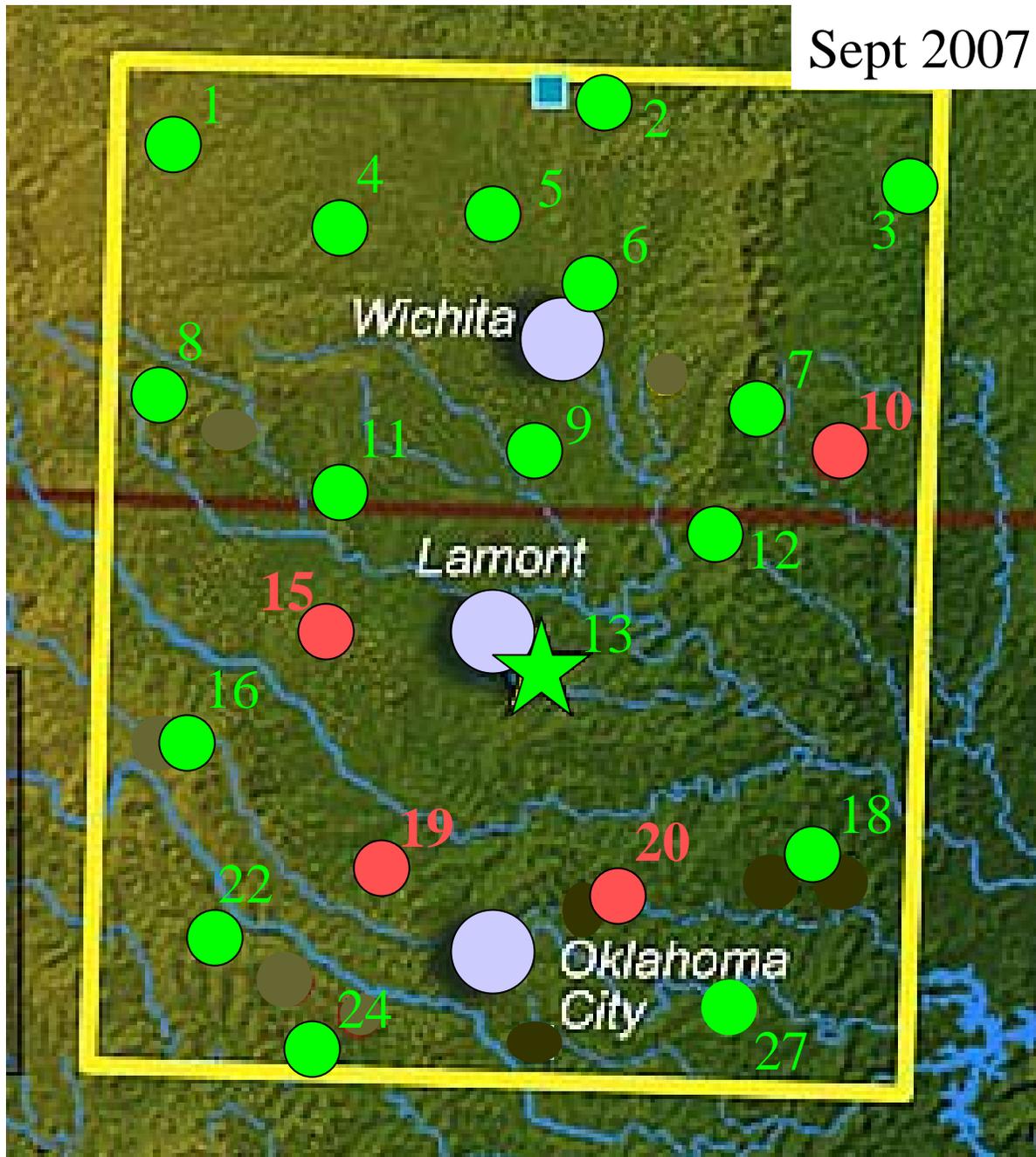
MFRSR – Multi-Filter Rotating Shadowband Radiometer

MFR – Multi-Filter Radiometer

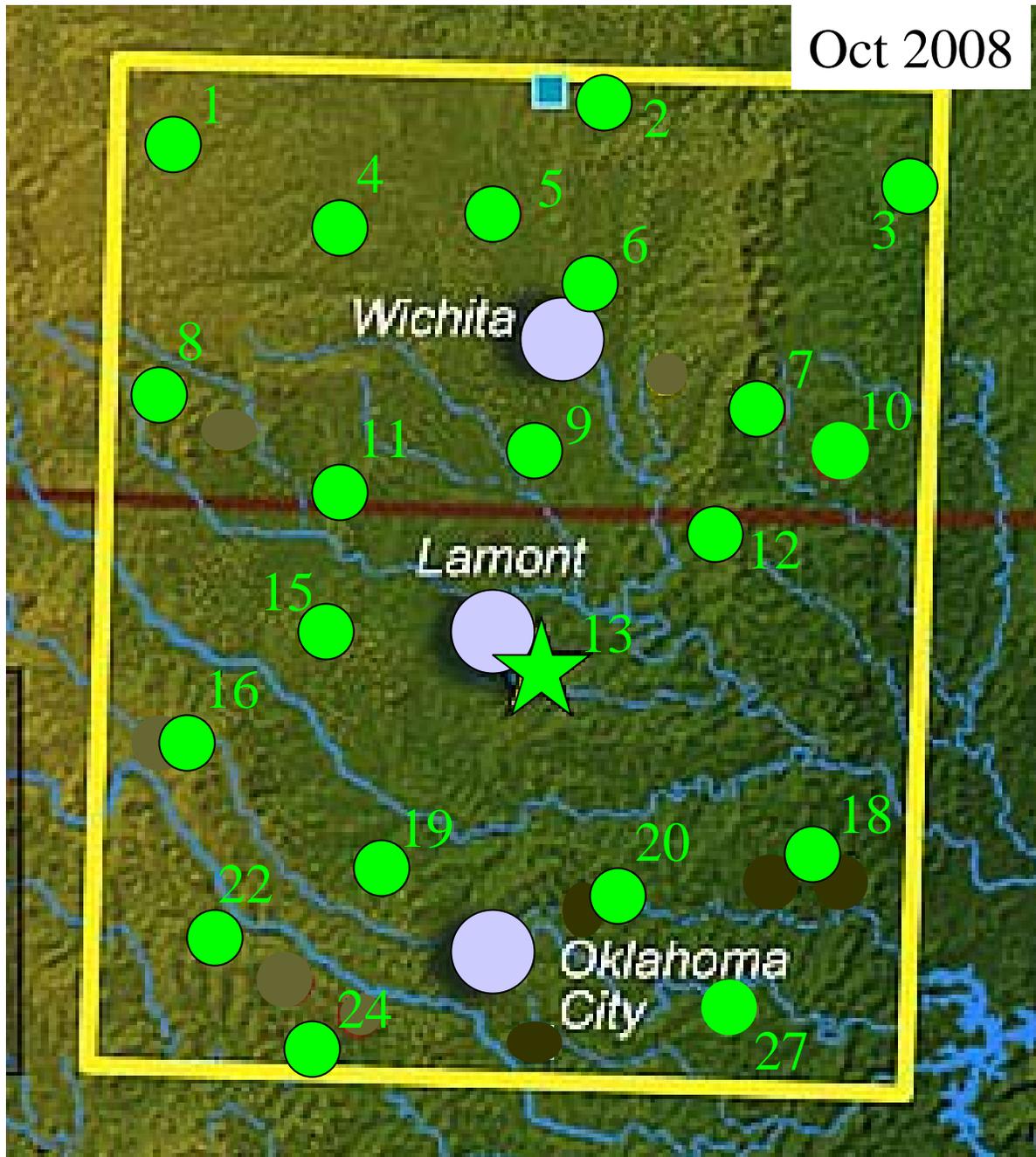
NIMFR – Normal Incidence Multi-Filter Radiometer

NFOV – Narrow Field-Of-View

Sept 2007



Oct 2008



Data System View - Firefox

File Edit View Go Bookmarks Tools Help

http://c1.dmf.arm.gov/dsview/gui/processing.php

Gmail CL-Den CL-Bou FedEx M-W definr SRRB Slashdot Digg MapQuest Glossary News Wiki WX

Summary Snapshot Processing Datastreams Disk Plots STS\* Docs\* Log out

Data Processing Status Username: guest Roles: none Tue Nov 4, 2008 18:08:06 GMT

Refresh Data Data Last Refreshed at: 18:07:44 pm, Tuesday 04 Nov 2008 GMT

hfeM1  
hfeS1  
nsaC1  
nsaC2  
nsaS01  
nsaS02  
nsaX1  
sgpB1

Select All Clear

hfeM1.1290wp  
hfeM1.aeri  
hfeM1.aos  
hfeM1.csphot  
hfeM1.ecor  
hfeM1.gndrad  
hfeM1.irt  
hfeM1.met

Select All Clear

**Legend**

- Missing
- Active
- Inactive
- Trouble
- Collection
- Ingest

Hide Processing Controls  Hide Processing Legend

Change Selection

Facility	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source						
sgpC1			50rwp			915rwp			aeri01			aos			brs			csphot			disdrometer			irt			irt10m
sgpC1			irt25m			mfr25m			mfrsr			mmcrmom			mmcrspec			mplpol			mwr			mwr			mwrhf
sgpC1			nfov			nfov2ch			nimfr			org			rain			rl			rss			sirs			sonde
sgpC1			surthref			sws			thwaps			tsi			twr10x			twr25m			twr60m			vceil25k			wacr
Facility	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source	C	I	Source						
sgpE1						ecor			mfrsr			mfrsr			sirs			smos			swats						
sgpE2						ebbr			mfrsr			mfrsr			sirs			smos			swats						
sgpE3						ecor			mfrsr			mfrsr			sirs			smos			swats						
sgpE4						ebbr			mfrsr			mfrsr			sirs			smos			swats						
sgpE5						ecor			irt			mfrsr			sirs			smos			swats						
sgpE6						ecor			irt			mfrsr			sirs			smos			swats						
sgpE7						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE8						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE9						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE10						ecor			irt			mfrsr			sirs			smos			swats						
sgpE11						ecor			irt			mfrsr			sirs			smos			swats						
sgpE12						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE13						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE14			aeri			ecor			irt			mfrsr			sirs			smos			swats						
sgpE15						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE16						ecor			irt			mfrsr			sirs			smos			swats						
sgpE18						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE19						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE20						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE21						ecor			irt			mfrsr			sirs			smos			swats						
sgpE22						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE24						ecor			irt			mfrsr			sirs			smos			swats						
sgpE26						ebbr			irt			mfrsr			sirs			smos			swats						
sgpE27						ebbr			irt			mfrsr			sirs			smos			swats						

Last modified: Jul 26th, 2007, 22:17:34, GMT

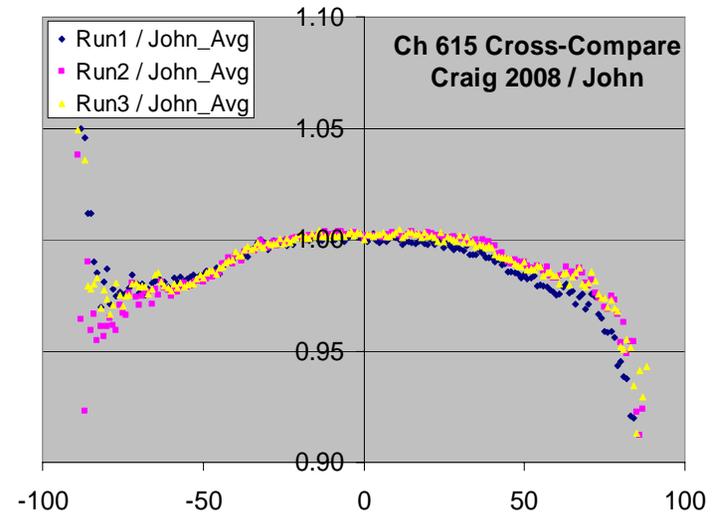
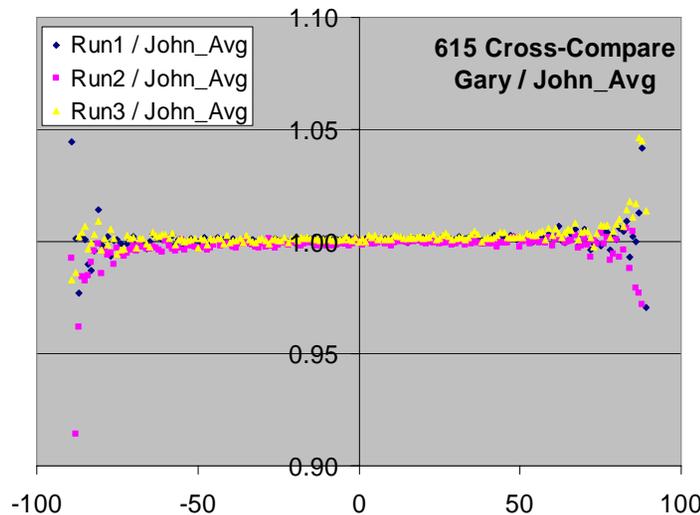
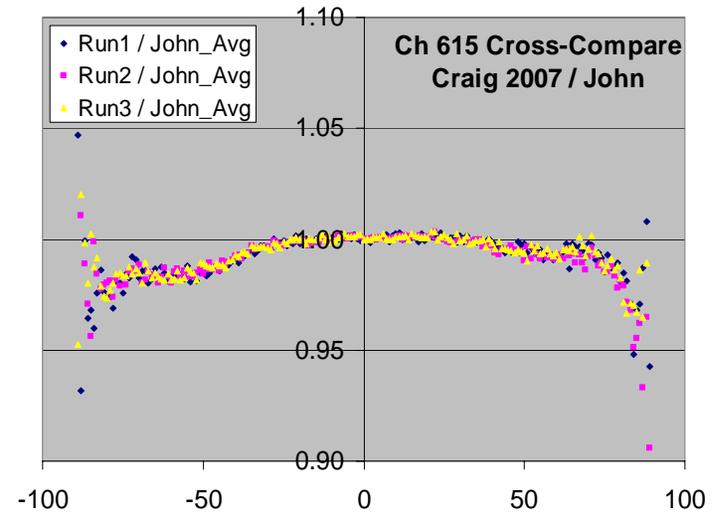
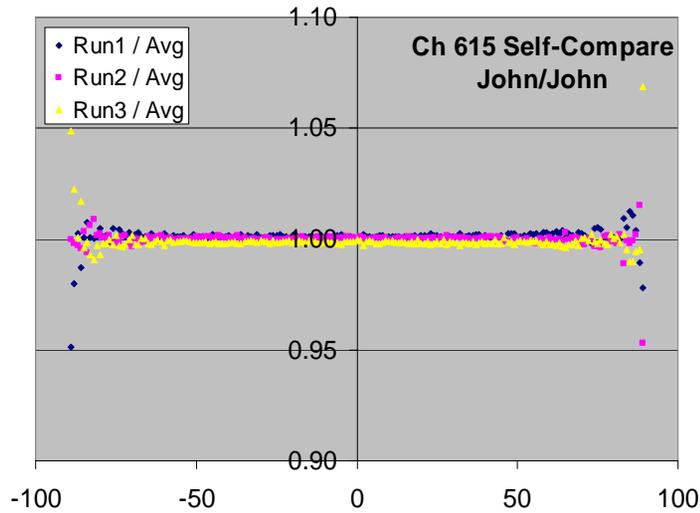
Done Tor Disabled

# Problems Encountered

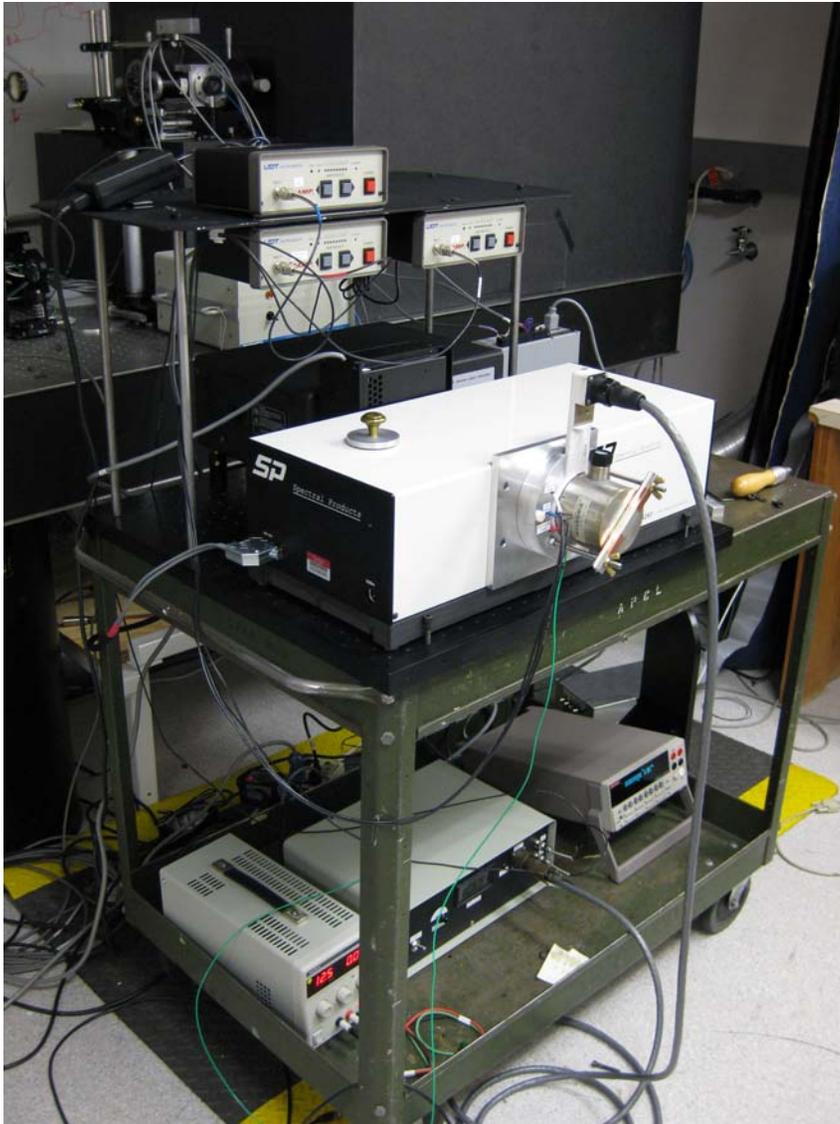
- Communication problems – **Solved**
- Discovered an issue with some band motors – **Solved**
- Heater board failures (Pt. 1) – **Solved**
- Heater board failures (Pt. 2) – **Investigating**
- Reading the head ID – **Investigating**

# Cosine Bench

Comparisons before and after move to SGP

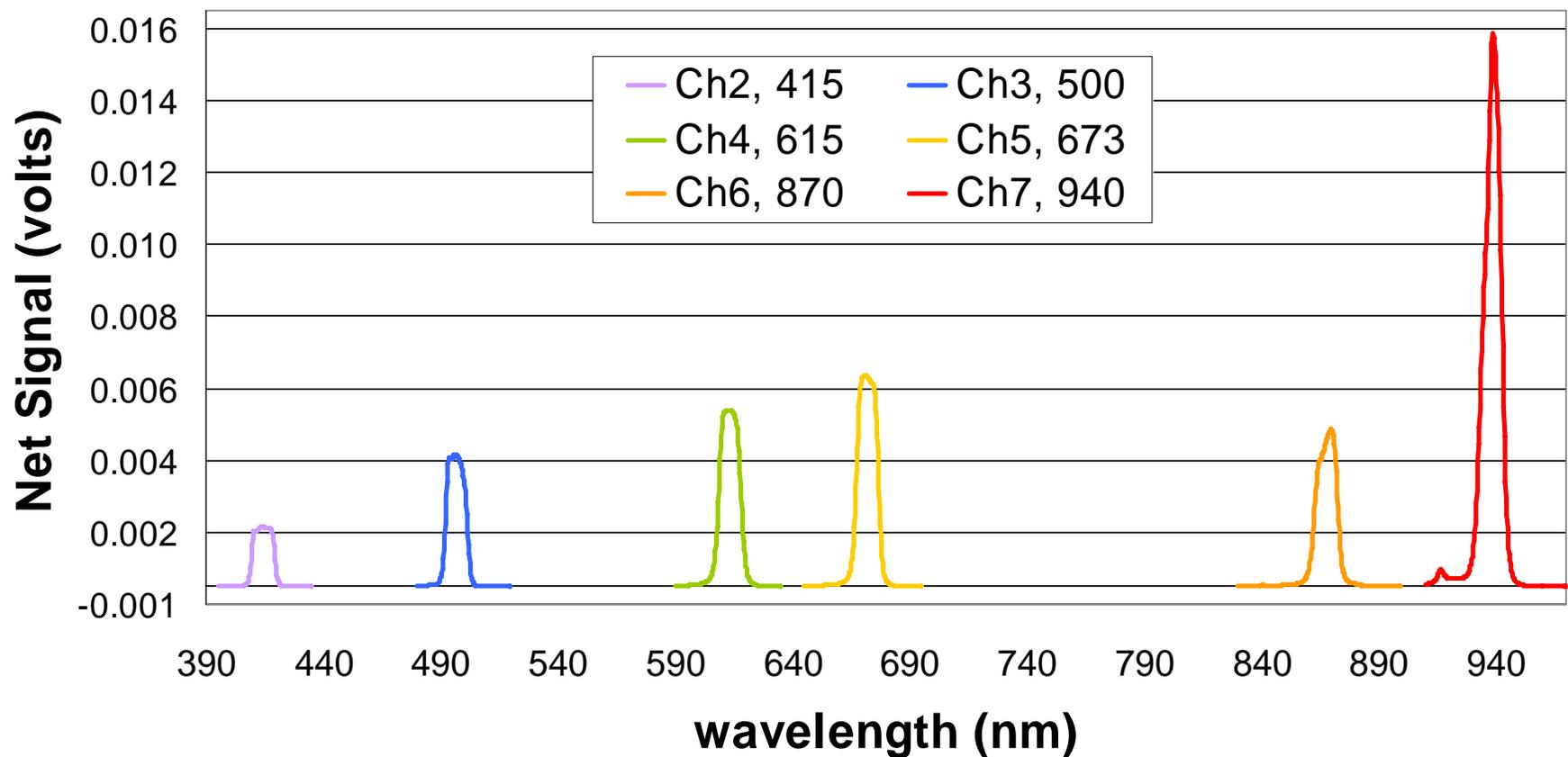


# Visible MFRSR Spectral Bench



- ¼ m monochromator by Spectral Products
- 175 W xenon arc lamp
- Scans between 390 nm and 1000 nm
- Data acquisition with Keithley DMM 2000-20
- Automated computer controlled operation

## Spectral Response of Visible MFRSR Head



# Calibration and Data Hierarchy Summary

- a0: Raw data. No corrections, calibrations, etc.
- b1: Nominally calibrated. These are lamp calibrated data. Cosine corrections and nighttime offsets have been applied, as well as diffuse corrections.
- c1: Langley calibrated data. Continuously calibrated using Gueymard extra-terrestrial spectra. Available on an approximately month-delayed basis.

# Continuing with c1 data

- Filename format is `xxxmfrsraod1michyy.c1`
- Copious data are included in each file, e.g.,
  - Calibrated Data
  - AOD
  - Rayleigh Optical Depth
  - Ozone Information
  - Cosine Corrections
  - Filter Function Information
  - Nighttime Offset Information
  - Diffuse Correction
  - ...And the list goes on

# Historical Data

- Gets same treatment as current, with one main difference. Lamp (dark) data are used instead of actual nighttime measurements.
- Have currently processed:
  - TWP (C1, 2 and 3)
  - NSA (C1 and 2; NIMFRs C1 and 2)
  - SGP (EF1, 2, 3, 4, 5, 6, 13 and C1)

# Maintenance Effort

20080601 - 20081028

System	Regular Maintenance (minutes)	Corrective Maintenance (incidents)
EBBR	25	67
ECOR	20	20
SIRS	20	65
SMOS	20	7
SWATS	5	5
MFRSR	5	4

# Inventory

<b>Equipment</b>	<b>Quantity</b>	<b>Notes</b>
Completed Heads	2	
Empty Heads	10	Low estimate
Cubes w/detectors	60	Need some assembly
Heater Boards	13	10 need assembly
Motor Controllers	11	
Data Loggers	9	
MFR Heads	7	At least 2 are complete
NIMFR Heads	8	With tubes

# What's Left?

- Upgrade the TWP, NSA and AMF sites
- Add high latitude functionality
- Add “stutter” mode to improve large particle retrievals.  
Being addressed in ECR-00688.
- If approved, Patrick Disterhoft will update the code.

# Summary

- The SGP EF sites have all been completed
- All are currently functioning
- Effort to maintain network going forward is relatively low
- Will upgrade TWP and AMF next, and NSA if code is modified