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INSTRUMENT SYSTEMS

•New Instruments

•A Cloud Condensation Nuclei (CCN) counter was added to the AOS which will complement current capabilities and provide automated CCN counting.

•The Short Wave Spectrometer (SWS) was installed in the Optical Trailer. The SGP staff also built a darkroom for calibration of the SWS.



The SWS mounted on the Optical Trailer. Calibration sphere shown in upper left.

•A new Disdrometer and rain gauge were installed this year.

•Instrument Upgrades

•The 915 MHz Profilers at the CF and IF3 received digital receiver upgrades.

•Replacement of the T/RH probes on the SMOS began late 2006.

•A new corner reflector was installed for WACR calibrations under guidance from ProSensing.

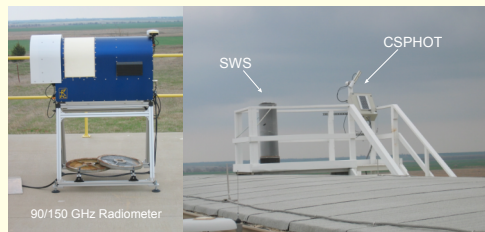


New tower mounted WACR corner reflector.

•Instrument Testing

•Acceptance testing of the new MPLs for all the ACRF sites.

•Evaluation of a new 90/150 GHz radiometer to be deployed at the NSA.



Left: The 90/150 GHz radiometer set up for evaluation. Right: The SWS and newly relocated CSPHOT on the top of the Optical Trailer.

DATA AND VISITORS

•**Data Availability** - Averaged over 96% during 2006.

•**Site visitors** - The SGP had over 350 visits by scientists and guests at the Central Facility.

FACILITIES

•Shipping and Receiving

The new S&R building was fully outfitted and operational this year. Nearly 1500 shipments passed through the SGP last year.



George Sawyer-S&R

•Electronics Repair Lab (ERL)

The ERL had over 40 work orders with an estimated savings of \$17,000. Nearly 150 sensors were calibrated including the Licors, the RSS and SWS.



Mark Klassen-ERL

•Radiometer Calibration Facility (RCF)

Over 500 sensors were calibrated last year in the RCF including radiometers, T/H probes and rain gauges. Work continued on a dynamic rain gauge calibrator for ARM.



Dynamic rain gauge calibrator developed through a collaborative effort between the University of Iowa and ARM.



Craig Webb-RCF

COMPUTER OPERATIONS

Responsible for management and maintenance of nearly all data and instrument computers as well as personal computers at the ACRF sites (AMF, NSA, SGP and TWP).

•**Cyber Security** - Following guidance from the National labs a significant effort was spent on cyber security last year which will continue into the coming year.

•**CorePC development** - An ARM centric distribution of Microsoft Windows XP to standardize ARM instrument computers.

•**RedHat Enterprise upgrades** for Linux machines

•**NFS hardware upgrades.**

•**PRISM software implementation** for automated software deployment, patching and security updates.

•**Password control** was implemented for the R1 computers.

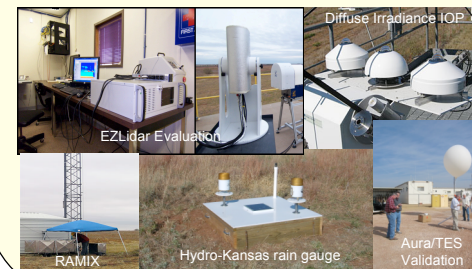


Computer Operations Staff: Trent Doyle (left), Tim Grove and Ron Reed.

FIELD CAMPAIGNS

The SGP supported a significant number of field campaigns over the last year which represents a significant effort beyond normal operations. A summary is below.

- AIRS Validation V-Barry Lesht
- Hydro-Kansas-Vijay Gupta
- AURA/TES Validation-Frank Schmidlin
- RS92-NASA/ATM Radiosonde Temperature Inter-comparison-Barry Lesht
- SAMNET Validation-John DeVore
- CO2Flux-Ameriflux Intercomparison-Marc Fischer
- Precision Gas Sampling (PGS) Validation ('05/'06)-Marc Fischer
- Combined Wind Profiler Polarimetric Radar study of Precipitation Microphysics-Phil Chilson
- Disdrometer and Polarimetric Radar Measurements of Precipitation Microphysics-Guifu Zhang
- Magnetic Field Observations-Peter Chi
- 3rd Diffuse Irradiance Study-Joseph Michalsky
- Aerosol CCN Study-Patrick Chuang
- Aura Satellite Validation-Frank Murray
- MWR Inter-comparison-Maria Cadetdu
- Evaluation of EZLidar Performance-Iwona Stachlewska
- Radon Measurements of Atmospheric Mixing (RAMIX)-Marc Fischer
- RS92 Radiosonde RH Sensor Contamination Evaluation-Barry Lesht



Acknowledgments

We would like to thank the entire SGP staff for another year of excellence and for their continued support of all aspects of operations. We continue to receive compliments from guest scientists and visitors on the accommodating and professional attitude of the staff. This research was supported by the Office of Biological and Environmental Research of the U.S. Department of Energy as part of the Atmospheric Radiation Measurement Program

