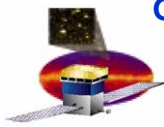**Gamma-ray Large Area Space Telescope**

GLAST Large Area Telescope
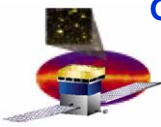
Observatory Readiness

Rich Bielawski

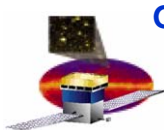**Stanford Linear Accelerator Center**

Topics

- **Early Activities Flow**
- **Pathfinding Activities and Meetings**
- **Networking/LICOS-AstroRT Interface**
- **SC-LAT ICD Status**
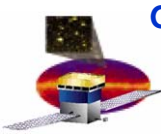- **LAT Procedure Delivery Status**
- **Issues/Concerns**

Early Activities Flow

- **LAT Delivery**
  - **GSFC providing transportation to SASS and forklift to unload LAT**
  - **Need to discuss logistics for unloading the LAT MGSE and EGSE**
    - **Will a forklift be available? Where will LAT equipment be stored?**
- **LAT Post-ship Inspection**
  - **Quality Assurance team will perform visual inspection, review transportation data.**
- **LAT Post-ship Electrical Test**
  - **ICN-99 details EGSE input power requirements, etc**
  - **Need to verify network set-up for this stand alone configuration is compatible with SASS**
  - **Performing same tests with same EGSE**
    - **Need to double-check equipment calibration**
- **LAT Hand-Off to GSFC**
  - **Issues?**
- **LAT Mechanical Installation**
  - **Pathfinding activities performed and will implement lessons learned into procedures**
- **LAT-SC Safe-to-Mate**
  - **LAT procedure provided to SASS**
  - **Need walkthrough of observatory procedure**

Pathfinding Activities, Meetings

- **LAT Networking at SASS**
  - **Many capabilities successfully demonstrated**
  - **More in later charts**
- **LICOS-AstroRT Interface**
  - **Communications protocol demonstration test complete**
  - **More in later charts**
- **Grid #2 - SC Integration**
  - **Performed yesterday**
  - **Early word is that activity was successful**
    - **Collected a few redlines and made some observations that will be folded into procedures**
- **F2F ITWG**
  - **Last minute agenda change resulted in only 3 hrs of discussion**
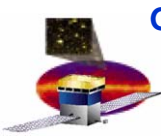 - **TWG's will begin the first week of September**

LAT Networking at SASS

- **Network local loop between FoF and ASU installed in early August**
  - Hardware problems at ASU delayed connectivity completion until 8/15
- **LAT SSKI (SLAC-Spectrum/KSC Interface) Rack installed in EGSE lab at Spectrum – Aug 9.**
  - FASTCopy transfers between the "bastion" workstation and the "dmz" servers in the rack.
  - SSH logins from the "bastion" workstation to the "dmz" servers in the rack.
  - TCP/IP connectivity from the "LICOS" workstation on the SASS I&T LAN.
  - Could not demonstrate FASTCopy connectivity to LICOS WS out the SASS firewall to dmz server.
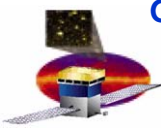
AstroRT – LICOS

- **AstroRT- LICOS communications protocol (LAT-MD-08434-01) released – Aug 2**

- **Communications protocol demonstration test at Spectrum completed – Aug 10**
  - **A few minor issues resolved: protocol packet type, check for packet lengths**
  - **Protocol doc update needed to capture changes.**

- **End – to – End test scheduled for late Aug, early Sep**
  - **Test bed at SLAC with SIIS or SDIS**
  - **Need upgrade to AstroRT's Labview and new AstroRT installation**
  - **Coordinate SIIS / SDIS use with recommisioning of ISIS and delivery to SASS. We have only 1 K2 card for SIIS and SDIS**
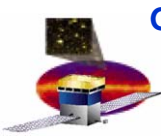
Issues / Concerns

- LAT views this test configuration a long term tool for V&V of script changes.
  - SASS is somewhat concerned about the "new requirement" of maintaining AstroRT at SLAC.
- LAT would like to use the VSC (rather than SDIS) with the AstroRT terminal in the long run
  - Easier coordination of various uses of the test bed
  - More capability available in the VSC.
- Scripting issues and incorporating this AstroRT – LICOS functionality in the Observatory testing has not begun
  - Config Mgmt and LICOS submissions to SASS CM system need to be addressed.
- Process by which LAT gets script supporting data files thru the firewalls and on to the LICOS script engine on the I&T LAN has not been successfully demonstrated

LAT Procedure Delivery Status

Proc #	Title	Notes	Status	Assignee
LAT-PS-06706	LAT Auxiliary Cooling System Set-Up and Operating Procedure	Update to reflect the use of only the X side bars, both or none.	**Update in progress**	**Campell**
LAT-PS-03291	Flight Hardware Bag and Purge Procedure	Needs updating to include precautions for preventing damage to the ACD blankets.	**Update in progress**	**Ortiz**
LAT-PS-08470	LAT-Observatory Final Assembly Procedure	Flyaway instrumentation termination, MLI blanket installation, grounding, trim et al, removal and logging of Remove Before Flight hardware	**Update in progress**	**Campell**
LAT-PS-08471	Radiator Installation Procedure	Radiator fit check, Radiator MLI installation, installation, adjustment of SASS SC struts to get Radiators in the envelope (TBR)	**Update in progress**	**Campell**
LAT-PS-08143	TIP Installation Procedure	Includes GPR installation, TIP and flexure removal and GPR removal	**In release cycle. Draft sent to SASS.**	**Ortiz**
LAT-MD-00895	LAT Survey Plan		**Delivered**	**Campell**
LAT-PS-07575	LAT Integration Safe to Mate Tests		**Delivered**	**Grist**
LAT-TD-07581	LAT Control Rack Interface Verification Test		**Delivered**	**Grist**
LAT-PS-07836	LAT Test Procedure with LICOS	Needs to be tailored for Obs test.	**Update in progress**	**Grist**
LAT-PS-08468	Helium Monitoring		**Delivered**	**Grist**

Issues

- **Lack of updated Observatory activities flow to develop staffing plans**
  - **Understand a two month look ahead was provided at SASS monthly**
- **LAT personnel badging and training**
  - **Mechanical crew is trained and badged**
  - **Electrical crew training needs to stay on the radar screen**
- **Need to begin development of interface tests and other tests where the instruments and SC interact.**
  - **From the Feb Observatory flow, interface tests scheduled ~1 month after LAT arrives**
  - **Need to define tests**
    - **Minimize impact to current scripts**
- **Already talked about LICOS-AstroRT interface issues**