





Gamma-ray Large Area Space Telescope



GLAST Large Area Telescope:

Performance & Safety Assurance

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Outline

- **October Significant Accomplishments**
- **Open Nonconformance Reports**
- □ Cost Variance Analysis





October Significant Accomplishments

- Contamination Control
 - Finalized SLAC I&T Facility contamination monitoring and certification schedule with Technical Safety Services, Inc.
 - Vendor to furnish and analyze NVR witness plates and particle fallout samples and certify nitrogen purge system
 - Vendor also to test and certify HEPA filters
- EM fabrication, assembly, integration and test activity support
 - Completed second draft of Work Order Requirements document
 - Maintained an Issues/Problems List for Tracker EM and I&T EM activities
 - Regular discussion has been initiated on the status of Tracker & I&T issues/problems
- Supplemented LAT Quality Engineering staff with highly qualified technical personnel
 - Support to subcontracting, design, inspection, test, and manufacturing personnel in the resolution of hardware quality issues.
- Replanning of LAT Performance Assurance Subsystem completed and discussed with LAT Project Management



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Open Nonconformance Reports

- As-received aluminum Grid 4X4 billet was flat to 0.5 inches. Needs to be flat to 0.25 inches to allow final machined grid to meet dimensional specifications
 - Heat treating & flattening requirements documented and specified in vendor process specifications
 - LAT & GSFC Quality Engineering witnessed flattening process
- Omnectic connectors have not completed qualification testing at GSFC. NCR #00029 documents "proceed at risk" disposition.
 - MCMs which use these connectors may not be used for flight until qualification and incoming inspection completed
 - Sufficient connector quantities for 50 pre-production MCMs (non-flight) sent to Teledyne, remainder in bonded stores



Open Nonconformance Reports

- Communication from one GTRC chip to the next does not work properly at the design frequency of 20 MHz
 - Design change initiated

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- Logic has been tested by simulation and in FPGAs
- Timing correction tested in several ships by modifying them with ion-beam surgery and installing them on MCMs
- A new submission to MOSIS is being prepared
- Tracker tray honeycomb material is defective
 - Extra wall on a cell strip, bad gluing of a cell strip (4 sheets)
 - Discoloration of honeycomb sheets (3 sheets)
 - Honeycomb sheet cut not orthogonal to cell row (1 sheet)
 - Plascore, Inc. contacted for technical evaluation

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Cost Variance Analysis

- Cumulative CV = \$264K
 - Management (CV = \$45K) Labor cost lower than SLAC labor rate
 - Quality Assurance (CV = \$138K)
 - \$92K of variance due to delayed Stanford processing of subcontractor invoices. Actual expenditures in line with planning
 - \$30K credit received from SLAC for operating cost expenditures
 - Training (CV = \$3K)
 - Systems Safety (CV = \$0K)
 - EEE Parts Control Program (CV = \$81K)