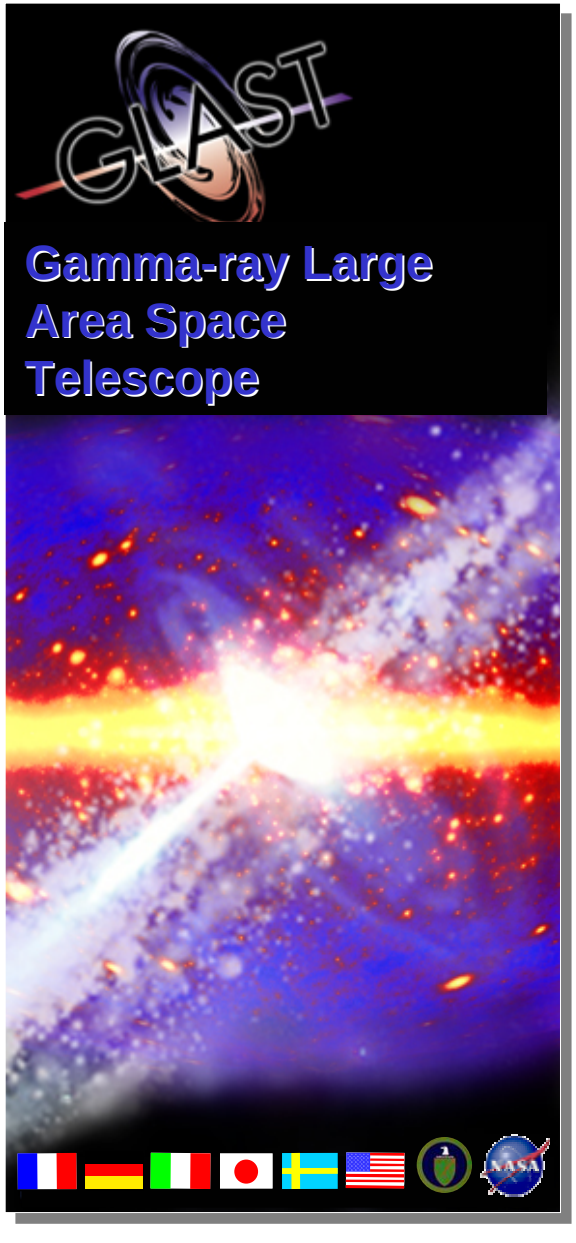

GLAST Large Area Telescope

ISIS Post Acceptance Test Review
28 January 2005

ISIS Completion Status

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ISIS Milestones

- **The following items were successfully completed on the date given:**
  - ✓ **Safe Connection Procedure - December 16, 2004**
    - **Test Report: LAT-MD-05691**
    - **Witnesses: Joe Cullinan (QA), Eric Hansen (TD), Jana Thayer (TC)**
  - ✓ **Acceptance Test Procedure – January 21, 2005**
    - **Test Report: LAT-MD-05690**
    - **Witnesses: Kelly Burlingham (QA), Dave Harmon (GSFC), Eric Hansen (TD/TC), Jana Thayer (TD/TC), Tim Morse (Spectrum), and others**
  - **Post Acceptance Test Review – January 28, 2005**
    - **Witnesses: Jeff Fisher, Mike Huffer, Dick Horn, Erik Andrews, Eric Hansen**
  - **ISIS shipped – January 28, 2005**

Safe Connection Procedure

- Successfully completed on December 16, 2004
- Report in LATDocs: LAT-MD-05691

- Objective of test is to verify that
  - EGSE equipment can be safely mated to all ISIS connectors
  - All ISIS internal connections are good
  - Resistors/RTDs used to simulate or measure temperatures have the expected value at room temperature
- Tests run for each connector:
  - Electrical Continuity Check, Power and Power Return
  - Electrical Isolation Check, Power to Power Return
  - Electrical Isolation, Signal Isolation from Power and Power Return
- Connectors tested:
  - Main Power Feed (primary and redundant): JL-1, JL-2
  - SIU Power Feed: JL-119
  - SIU/Spacecraft Discretes: JL-121
  - LGIO: JL-124, JL-125, JL-138, JL-145
  - 1553 interface: JL-232, JL-233
  - Environmental Simulator:
    JL-123, JL-131, JL-144, JL-152, JL-238, JL-239
  - Heater Control: JL-127, JL-129, JL-140, JL-142

Safe Connection Procedure

- **Test Personnel**
  - **Test Director: Eric Hansen**
  - **Test Conductor: Jana Thayer**
  - **Quality Assurance: Joe Cullinan**
- **ISIS Safe Connection Procedure (LAT-TD-03541)**
  - **Annotated and signed copy has been scanned into LATDocs as LAT-TD-03541, Revision 1**
  - **A photocopy travels with the ISIS**

Acceptance Test Procedure - Objective

- **Successfully completed on January 21, 2005**
- **Report in LATDocs: LAT-MD-05690**

- **Objective of test is to**
  - **Verify that ISIS is a high-fidelity LAT simulator**
    - **Test ability of ISIS to manage power to TEMs, EPUs**
    - **ISIS power demands replicate LAT power demands**
    - **ISIS monitors internal voltages**
    - **ISIS simulates temperature sensors using fixed resistors in the range of the device they are simulating (tested as part of Safe Connection Procedure)**
  - **Validate the ISIS/Spacecraft interface**
    - **Reset and discretes**
    - **LGIO/Science data interface**
  - **Verify ISIS/Spacecraft communication over 1553**
    - **Exchange of telecommands and telemetry**

Acceptance Test Procedure - Tests

- Requirements tested, verification matrix in LAT-TD-05398
- Test scripts run:
  - CPU Boot Process and Reset Signal
  - Set and Read Discretes
  - Alert Telemetry
  - Routing of Commands
  - No-op Commands
  - Ancillary, Attitude, and Time Tone (Magic 7) Commands
  - GBM Signals
  - Automatic Repoint Requests
  - Power Management
  - Power Draw
  - LAT Voltage Monitoring
- Test Personnel:
  - Test Director/Conductor: Jana Thayer
  - Test Conductor/Director: Eric Hansen
  - Quality Assurance Engineer: Kelly Burlingham
  - Observers: David Harmon (GSFC), Tim Morse (Spectrum)
    Summary

Acceptance Test Procedure – Supporting Data

- ISIS Acceptance Test Procedure (LAT-TD-05398)
  - Annotated and signed copy was scanned into LATDocs under LAT-TD-05398, Revision 1
  - A photocopy travels with the ISIS
- ISIS_ATP CD
  - Copy of CD travels with ISIS
  - Contains the data listed:
    - DBX files (ISIS ITOS database)
    - Record of HW, FSW, and ISIS Test Script versions
    - Test scripts (CVS tag ISIS_ATP_04)
    - Test script results (html files)
    - Science Data Archive files
    - Miscellaneous include files (AstroRT specific)

Acceptance Test Procedure - Summary

- **Successfully completed on January 21, 2005**
- **Report in LATDocs: LAT-MD-05690**

- **Deviations from procedure**
  - **Error in output html file for ISIS_Power.pl**
    - **Voltage of TEM reported instead of voltage of EPU**
    - **Test was aborted and restarted, skipping hardware configuration**
    - **Reported in JIRA (ISIS-2)**
  - **Minor procedural errors were redlined in document**

Finishing touches

- Follow ISIS to Spectrum Astro (tentative 2/21)
  - Run safe-to-mate and test scripts to validate
  - Training
    - PowerPoint presentation
    - User's guide – short, sweet, to-the-point
- Follow up on
  - ITOS translation issues
  - SDIS issues