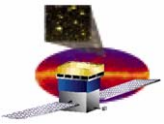


# **GLAST Large Area Telescope**

**Instrument Flight Software  
Development Team**

**Functional Demonstration  
May 27, 2005**

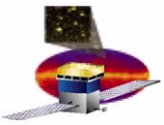
**Stanford Linear Accelerator Center**



# Demonstration Agenda

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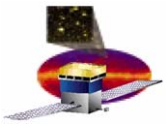
<b>Demo Agenda Item</b>	<b>Presenter</b>
<b>1. Overview of the Demonstration</b>	<b>Lawrence Jeung</b>
<b>2. Secondary Boot Demonstration</b>	<b>Lawrence Jeung</b>
<b>3. EPU Memory Dumps Demonstration</b>	<b>Lawrence Jeung</b>
<b>4. Questions from Attendees</b>	<b>NA</b>



# Demonstration Overview

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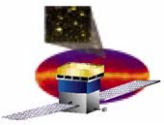
- **Today's demo covers parts of Secondary Boot and EPU Memory Dumps**
- **Secondary Boot**
  - **Implemented in the PBC and SBC packages**
  - **Provides:**
    - **Initiating EPU and SIU Secondary Boot**
    - **Secondary Boot Command, Checksum, and Error Recording**
- **EPU Memory Dumps:**
  - **Implemented in the MEM package**
  - **Provides EPU Memory Dumps**



# Requirements covered by Secondary Boot Demo

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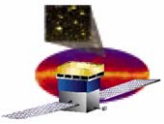
- **The Secondary Boot Demo covers the following requirements:**
  - **5.3.1.10.4 Secondary Boot Command:** The command to proceed to secondary boot shall specify whether the operating system should be loaded and executed from RAM or from the Spacecraft Interface Board EEPROM.
  - **5.3.1.10.5 Secondary Boot Checksum:** The FSW shall calculate a checksum over the secondary boot image.
  - **5.3.1.10.6 Secondary Boot Errors:** The FSW shall record errors from the secondary boot process in a global memory area suitable for later examination.



# Requirements covered by EPU Memory Dumps Demo

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- The EPU Memory Dumps Demo covers the following requirement:
  - **5.3.7.12.1 EPU Memory Dumps: After entering the boot shell, the EPU shall be commandable by the SIU to perform memory dumps.**



# Secondary Boot Demo Description

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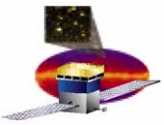
- **Execute Valid RTOS in EEPROM Lower Bank of EPU**
- **Execute Valid RTOS in EEPROM Upper Bank of EPU**
- **Execute Invalid RTOS in RAM of EPU**



# EPU Memory Dumps Demo Description

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- **Dump memory in Boot mode**
- **Dump memory in Application mode**



# Hardware Context of the Demonstration

- The demonstration is run using an SC (mcp750), SIU (mv2304), EPU (RAD750), and GASU

