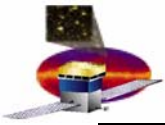# Final Proposal for
Phase 1 and 2
SVAC, E2E Tests
(hereafter LAT 70X, 80X)

## Eduardo, Eric Grove and Pat

Overview of Cosmic Ray Tests

- **Goals for this meeting**
  - **Agree on final list of cosmic ray data taking**
    - **Hardware configuration**
    - **Register configuration**
    - **Test duration**

- **Assumptions for test sequence**
  - **Trigger and Data flow functionality has already been tested**
  - **Validated calibration constants are available prior to tests**
    - **including operational settings (e.g. thresholds, time delays)**

- **Overview of Tests**
  - **Number : 12**
    - **to be distributed among Phase 1 and 2 according to schedule constraints**
  - **Duration : 96 hours**
    - **Does not include overhead for setting up and performing data taking**
  - **Data Analysis Results**
    - **The goal is to present results on Instrument Analysis Workshop 6**
   - » **First week of March 2006 @ SLAC**
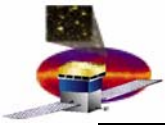
Trigger Engine Configuration for all tests

- **The trigger engine matrix has already been presented in the following meetings**
  - **Test Planning**
  - **Trigger**
  - **Calibration & Analysis**
- **Eric Grove is currently consolidating the information**
- **For this talk we assume the consolidated matrix will be used for all tests**
  - **unless explicitly stated**
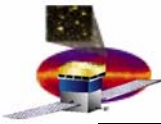
LAT SVAC/E2E System Tests : Phase 1 and 2

- **SVAC Tests**
  - **Overhead for test time and schedule constraints to be included by IFCT (Larry)**
  - **Test ID to be agreed between system engineering and online (Pat/Ric)**
    - **In case of need to change test ID please inform SVAC**

- **List of Tests in Chronological Order**

- **LAT 701: Flight configuration on the GND - primary side of GASU 1 hour**
- **LAT 702: Flight configuration on the GND - redundant side of GASU 1 hour**

- **All 8XX tests use Flight configuration on the GND**

- **LAT 801: Unregulated Power Supply set to 27V 1 hour**
- **LAT 811: Unregulated Power Supply set to 29V 1 hour**
  - **2.1.1-2 – Condition Scan CR Test in LAT-MD- 03489**
- **LAT 821: pulser rate @ 15 KHz and cosmic rays 1 hour**
  - **2.1.1-4 – Nominal Rate CR Test in LAT-MD- 03489**
- **LAT 831: pulser rate @ 15 KHz and cosmic rays 1 hour**
  - **CAL muon gain**
    - **2.1.1-8– Nominal Rate CR Data Volume Test in LAT-MD- 03489**
- **LAT 841 : Unregulated Power Supply set to 27V and pulser rate @ 15 KHz and cosmic rays 1 hour**
- **LAT 851 : Unregulated Power Supply set to 29V and pulser rate @ 15 KHz and cosmic rays 1 hour**
  - **2.1.1-5 – Nominal Rate Condition Scan CR Test in LAT-MD- 03489**

- **"Runs for the record"**

- **LAT 701: Flight configuration on the GND - primary side of GASU 48 hours**
- **LAT 702: Flight configuration on the GND - redundant side of GASU 8 hours**
- **LAT 711: Muon Calibration - primary side of GASU 16 hours**
  - **Flight configuration on the GND but CAL front-ends set to muon gain**
- **LAT 701: Flight configuration on the GND - primary side of GASU 16 hours**
  - **LAT oriented horizontally – baseline for NRL**
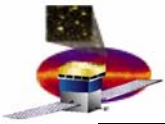
Test Consolidation

- **Goal:** eliminate test redundancy
  - **If a test is redundant**
    - do NOT add to the SVAC list
    - ensure the number of cosmic ray triggers is sufficient for SVAC data analysis

- **The following tests were eliminated from SVAC/E2E tests**
  - **they appear elsewhere**

- **LAT 721: ACD calibrations using ACD only: 4 hours**
  - **ACD CPT (triggerOps)**
- **LAT 731: Data Transport Errors 1 hour**
  - **LAT 660 (Operation and Test Plan LAT-MD- 02730) –**
    - System Engineering will add 1 hour of muons for this test
    - Recommendation from Committee on E2E testing (2.1.1-10 in LAT-MD- 03489) - T&DF Data Transport Errors
- **LAT 741 : GEM self-Integrity test (Data taken during Trigger Tests) 4 hours**
  - **LAT 211 (2.2.5 in Trigger Test Plan LAT-MD- 07604) – GEM self-Integrity test**
    - Recommendation from Committee on E2E testing (2.1.2-4 in LAT-MD- 03489) - T&DF False Triggers
- **LAT 751 : GEM Trigger engines (Data taken during Trigger Tests) 3 hours**
  - **LAT 211 (2.2.8 in Trigger Test Plan LAT-MD- 07604) – GEM Trigger Engine test**
    - Trigger group will add 10 min of muons cycled through all engines
- **LAT 761 : L1 Veto Efficiency (Data taken during Trigger Tests) 2 hours**
  - **LAT 211 (2.2.5 in Trigger Test Plan LAT-MD- 07604) – VETO Efficiency test**
    - Trigger group will ensure min of 2 hours of cosmic ray data taking