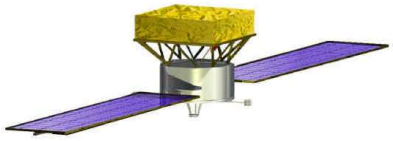
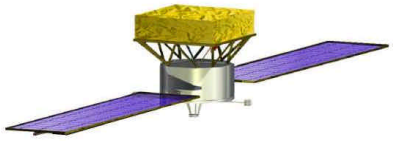


GLAST Calorimeter
Status
6 May 1999

W. Neil Johnson

Naval Research Lab



Procurement Status

- CsI Crystals - Ukraine
  - Received 46 31-cm crystals, 8 40-cm crystals on 4/15/99
  - Ukrainian engineer visited NRL on 4/7/99; discussed crystal performance issues and GLAST-specific wrapping and packaging issues.
  - Crystals were delivered with high polish finish - very large attenuation length.
  - All crystals have been visually inspected. A few show significant crystal flaws.
  - Approximately 75% have been scanned with a radioactive source.

- CsI Crystals - Crismatec
  - Acceptance testing on first 4 crystals in good agreement with Crismatec preship data.
  - Remaining 36 crystals (31 cm) have been shipped, but not received at NRL.

Beam Test Calorimeter

- CsI Detector Elements
  - Phlips has sanded 17 Ukrainian crystals to provide light tapering. Mapping with radioactive source shows that tapering and absolute light yield are essentially equivalent to Crismatec.
  - Testing of laminate wrap (10-mil Tetratek + Al + Kapton) shows light yield ~70% of Crismatec factory 20-mil teflon-based wrap. Absolute light yield is still within spec. Laminate is easy to apply
  - Fixtures for gluing PIN diodes onto crystals are complete.

Beam Test Calorimeter (cont)

- Compression Cell
  - Hytec has stacked a whole calorimeter with crystal dummies. The alignment and shimming strategy worked well.
  - The compression press has been assembled on the stack and compression loading will be performed soon. The strain gauges are installed on the containment panels and have been calibrated in the load frame.
  - To test Nanonics connector attachment problem, 4 dummy PC boards have been made, one of them with a nanonics pair attached. Hytec has tested the side wall sandwich assembly and checked for access to the connectors and jack screws.
  - Everything works fine.
  - Meeting scheduled for 18 May at NRL for initial testing with actual CsI crystals.

Beam Test Calorimeter (cont)

- Analog Front End Electronics
  - According to GSFC, SuperTex expects to complete production run of Calorimeter ASICs on June 7th.
  - Prototype CSICAL-2 and V2I ASICs have been packaged in plastic quad flat packs by vendor (ASAT) and returned to NRL.
  - Prototype FEE printed circuit board and Cal Controller printed circuit board have been assembled. FEE board is waiting for installation of ASICs.
  - Jim Ampe got married and went on honeymoon in Paris.
  - Acceptance testing of production ASICs will be performed by GSFC with NRL backup support. Test boards and hardware have been identified and are being designed.

Calorimeter Schedule

Critical path to Beam Test is through ASIC fabrication and test. (Two months behind original schedule due mostly to Orbit problems.)

- ASIC delivery expected 6/7/99
- Packaging at ASAT completed by 6/21/99
- Testing at GSFC & NRL completed by 6/28/99
- Mounting ASICs on FEE PCB begins 7/5/99
- FEE PCB functional testing begins 7/12/99
- Mount FEE boards on compression cell begins 7/26/99
- I&T begins 8/9/99
- Pack and ship to SLAC, arriving 9/29/99

CERN Beam Test 99

- NRL is providing Ukrainian CsI crystals (37 cm long) for prototype of IN2P3 packaging concept. 3 - 4 layers of 3 logs will be fabricated.
- Beamtest 97 calorimeter will also support the 99 test to provide depth behind IN2P3 prototype.
- NRL personnel will participate in testing.