

**GLAST Calorimeter**

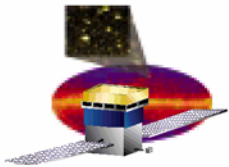
*Monthly Cost /  
Schedule / Mission  
Feb 2005*

# **Monthly Cost/Schedule/Mission Review**

## **GLAST LAT Calorimeter March 2, 2005**

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**GLAST Calorimeter**

# Outline

*Monthly Cost /  
Schedule / Mission  
Feb 2005*

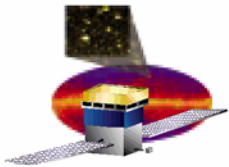
## □ **Technical Status:**

- **Last Month's Accomplishments**
- **Near-term Milestones & Status towards them for next 3 months (from F2F)**
- **Drawing Release Plan & Status required to achieve production milestones**
- **Summary of issues & concerns**
- **Status of Subsystem's Documentation & qualification program**

## □ **Cost & Schedule**

- **Variances**
- **Actions required to retain zero schedule variance**





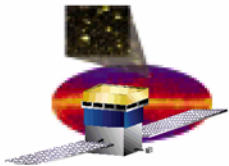
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# Significant Accomplishments

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- ❑ **CsI Crystals (1750) - Complete**
- ❑ **CDE Assembly Process (1750) - Complete**
  - Tooling is being disassembled, packed for shipment to NRL
  - A few spare CDEs (acceptance test reworks) yet to be delivered to NRL
  - Swales Aerospace has provided high quality CDEs on schedule and well under budget. Great job!
- ❑ **Flight composite structures (18) - Complete**
  - Excellent job completed by Oscar and his group at LLR Ecole Polytechnique.
- ❑ **PreElectronics Modules (18) – Assembly complete**
  - Cosmic muon testing is needed on last two PEMs.
- ❑ **AFEE boards – Assembly, burn-in complete**
  - All flight boards have been processed. Last 8 are in conformal coat
  - 8 additional boards – 4 spares + 4 for LAT T&DF testing – are starting burn-in.





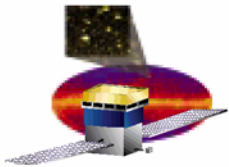
*GLAST Calorimeter*

## **Significant Accomplishments Assembly & Test**

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- ❑ **FM 106 – FM 107 delivered and accepted by LAT I&T**
- ❑ **LATTE Script update (V2) released including support for LATTE 4.7.2.**
- ❑ **FM 108 – FM 113 waiting for TVAC**
- ❑ **FM 114 AFEE installation complete, TEM/TPS installation in progress.**
- ❑ **FM 115 AFEE soldering in progress.**





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# Assembly and Test

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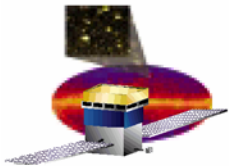
Module S/N	PEM Assembly	AFEE Installation	TEM/TPS Safe-to-Mate	TEM/TPS Installation	Conformal Coat	Initial CPT	EMI/EMC	Vibration	TVAC	Mass Properties	Final CPT Calibration	Data Review	Ship	Post Ship Test
101	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
102	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
103	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
104	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
105	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
106	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
107	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
108	☑	☑	☑	☑	☑	☑	☑	☑						
109	☑	☑	☑	☑	☑	☑	☑	☑						
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111	☑	☑	☑	☑	☑	☑	☑	☑						
112	☑	☑	☑	☑	☑	☑	☑	☑						
113	☑	☑	☑	☑	☑	☑		☑						
114	☑	☑	☑											
115	☑	☐												
116	☑													
117	☑													
118	☐													

## Completion

- ☐ Started
- ☑ This month
- ☑ Previously

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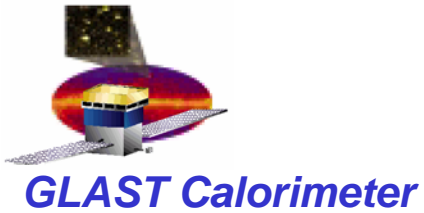
# CAL Module Deliveries

December '04	FM 101	✓
January '05	FM 102 - 105	✓
February '05	FM 106 - 107	✓
March '05	- - -	
April '05	FM 108 - 110	
May '05	FM 111 - 117	
June '05	FM118	

## □ Issues

- **Restart of TVAC has slipped about 3 weeks.**
  - Acceptance tests on March 4.





# Drawing Release Summary

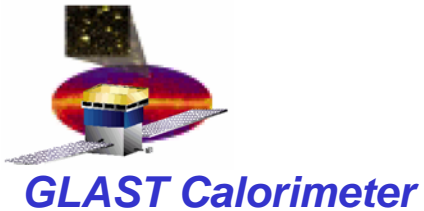
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**No Change From Last Month**

## Flight Hardware Drawings

Element	Total Dwgs	Completed Dwgs	Comments
Module Assy	11	11	AFEE Cable support & shield – 3 parts.
PEM Assy	6	6	
Structure	12	12	Includes CAL-TEM stand off
CDE	5	5	
AFEE	8	8	
<b>TOTAL</b>	<b>42</b>	<b>42</b>	<b>100% Complete</b>





# Documentation and Qualification Program

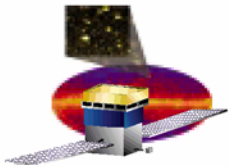
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- ❑ **CDE manufacture and test procedures – 100% complete**
- ❑ **Composite Structure manufacture and test procedures – 100% complete**
- ❑ **PEM Assembly and Test – 100% complete**
- ❑ **EEE qualification and screening procedures – 100% complete**
- ❑ **AFEE PCB manufacture and assembly – 100% complete**
- ❑ **Module Assembly and Qualification/Acceptance – 100% complete**
  - *Redlines / improvements from lessons learned are on-going.*
- ❑ **Completing Acceptance Test Data Packages (ATDP)**







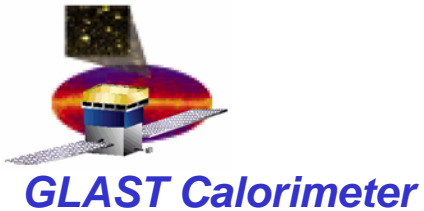
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## PMCS – January '05 Cost Variances

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- **Cost Variance: + \$340 cum ( +\$89 for Jan) [ +278 cum, +27 Jan]**
  - **+179: Mgmt, Eng, R&QA, (+25 for Jan)**
  - **+637: CDE Manuf. (-18 for Jan)**
    - PDA manufacturing - materials cost underrun.
    - CDE manufacturing - labor underrun (+541)
  - **+65: PEM (+81 for Jan)**
  - **- 547: AFEE (-5 for Jan)**
    - Much higher labor costs balanced by savings in GSE materials
    - Fabrication problems, parts problems, you name it.
  - **-136: Module Ass'y & Test (- 30 for Jan)**
    - EM CAL overrun (-53)
    - Software (-40)
    - Module Test (+120)
    - Facilities (-125)





## PMCS – January '05 Schedule Variances

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- **Schedule Variance: - \$1036 cum (+249 for Jan)**
  - **- 85: PEM (+70 for Jan)**
    - Delay in delivery of 1<sup>st</sup> composite structures.
  - **- 16: AFEE (+31 for Jan)**
    - Delay in delivery of ASICs causing delay in screening and qualification work
    - Problems in manufacture of AFEE PCB.
  - **-826: Module Assy & Test (+151 for Jan)**
    - Delay in electronics delivery for module A&T finally arrived at baseline environmental test costs.
  - **-110: Instrument I&T Support (-15 Jan)**

