

GLAST Calorimeter

*Monthly Cost /
Schedule / Mission
April 2005*



Monthly Cost/Schedule/Mission Review

GLAST LAT Calorimeter April 26, 2005

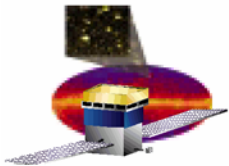
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GLAST Calorimeter

Outline

*Monthly Cost /
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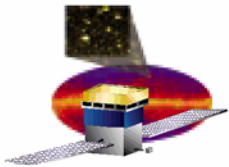
□ **Technical Status:**

- **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**

- **Schedule Milestones**
- **Cost**
- **Manpower**





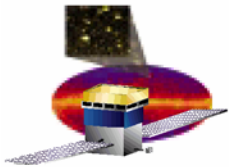
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Significant Accomplishments

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- ❑ **Completed assembly of last module – FM118**
- ❑ **Completed EMI/EMC on final 6 modules**
- ❑ **Completed Vibration testing on final 4 modules**
- ❑ **Completed TVAC testing on final 8 modules**
 - **FM118 was mated to flight qualification TEM/TPS for TVAC testing.**
 - TEM/TPS exposed to its acceptance temperature limits during test.
 - No problems found; even at 24 MHz.
- ❑ **Completed ATDP reports on FM108 – 110.**





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Assembly and Test

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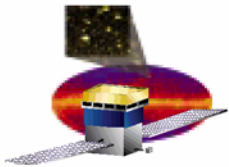
Module S/N	PEM Assembly	AFEE Installation	TEM/TPS Safe-to-Mate	TEM/TPS Installation	Conformal Coat	Initial CPT	EMI/EMC	Vibration	TVAC	Mass Properties	Final CPT Calibration	Data Review	Ship	Post Ship Test
101	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
102	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
103	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
104	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
105	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
106	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
107	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
108	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
109	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
110	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
111	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
112	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
113	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
114	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
115	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
116	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
117	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
118	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		

Completion

- ☐ Started
- ☑ This month
- ☑ Previously

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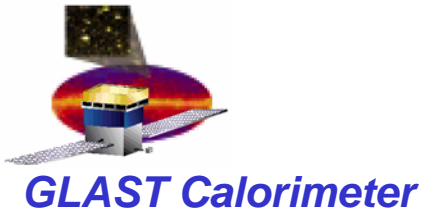
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Near Term Milestones

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- ❑ **Remaining work**
 - Final Mass Properties
 - Final CPT
 - Final Calibrations
 - Completion of data review and ATDPs
- ❑ **Ready to ship last module, FM118, on June 8th**
 - No firm plan for actual delivery of modules 108 – 118
 - Prefer to delay start of shipments until June
 - Complete all shipments by end of July.





Drawing Release Summary

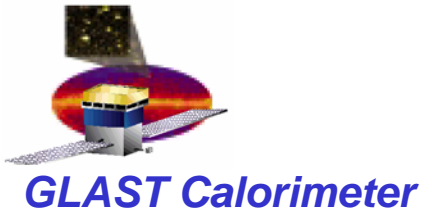
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No Change From Last Month

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	
TOTAL	42	42	100% Complete





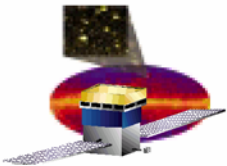
Documentation and Qualification Program

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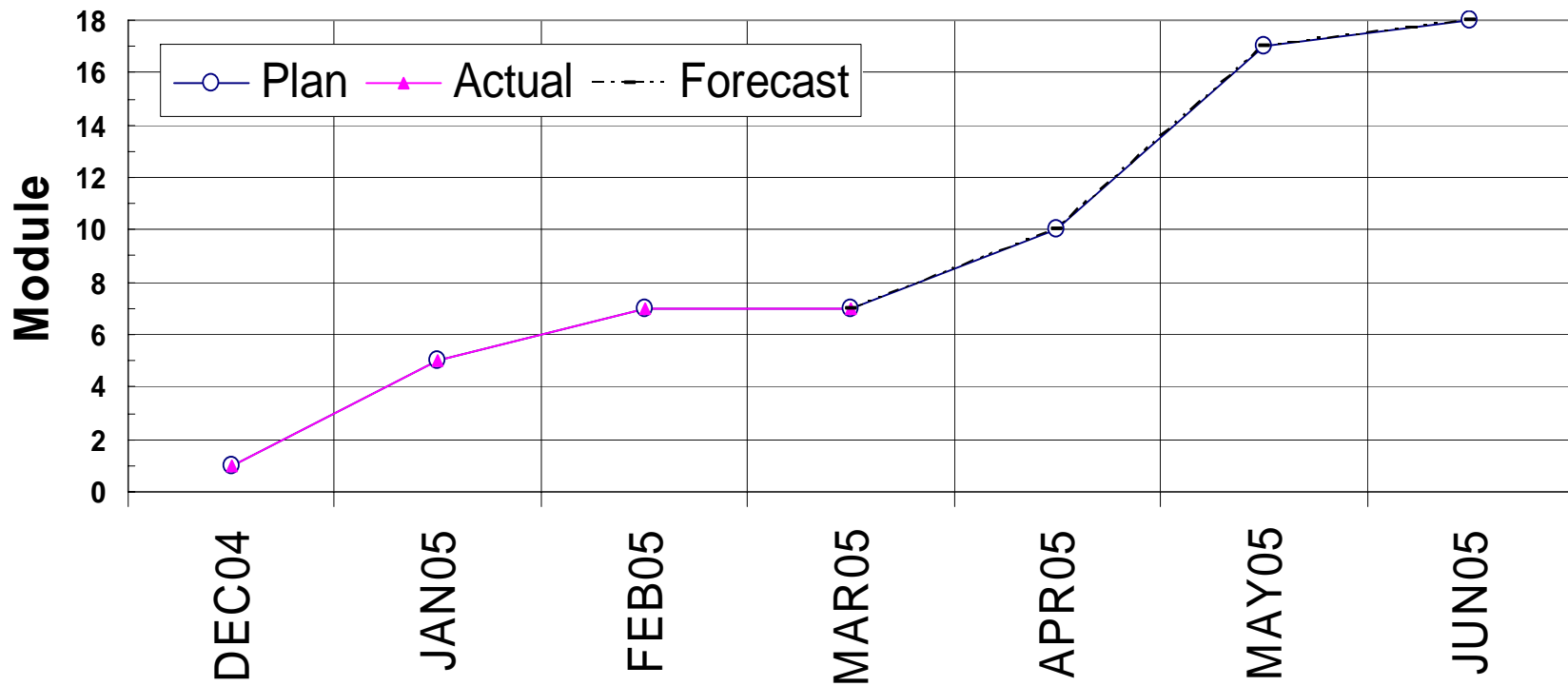
- ❑ CDE manufacture and test procedures – 100% complete
- ❑ Composite Structure manufacture and test procedures – 100% complete
- ❑ PEM Assembly and Test – 100% complete
- ❑ EEE qualification and screening procedures – 100% complete
- ❑ AFEE PCB manufacture and assembly – 100% complete
- ❑ Module Assembly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

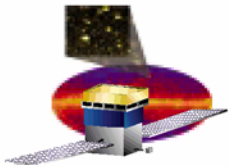




Level 3 Milestone Count

4.1.5 Calorimeter





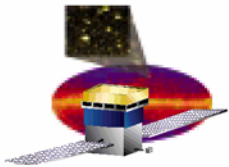
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Level 3 Milestone List

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Activity Description	Baseline Finish	-1m Var	Bsln Var	Early Finish	FY05					
					FEB	MAR	APR	MAY	JUN	
Instrument Project Office (Level 3)										
4.1.5 Calorimeter										
Flight Calorimeter Module 4 Ready to Ship	02/14/05	-5	-5	02/22/05A	▼					
Flight Calorimeter Module 5 Ready to Ship	02/14/05	-5	-5	02/22/05A	▼					
Flight Calorimeter Module 6 Ready to Ship	04/18/05	0	0	04/18/05			▼			
Flight Calorimeter Module 7 Ready to Ship	04/21/05	0	0	04/21/05			▼			
Flight Calorimeter Module 8 Ready to Ship	04/25/05	0	0	04/25/05			▼			
Flight Calorimeter Module 9 Ready to Ship	05/02/05	0	0	05/02/05			▼			
Flight Calorimeter Module 10 Ready to Ship	05/10/05	0	0	05/10/05			▼			
Flight Calorimeter Module 11 Ready to Ship	05/13/05	0	0	05/13/05			▼			
Flight Calorimeter Module 12 Ready to Ship	05/18/05	0	0	05/18/05			▼			
Flight Calorimeter Module 13 Ready to Ship	05/23/05	0	0	05/23/05			▼			
Flight Calorimeter Module 14 Ready to Ship	05/25/05	0	0	05/25/05			▼			
Flight Calorimeter Module 15 Ready to Ship	05/31/05	0	0	05/31/05			▼			
Flight Calorimeter Module 16 Ready to Ship	06/08/05	0	0	06/08/05			▼			
Run Date	04/12/05 13:35	GLAST LAT PROJECT			LT-DZ: Baseline Variance	Report #10				
Data Date	04/01/05	Level 3 Milestones			FL-D4: AV: Level 3 Milestones	Sheet 1				
© Primavera Systems, Inc.		Baseline Variance (Organized by Subsystem)			NAVAL RESEARCH LAB					
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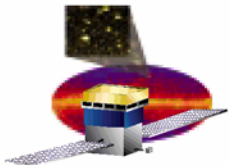
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Milestone Variance Explanation

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- **No Variance**
 - **No new milestones this month – it was easy**





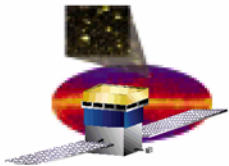
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Cost Report

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Reporting Category	Cost Incurred				Estimated Cost			Estimated Final Cost		Unfilled Orders Outstanding
	During Month		Cum. to Date		Detail		Balance of Contract	Contractor Estimate	Contract Value	
	Actual	Planned	Actual	Planned	APR05	MAY05				
4.1.5 CALORIMETER										
4.1.5.1 PROGRAM MANAGEMENT & ADMINISTRATION	84	69	3,195	3,309	63	63	294	3,614	3,614	0
4.1.5.2 SYSTEMS ENGINEERING	44	57	1,967	1,988	52	52	157	2,227	2,227	
4.1.5.3 RELIABILITY AND QUALITY ASSURANCE	35	27	1,140	1,130	24	24	72	1,261	1,261	
4.1.5.4 DESIGN			890	889			-1	889	889	
4.1.5.5 CsI DETECTOR ELEMENTS (CDE)	3		3,603	3,635			32	3,635	3,635	2
4.1.5.6 PRE-ELECTRONICS MODULE (PEM)	13	15	1,567	1,698	12	12	141	1,732	1,732	3
4.1.5.7 ANALOG FRONT END ELECTRONICS	37	63	4,571	4,622	33		51	4,655	4,655	18
4.1.5.8 TOWER CONTROLLER			12	24			12	24	24	
4.1.5.9 MODULE ASSEMBLY, TEST & CALIBRATION	167	242	3,622	3,567	257	70	7	3,955	3,955	4
4.1.5.A INSTRUMENT I&T SUPPORT	5	35	6	199	54	54	487	602	602	
CAPW[3]Totals:	388	507	20,573	21,061	495	275	1,251	22,594	22,594	27





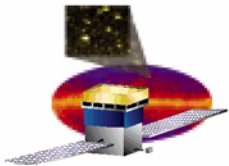
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Cost Variance Explanation

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- **Accumulated cost under run: \$439K**
 - March under run of \$144K in Module assy & test and LAT I&T support
 - Accumulated management underrun (mainly travel): \$125K (-11K March)
 - CDE Manufacturing completion balance: 32K
 - AFEE assembly and test underrun: 52K
 - Delayed invoicing for environmental testing
 - Inaccurate (LOE) accounting for LAT I&T support
- **Expect to realize a cost savings at completion**

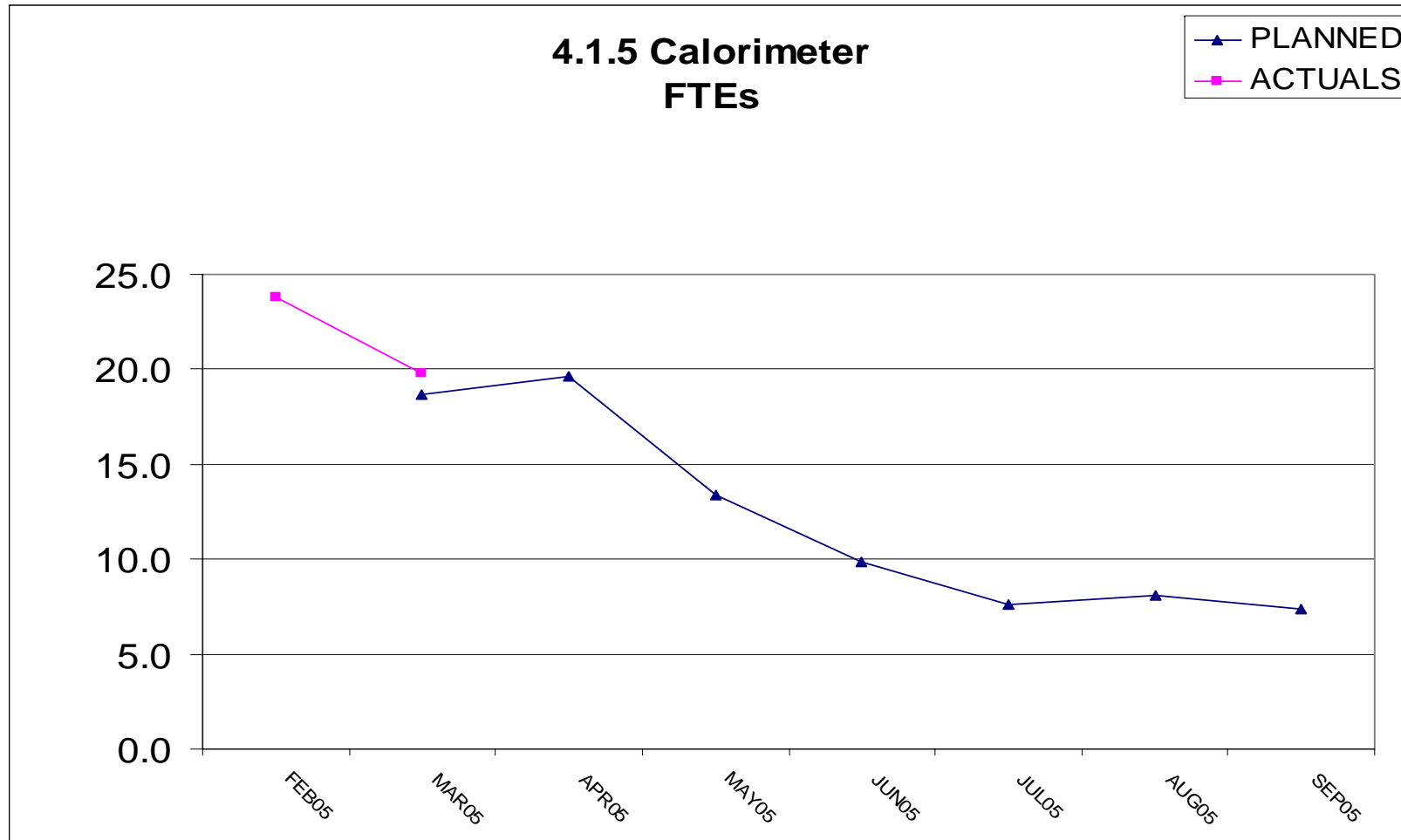


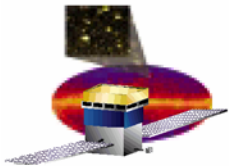


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FTE Report (DOE/NASA-funded only)

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FTE Variance Explanation

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- On target

