

GLAST Calorimeter

*Monthly Cost /
Schedule / Mission
May 2005*



Monthly Cost/Schedule/Mission Review

GLAST LAT Calorimeter May 24, 2005

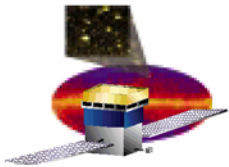
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**NAVAL RESEARCH LAB
WASHINGTON DC**





GLAST Calorimeter

Outline

*Monthly Cost /
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May 2005*

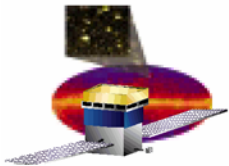
□ **Technical Status:**

- **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**

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





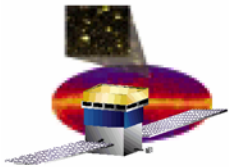
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Significant Accomplishments

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- ❑ **Completed ATDP reports on FM111 - FM114.**
- ❑ **Completed PreShip Reviews on FM108 – FM110.**
- ❑ **PreShip Reviews for FM111 – FM114 tomorrow.**
- ❑ **Removed Flight Qual TEM/TPS from FM118 after successful TVAC at NRL. TEM/TPS returned to SLAC for flight spare.**
- ❑ **Re-installed EM2 TEM/TPS on FM118 and are in the process of re-establishing baseline performance prior to shipment to SLAC.**





GLAST Calorimeter

Assembly and Test

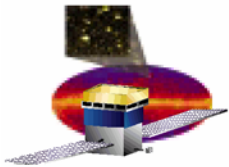
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Module S/N	PEM Assembly	AFEE Installation	TEM/TPS Safe-to-Mate	TEM/TPS Installation	Conformal Coat	Initial CPT	EMI/EMC	Vibration	TVAC	Mass Properties	Final CPT Calibration	Data Review	Ship	Post Ship Test
101	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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103	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Completion

- Started
- This month
- Previously

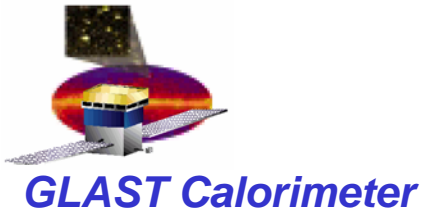




Near Term Milestones

- ❑ **Remaining work**
 - Final Mass Properties on 3 modules
 - Final external muon calibrations on 2 modules
 - Completion of data review and ATDPs on 4 modules
- ❑ **Ready to ship last module, FM118, on June 8th**
 - Propose shipment of 108 – 110 on June 6
 - Propose shipment of 111 – 114 on June 13
 - Propose shipment of 115 – 118 on June 24.
- ❑ **Assembling Unit 119 from spare parts**
 - Could be tested for flight, but no plans for that
 - 29/96 CDEs are questionable
 - Preproduction run CDE (12)
 - Light taper slightly out of spec (~12)
 - Crazed crystals (~4)
 - ~50/192 nonflight bumpers





Drawing Release Summary

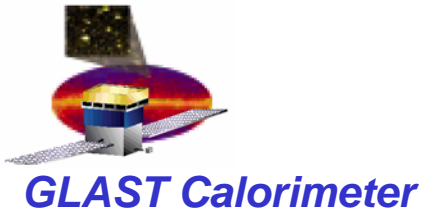
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No Change From Last Month

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





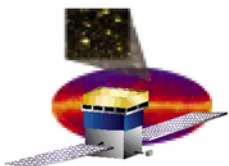
Documentation and Qualification Program

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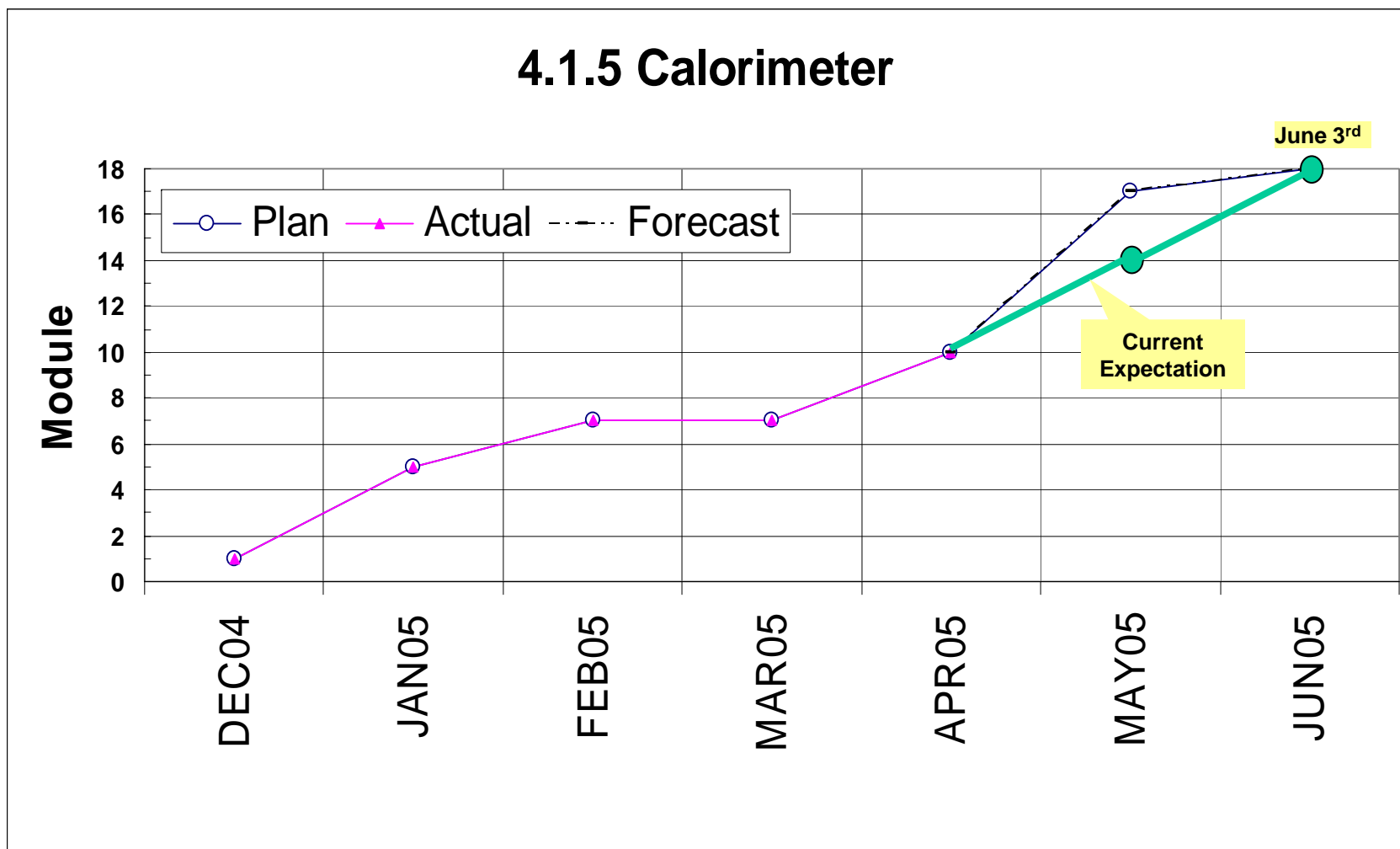
No Change From Last Month

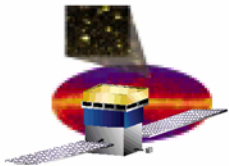
- ❑ CDE manufacture and test procedures – 100% complete
- ❑ Composite Structure manufacture and test procedures – 100% complete
- ❑ PEM Assembly and Test – 100% complete
- ❑ EEE qualification and screening procedures – 100% complete
- ❑ AFEE PCB manufacture and assembly – 100% complete
- ❑ Module Assembly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





Level 3 Milestone Count





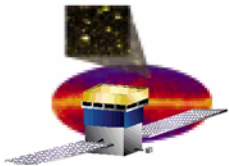
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Level 3 Milestone List

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Activity Description	Baseline Finish	-2m Var	-1m Var	Bsln Var	Early Finish	FY05												FY06																			
4.1.5 Calorimeter																																					
Flight Calorimeter Module 4 Ready to Ship	02/14/05	-5	-5	-5	02/22/05A	▼																															
Flight Calorimeter Module 5 Ready to Ship	02/14/05	-5	-5	-5	02/22/05A	▼																															
Flight Calorimeter Module 6 Ready to Ship	04/18/05	0	0	-5	04/25/05A	▼																															
Flight Calorimeter Module 7 Ready to Ship	04/21/05	0	0	-2	04/25/05A	▼																															
Flight Calorimeter Module 8 Ready to Ship	04/25/05	0	0	0	04/25/05A	▼																															
Flight Calorimeter Module 9 Ready to Ship	05/02/05	0	0	-9	05/13/05	▼																															
Flight Calorimeter Module 10 Ready to Ship	05/10/05	0	0	-3	05/13/05	▼																															
Flight Calorimeter Module 11 Ready to Ship	05/13/05	0	0	0	05/13/05	▼																															
Flight Calorimeter Module 12 Ready to Ship	05/18/05	0	0	0	05/18/05	▼																															
Flight Calorimeter Module 13 Ready to Ship	05/23/05	0	0	0	05/23/05	▼																															
Flight Calorimeter Module 14 Ready to Ship	05/25/05	0	0	0	05/25/05	▼																															
Flight Calorimeter Module 15 Ready to Ship	05/31/05	0	0	0	05/31/05	▼																															
Flight Calorimeter Module 16 Ready to Ship	06/08/05	0	0	0	06/08/05	▼																															
Run Date	05/23/05 10:27	GLAST LAT PROJECT				LT-DZ: Baseline Variance						Report #10																									
Data Date	05/01/05	Level 3 Milestones				FL-D4: AV: Level 3 Milestones						Sheet 4																									
© Primavera Systems, Inc.		Baseline Variance (Organized by Subsystem)				NAVAL RESEARCH LAB												WASHINGTON DC																			





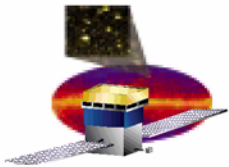
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Milestone Variance Explanation

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- None to report





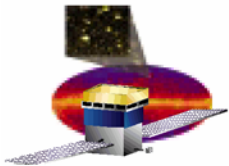
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Cost Report

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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	MAY05	JUN05				
CAPW[3]Totals:	597	819	18,731	19,175	983	768	1,220	21,702	21,702	1,585
4.1.5 CALORIMETER										
4.1.5.1 PROGRAM MANAGEMENT & ADMINISTRAT	106	63	3,301	3,372	63	66	185	3,614	3,614	0
4.1.5.2 SYSTEMS ENGINEERING	16	52	1,983	2,039	52	54	138	2,227	2,227	
4.1.5.3 RELIABILITY AND QUALITY ASSURANCE	19	24	1,159	1,155	24	26	52	1,261	1,261	
4.1.5.4 DESIGN			890	889			-1	889	889	
4.1.5.5 CsI DETECTOR ELEMENTS (CDE)	-1		3,602	3,635			33	3,635	3,635	2
4.1.5.6 PRE-ELECTRONICS MODULE (PEM)	110	12	1,677	1,710	12	10	33	1,732	1,732	39
4.1.5.7 ANALOG FRONT END ELECTRONICS	25	33	4,596	4,655			59	4,655	4,655	18
4.1.5.8 TOWER CONTROLLER			12	24			12	24	24	
4.1.5.9 MODULE ASSEMBLY, TEST & CALIBRATION	114	257	3,736	3,824	70	10	140	3,955	3,955	8
4.1.5.A INSTRUMENT I&T SUPPORT	17	54	23	254	54	60	464	602	602	
CAPW[3]Totals:	406	495	20,979	21,557	275	226	1,115	22,594	22,594	67





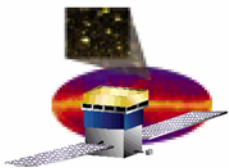
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Cost Variance Explanation

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- **Accumulated cost under run: \$565K**
 - **Accumulated management under run (mainly travel): \$124K**
 - **CDE Manufacturing completion balance: 33K**
 - **AFEE assembly and test under run: 59K**
 - **Module assy & test under run: 77K**
 - **Delayed invoicing for environmental testing**
 - **LAT I&T support under run: 229K**
 - **Inaccurate (LOE) accounting for LAT I&T support**
- **Expect to realize a cost savings at completion**

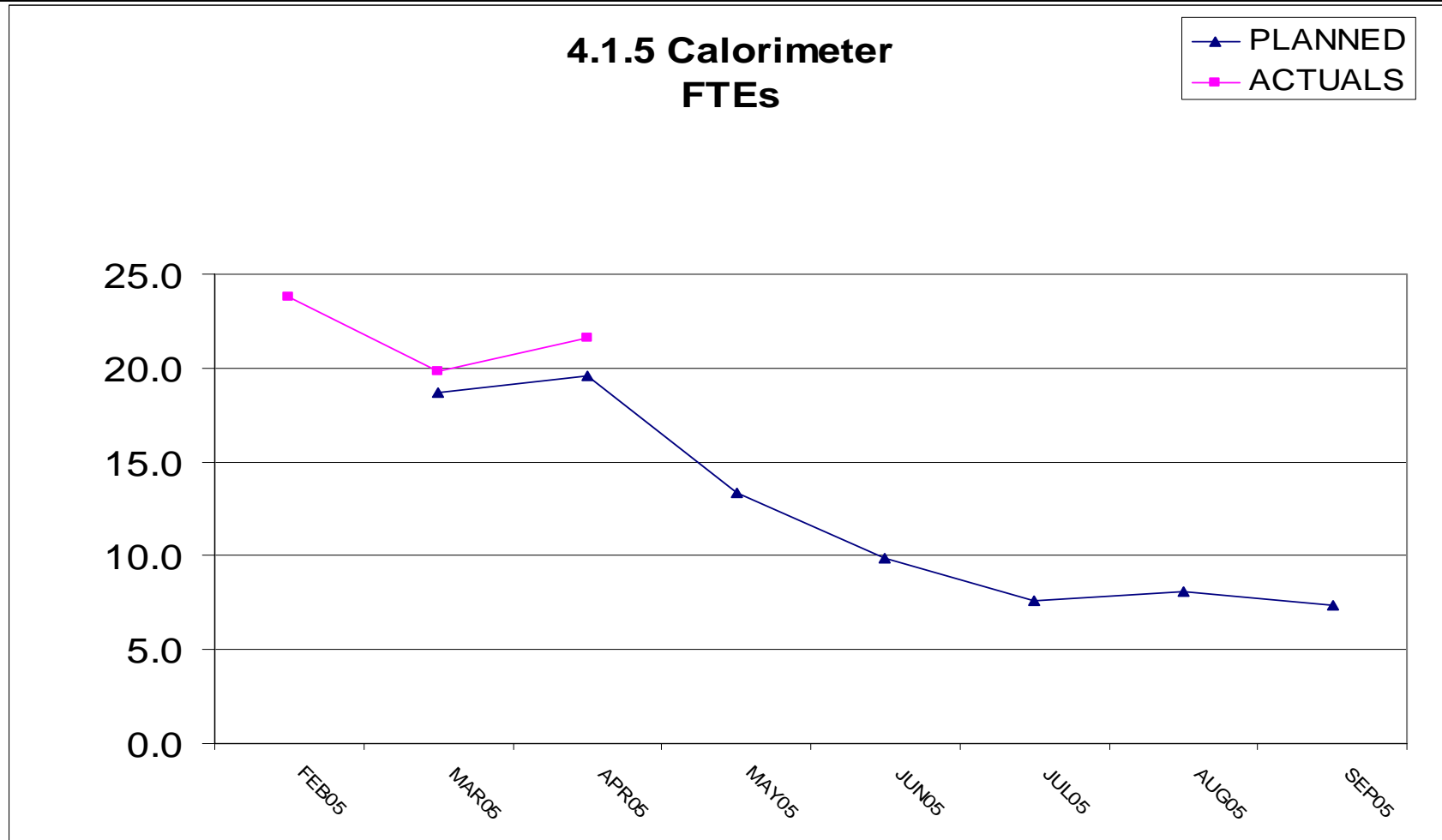


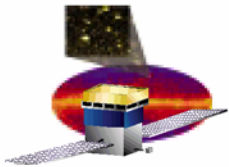


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FTE Report (DOE/NASA-funded only)

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GLAST Calorimeter

FTE Variance Explanation

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- ❑ **Overrun in FTEs in April?**
 - **NRL's April report included 3 pay periods**
 - **This period included 3 TVAC tests – total of 30 days of testing. This represents half of April labor.**
- ❑ **What is the impact?**
 - **None**
- ❑ **What will be done to correct?**
 - **Nothing. Environmental testing has completed ahead of schedule.**

