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Chandra Users' Committee

**CXC Manager's Status Report**  
**For the period April 08 – September 08**

**Roger Brissenden**  
**CXC Manager**

**15 October 2008**

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# Topics

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- **Program Level Status**
  - Program Management
  - Spacecraft
  - Science Instruments and Calibration
  - Mission Planning
  - OCC
  - Data Processing
  - CXCDS
  - Chandra Director's Office
  - Education and Public Outreach
- **Mission Metrics**
- **Chandra Grant Awards**



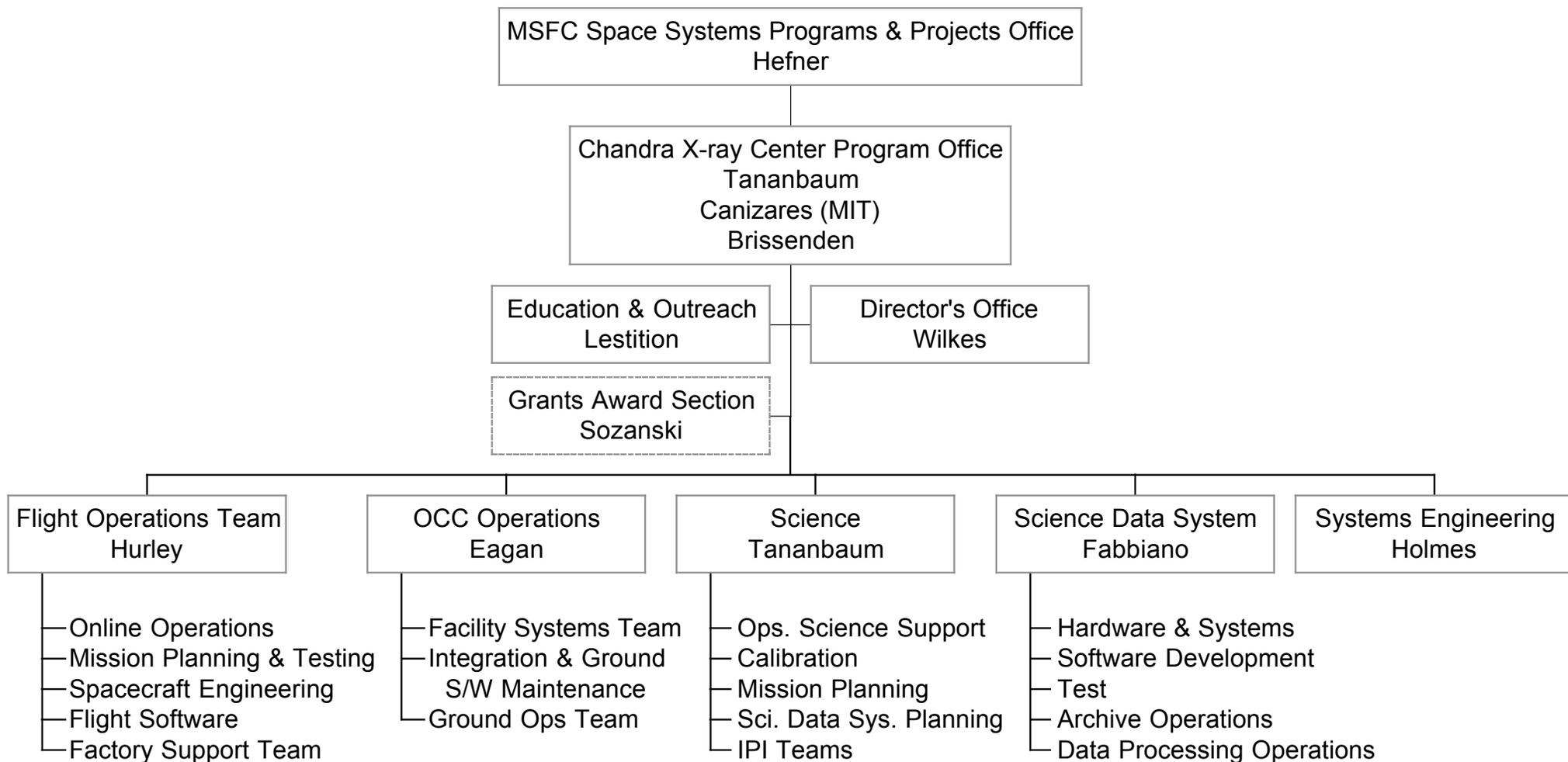
# Program Level Status – Program Management

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- Budget and Contract
  - The CXC’s budget is unchanged from the current Program Operating Plan (POP08, submitted 4/08), and expenditures are on track to meet the budget.
  - NASA directed the CXC to operate the new Einstein Fellowship program, which incorporates Chandra, GLAST (now Fermi) and other Physics of the Cosmos fellowships. We submitted a proposal to MSFC to extend the CXC contract and increase its contract value to accommodate the Einstein program.
  - NASA continues work on a CXC contract extension to continue Chandra operations and science for up to an additional ~10 years.
- Facilities
  - The OCC’s backup computer system at the CfA’s Cambridge Discovery Park facility has been shown to be capable of handling commands and telemetry. A test with the spacecraft is planned.



# Program Level Status – CXC Organization





# Program Level Status – Operations

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- **Spacecraft**

- Continues to operate extremely well overall.
- The telemetry processor of the Command and Telemetry Unit reset on 8/12, leading to a transition to Normal Sun Mode. ~160 ks (1 orbit) of observing time was lost. The spacecraft was returned to Normal Pointing Mode on 8/15 with no ill effects. The likely cause was a single event upset.
- Nominal passages through summer eclipse season, 6/12 – 7/6.

- **Science Instruments**

- Instruments are operating extremely well.
- The ACIS flight software was updated to v.44 on 10/1. The ACIS watchdog timer caused the Back End Processor to reboot on 10/5; software was successfully reverted to v.31 on 10/6. 33 ks of observing time was lost. Testing is under way to try and reproduce the event.



# Program Level Status – Operations

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- **Mission Planning – load-interrupting TOOs**

<u>Accepted</u>	<u>Target</u>	<u>Time*</u>
05/05/08	SBH 080503	1 d 18 h
08/22/08	SGR 0501+4516	2 d 8h
10/01/08	3C66A	3 d 8 h
10/03/08	AXP 1E1547.0-5408	4 d 5 h
10/06/08	1ES0120+340	1 d 3 h

\*Time from TOO approval to start of observation

- **OCC**

- The two T1 connections to JPL failed on 6/4 due to the service provider's equipment. 1.5 scheduled supports and 1 additional support were missed before service was restored. No data were lost and there were no adverse effects.
- The T1 lines have been rerouted to avoid redundant pathways, and a backup ISDN connection to JPL is in place.



# Program Level Status – Operations

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- **Data Processing**

- Automatic processing is current; mean time from end of observation to delivery to user remains at about one day

- **CXC Data System Releases**

<u>Version</u>	<u>Date</u>	<u>Main contents</u>
CIAO 4.0.2	4/17	Mac Leopard release
DS 7.6.11.7	6/16	Compatibility with OFLS 11.7
DS 7.6.11.8	7/14	Archive server upgrade to Solaris 10/Sybase 15
DS 7.6.11.9	8/11	Additional changes for OFLS 11.7 compatibility



# Program Level Status – Operations

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- **Chandra Source Catalog (CSC) Releases**

<u>Version</u>	<u>Date</u>	<u>Main contents</u>
CIAO 4.0.2	4/17	Mac Leopard release
CAT 2.8.1.1.2	7/1	L3 Thread completion
CAT 2.8.2	7/18	Science data review feedback
CAT 2.8.2.1	8/1	Pre-production test I
CAT 2.8.3	8/14	Pre-production test II
<b>CAT 3.0</b>	<b>8/15</b>	<b>Chandra Source Catalog Operations Release</b>
CAT 3.0.1	9/24	CSC QA update and bug fixes
CAT 3.0.2	10/6	CSC GUI update and bug fixes

- **CXC Data System Planned Releases**

<u>Version</u>	<u>Date</u>	<u>Main contents</u>
DS 8.0	Winter	Solaris10 migration to Operations (implementation depends on system liens)
CIAO 4.1	12/15	CIAO Sherpa release 1; CIAO bug fixes and enhancements; Cycle11 support
CIAO 4.1.1	~Mar 09	Catalog support patch



# Program Level Status – Operations

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- **Calibration Database (CalDB) Updates**

CalDB 3.4.4	4/2	PCAD aspect file update for ACIS detector housing heater shutoff
CalDB 3.4.5	6/26	ACIS T-gain Epoch 33 (1/08-4/08)
CalDB 3.5.0	9/8	ACIS T-gain Epoch 34 (5/08-7/08) ACIS OSIP file upgrade N0007 (-110C ops; 9/99-1/00) HRMA encircled count fraction (for L3 processing only)

- **GO Program**

- Peer review was held 16-20 June
- Cycle 10 targets announced 7/11; acceptance letters mailed 8/13; cost proposals due 9/18

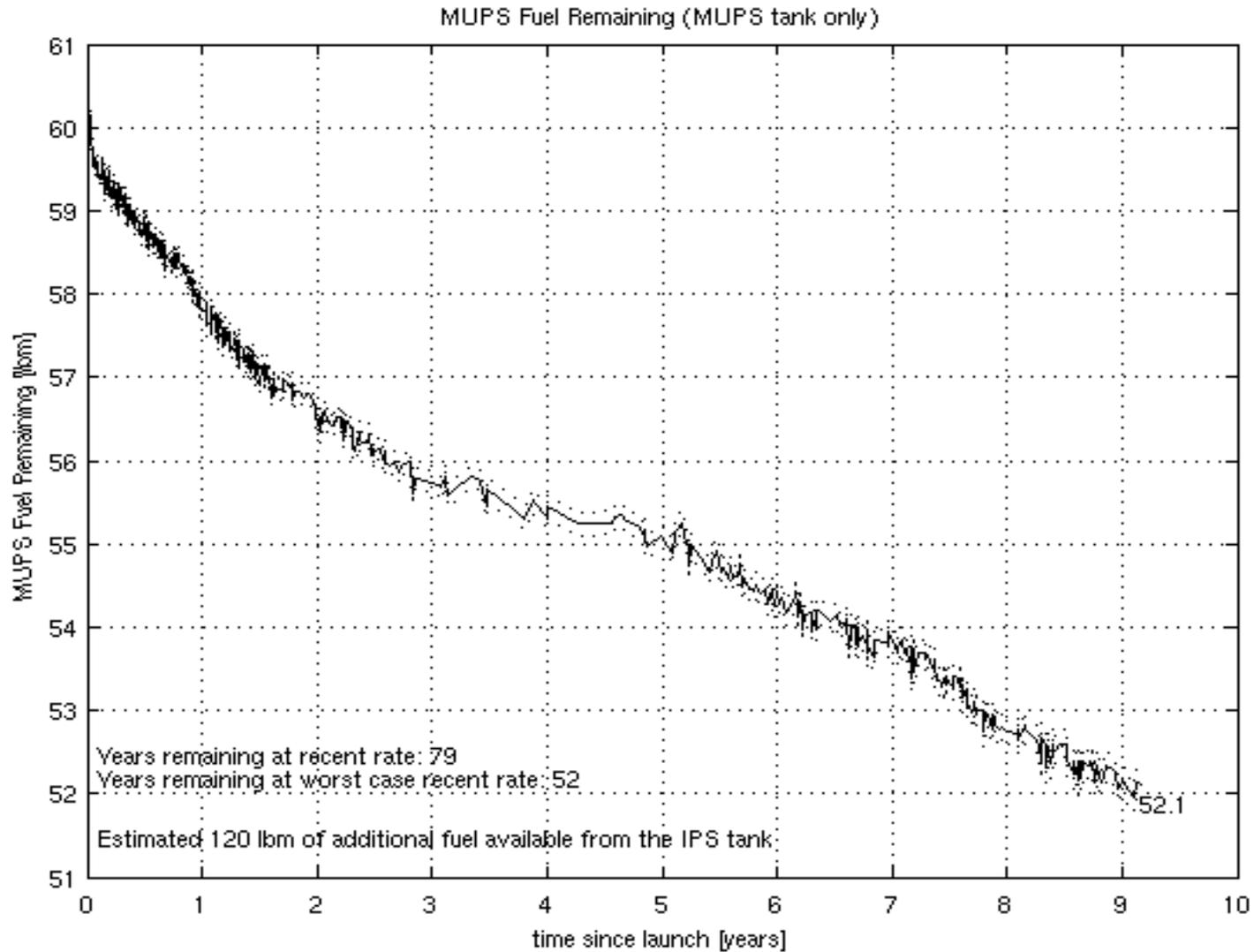
- **Chandra Fellows program**

- Fellows' budgets have been solicited, received, and approved for next year
- Application procedures have been restructured for the new Einstein Fellows program
- Einstein program call for proposals issued Sept 08, deadline 11/7/08
- Chandra Fellows symposium will held at CfA, 10/17/08



# Mission Metrics

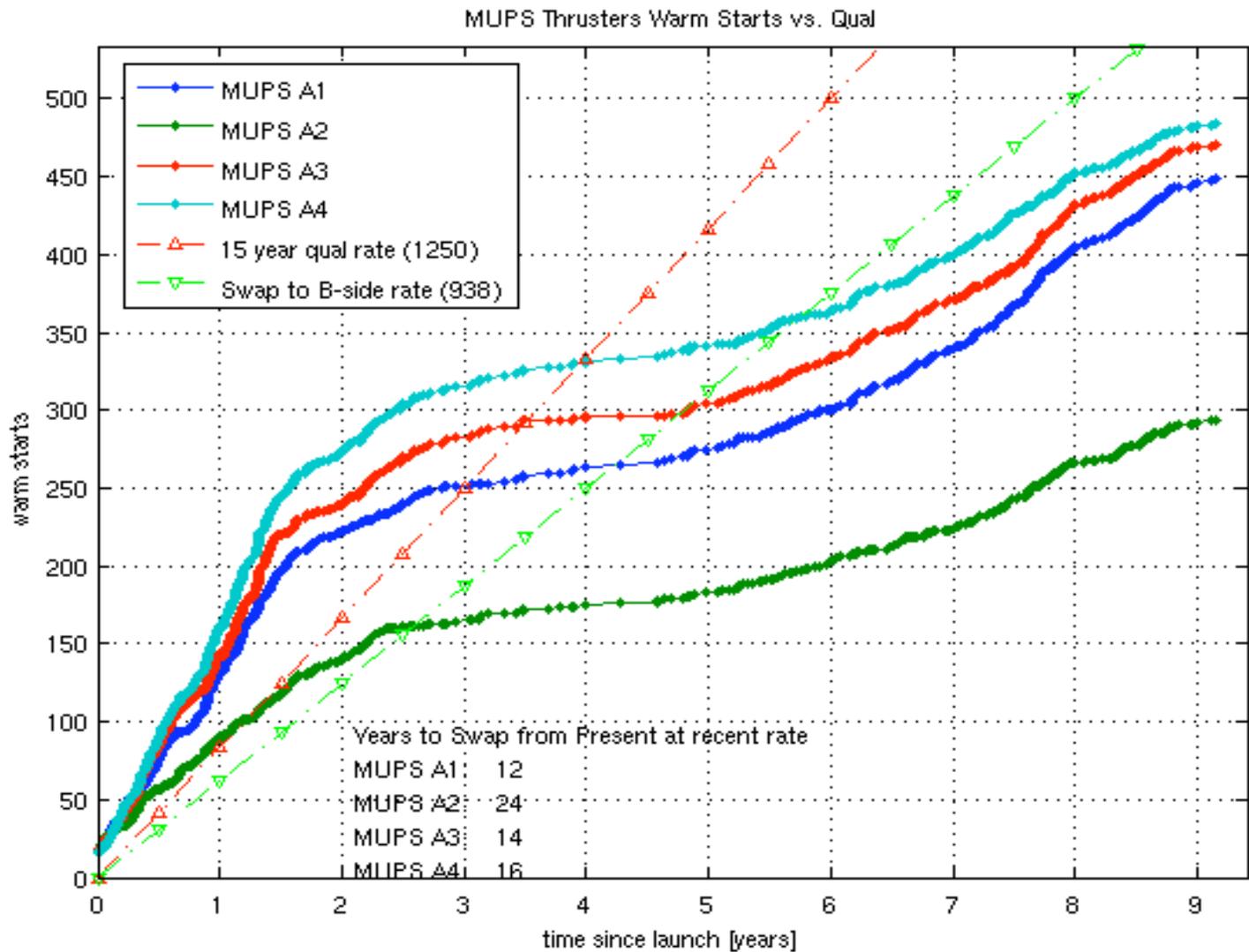
## MUPS Fuel Usage





# Mission Metrics

## Thruster Warm Starts

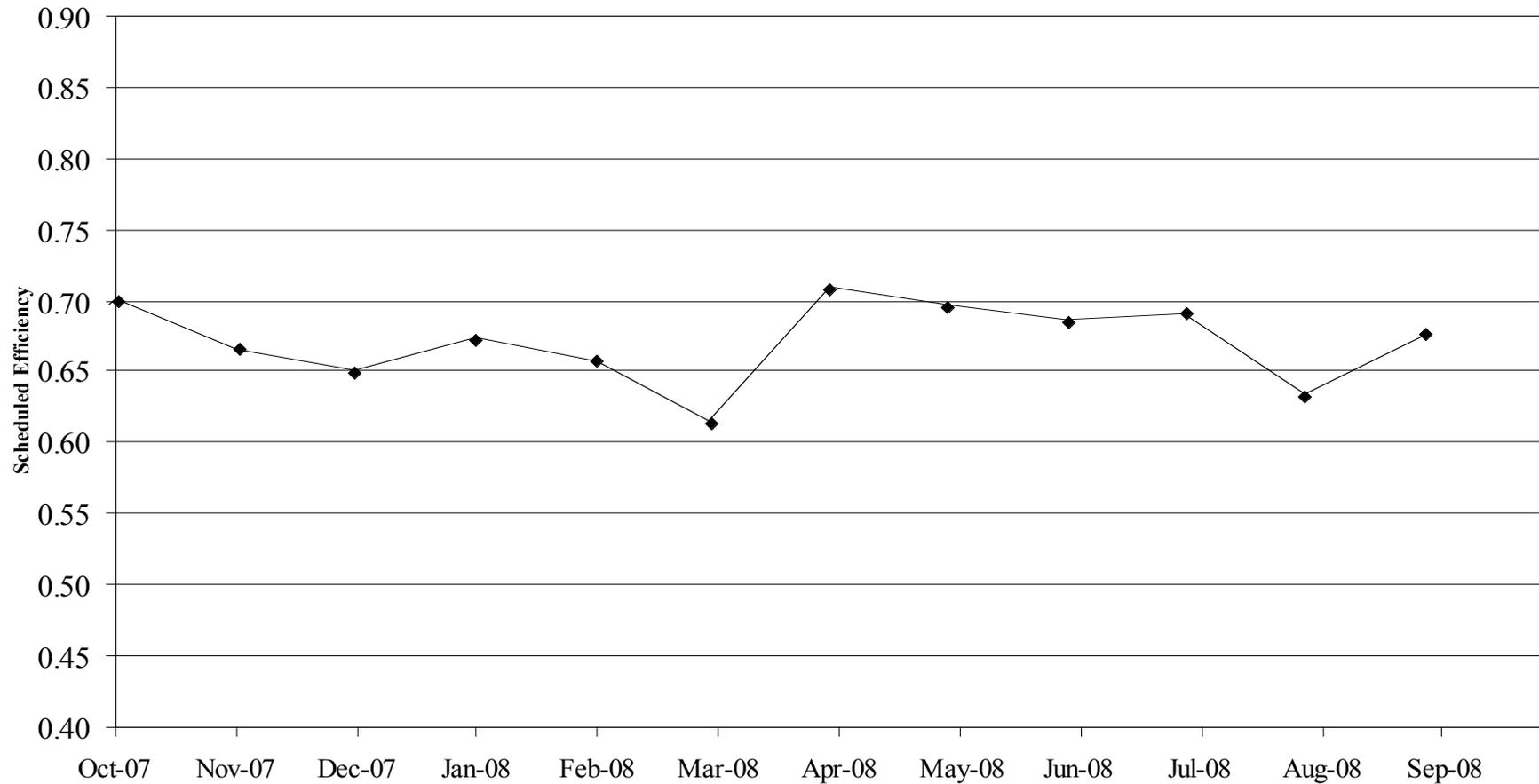




# Mission Metrics

## Observing Efficiency

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# Data Delivery Effectiveness

		As of middle of following month				As of 10/6/08			
Month	Number of Obs	Days to Data Delivery			Number Deliv	Number Outstanding	Number Deliv	Number Outstanding	Comments
		Min	Avg	Max					
Oct-07	73	0	2	12	67	6	73	0	
Nov-07	78	0	1	22	77	1	78	0	
Dec-07	89	0	2	18	89	0	89	0	
Jan-08	98	0	1	3	98	0	98	0	
Feb-08	145	0	1	11	145	0	145	0	
Mar-08	73	0	1	7	72	1	73	0	
Apr-08	75	0	1	11	75	0	75	0	
May-08	201	0	1	4	201	0	201	0	
Jun-08	77	0	1	8	77	0	77	0	
Jul-08	48	0	1	8	48	0	48	0	
Aug-08	58	0	1	8	58	0	58	0	
Sep-08	48	0	1	9	48	0	48	0	



# Grant Award Effectiveness

Month of Data Delivery	Federal Grants (1,3)	SAO Grants (2)						
		<u>As of middle of following month</u>				<u>As of 10/9/08</u>		
		Non-Federal Grants (3)	No. Grants Awarded	No. Outstanding	Avg days to award (4)	No. Grants Awarded	No. Outstanding	Outstanding Awards Proposal no, Comments
Oct-07	2	12	8	4	19	12	0	
Nov-07	0	6	3	3	9	6	0	
Dec-07	0	41	33	8	12	41	0	
Jan-08	7	51	33	18	36	51	0	
Feb-08	0	10	9	1	26	10	0	
Mar-08	0	13	10	3	16	13	0	
Apr-08	4	13	11	2	11	13	0	
May-08	1	12	10	2	12	12	0	
Jun-08	1	9	7	2	9	9	0	
Jul-08	2	14	14	0	15	14	0	
Aug-08	0	3	3	0	10	3	0	
Sep-08	2	3	3	0	N/A	3	0	

- (1) Grants awarded to scientists at Federal institutions as interagency transfers through MSFC.  
 (2) Grants awarded to scientists at non-Federal institutions through SAO Contracts and Grants Department.  
 (3) Number of grants eligible for award, for which data were delivered to the observer in the month.  
 (4) Average days from data delivery to grant award to observer.