CXC Manager's Status Report

For the period April 06 – September 06

Chandra Users' Committee Meeting

Roger Brissenden

17 October 2006

Topics

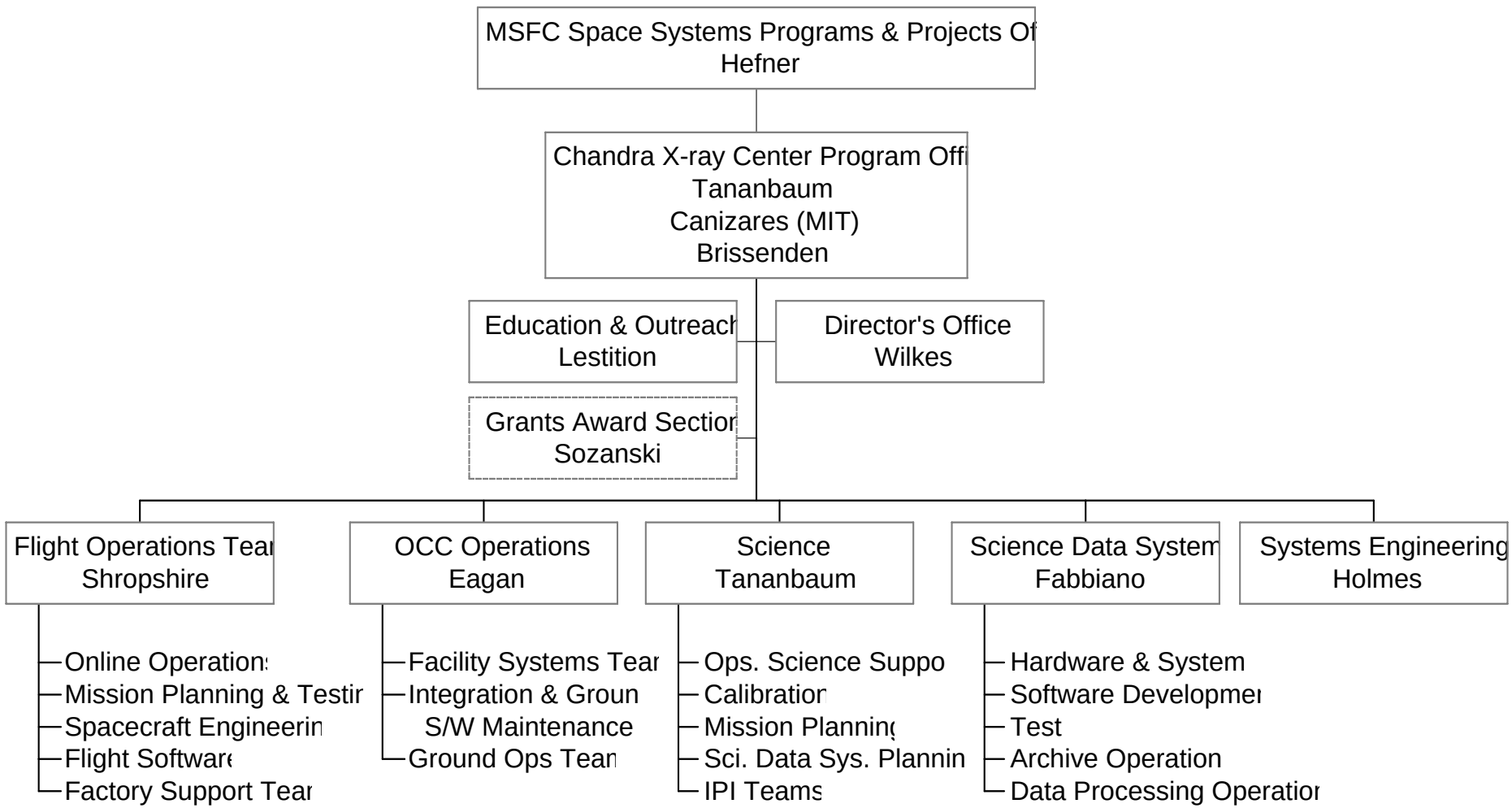
- Program Level Status
  - Program Management
  - Spacecraft
  - Mission Planning
  - Science Instruments and Calibration
  - OCC
  - Data Processing
  - CXCDS
  - CDO
  - Education and Outreach
  - Special Topic: Foreign Scientist Travel Policy
- Mission Metrics
- Chandra Grant Awards

Program Level Status

- Program Management
  - **Budget**:

    The 5% reduction to the FY06 CXC budget that NASA imposed in February has been accommodated by subcontractor underruns, reductions in science instrument PI team personnel and some reduction in GO grants. Further funding reductions in FY07 are not expected, but would impact CXC functions if they occurred.
  - **Staffing**: New Ground Team and Facilities Team leads were appointed through internal hiring, and a new FOT Operations Manager was hired. Three FOT positions are in the process of being filled.
  - **Facilities**: A backup version of the OCC's computer system is being considered for installation in the new CfA facility at Cambridge Discovery Park.

CXC Organization



Program Level Status

- Spacecraft
  - Continues to operate extremely well overall
  - No spacecraft anomalies during this period
  - Increasing spacecraft temperatures continue to constrain mission planning; however, relaxation of the EPHIN constraint has helped planning in recent months
  - Nominal passages through the summer eclipse season (6 eclipses, 5–19 July) and through a lunar eclipse (24 August)
  - Aspect camera dark current calibration showed the expected rate of increase of warm pixels
  - A software patch to the B-side of the onboard computer (OCB) enables monitoring of propulsion line and valve temperatures (OCB-A had been patched previously)
- Mission Planning
  - No interruptions due to solar radiation during this period
  - 4 load-interrupt TOOs:

Accepted	Target	Days
6/28/06	4U 0142+61	1
7/27/06	PKS 2155-304	1
8/30/06	SGR 1806-20	1
9/22/06	CXO J164710.2-455216	3

Program Level Status

- Science Instruments
  - Instruments are operating extremely well
  - Increasing spacecraft temperature has resulted in the need to have the option of reducing the number of ACIS chips used in observations, to reduce power supply heating
- OCC
  - The OCC ground system, which was successfully migrated from Silicon Graphics-based to Linux-based computers in November 2005, continues to operate without problems.
  - The Telex/RTS voice communication system was installed in July.

Program Level Status

- Data Processing
  - Automatic processing is current; median data delivery time 28 hours (mean 38 hours) from end of observation to delivery to user
  - Data reprocessing (Repro 3) continues, incorporating the most recent algorithms and calibrations. 58% of obsids have been reprocessed; completion is expected ~April 2007.

- CXC Data System Major Releases

Version	Date	Main contents
DS 7.6.8	Jun 06	Compiler, OS, OTS upgrades; CIAO 3.3 tools
DS 7.6.8.1	Aug 06	Modified momentum dump parameters in Aspect PL
DS 7.6.9	Sep 06	ACIS Thermal upgrades
In process:		
CIAO 3.4	Dec 06	ACIS CTI / Cycle 9 proposal planning
DS 7.6.10	Dec 06	ACIS CTI upgrades in Standard Data Processing
CIAO 4 Beta	Feb 06	Sherpa/ChIPS redesign, compiler, OS, OTS upgrades

Program Level Status

- Calibration Database (CalDB) Releases
  - CalDB 3.2.2 (5/9) ACIS time-dependent gain files for EPOCHs 23 and 24
  - CaldB 3.2.3 (8/10) HRC-I degap and gain map updates
- GO Program
  - Cycle 8 Peer Review held June 20-22
  - 184 proposals approved out of 725 submitted
  - 9 proposals approved via joint facilities
- Chandra Fellows program
  - Cycle 9 budgets received from 14 Fellows, including 5 new Fellows; grants issued
  - Chandra Fellows Symposium held 13 October 2006
  - Cycle 10 Call for Proposals posted Summer 06; applications due 2 Nov
- Education and Public Outreach
  - 18 press activities (3 media telecons, 4 press releases, 11 image releases)
  - 177 print articles (incl. NY Times, front page Wash. Post); 759 web articles
  - 93 TV broadcasts, 4 radio (NPR, BBC)
  - 3 summer educator workshops
  - 5 Chandra podcasts released (see http://chandra.harvard.edu/resources/podcasts/)

Policy for Foreign Scientist Travel

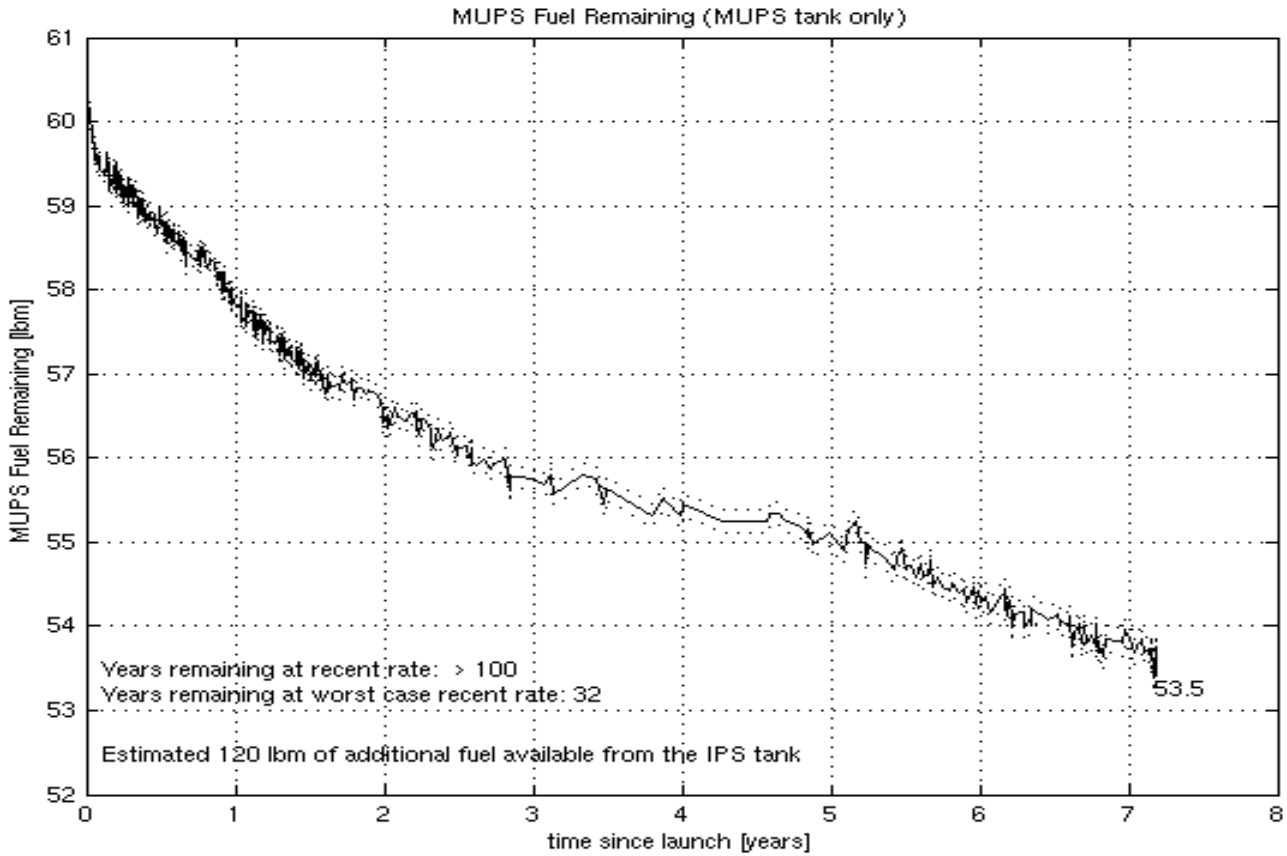
- In Cycle 6 the Chandra Grants Office added words to the grants Terms and Conditions explicitly prohibiting funding travel for non-U.S. affiliated scientists from a Chandra grant:

  "When a U.S. investigator obtains funds for a project that involves non-U.S. investigators, no funding may flow through the U.S. investigator to the non-U.S. investigators. This prohibition includes funding for travel."

- The change was driven by NASA HQ, noting the NASA Guidebook for Proposers, §1.4, 1.6, and especially 2.3.11(b)(vi), "Prohibition of the Use of NASA Funds for Non-U.S. Research," which states "...NASA funding may not normally be used to support research efforts by non-U.S. institutions at any level...."

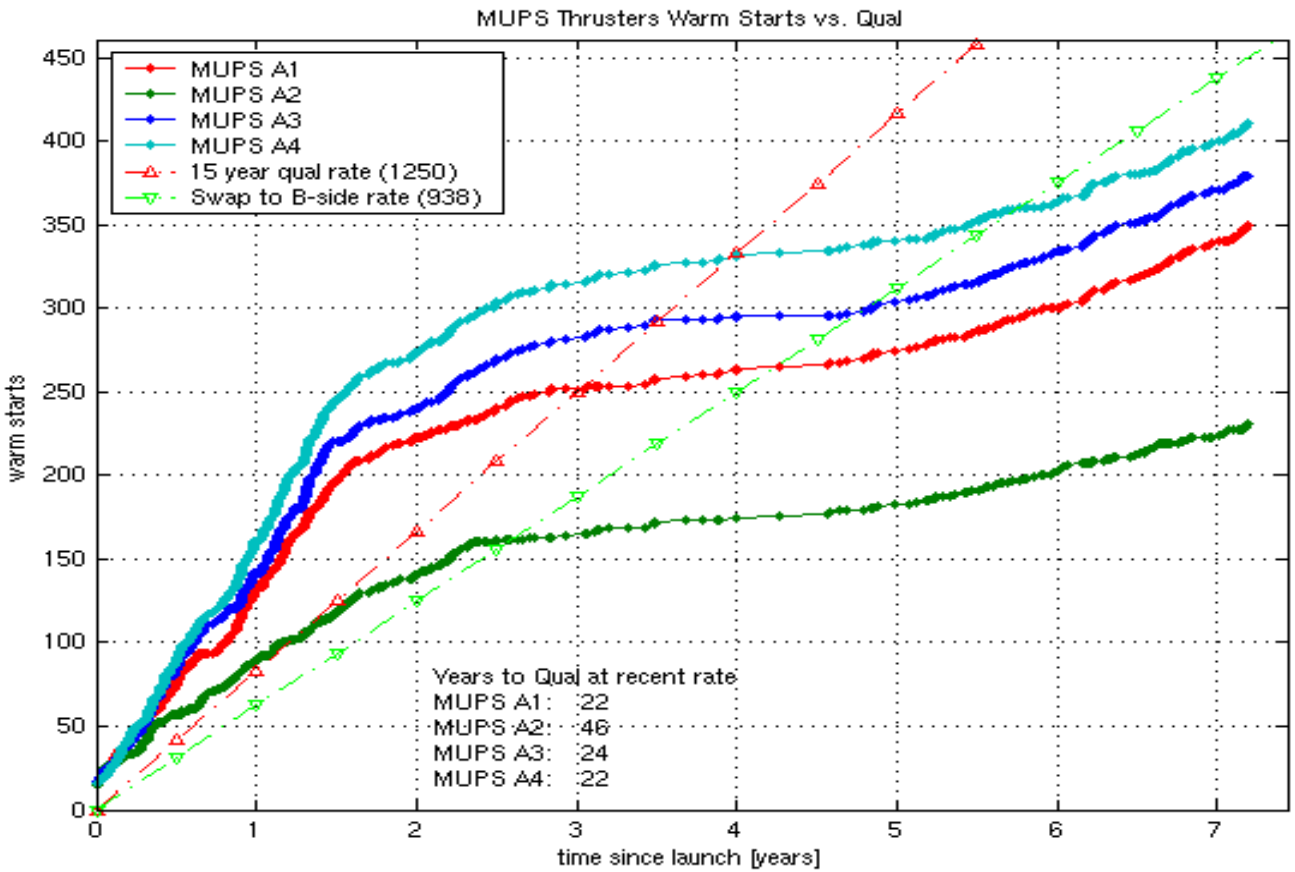
- HQ interprets this to mean that, while U.S. GO money can be used to send U.S.-affiliated researchers to foreign institutions, it can't be used to pay for either the travel or support of non-U.S. affiliated researchers to come here.

Mission Metrics
MUPS Fuel Usage



Mission Metrics

Thruster Warm Starts



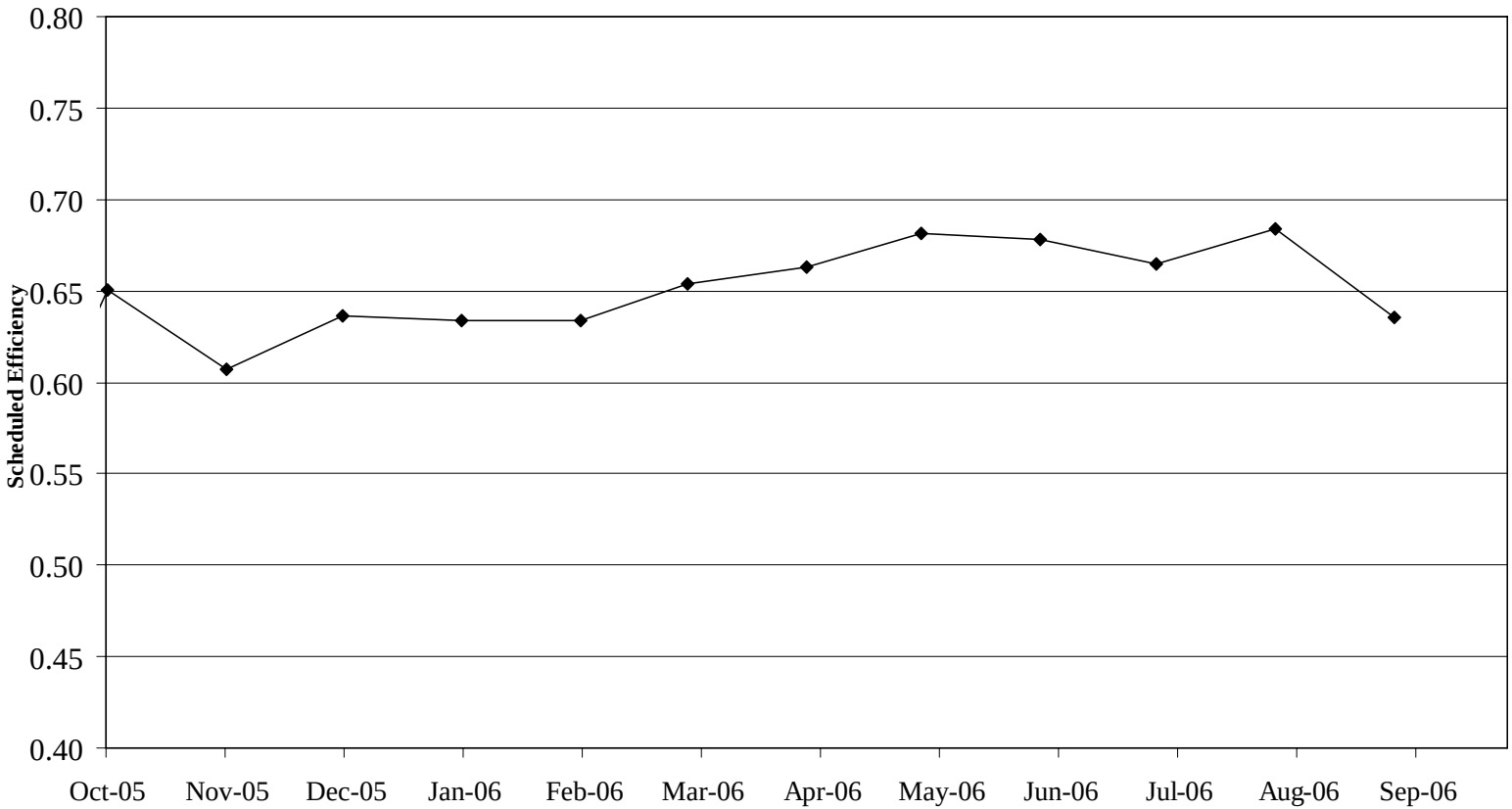
Mission Metrics

Scheduled Observing Efficiency

Scheduled Observations

Month	Seconds in month (ks)	Scheduled Observing Time (ks)	Scheduled Observing Efficiency
Oct-05	2678.4	1741.6	0.65
Nov-05	2592.0	1574.4	0.61
Dec-05	2678.4	1704.4	0.64
Jan-06	2678.4	1697.9	0.63
Feb-06	2505.6	1588.2	0.63
Mar-06	2678.4	1750.7	0.65
Apr-06	2592.0	1718.6	0.66
May-06	2678.4	1825.6	0.68
Jun-06	2592.0	1757.3	0.68
Jul-06	2678.4	1780.4	0.66
Aug-06	2678.4	1832.7	0.68
Sep-06	2592.0	1647.5	0.64

Mission Metrics
Observing Efficiency



Data Delivery Effectiveness

		As of middle of following month					As of 9/13/06		
Month	**Number of Obs**	**Days to Data Delivery**			**Number Deliv**	**Number Outstanding**	**Number Deliv**	**Number Outstanding**	**Comments**
		Min	**Avg**	**Max**					
Oct-05	67	0	1	12	67	0	67	0	
Nov-05	76	0	1	5	76	0	76	0	
Dec-05	76	0	2	14	76	0	76	0	
Jan-06	67	0	1	3	63	4	67	0	
Feb-06	91	0	1	4	91	0	91	0	
Mar-06	83	0	1	4	82	1	83	0	
Apr-06	63	0	1	10	63	0	63	0	
May-06	65	0	3	47	65	0	65	0	
Jun-06	71	0	1	12	71	0	71	0	
Jul-06	60	0	1	6	60	0	60	0	
Aug-06	69	0	1	5	69	0	69	0	
Sep-06	59	0	1	7	59	0	59	0	

Grant Award Effectiveness

Month of Data Delivery	Federal Grants (1)	SAO Grants (2)						
		As of middle of following month				As of 10/11/06		
		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-05	2	3	1	2	10	3	0	
Nov-05	0	5	2	3	9	5	0	
Dec-05	1	7	7	0	13	7	0	
Jan-06	6	61	56	5	12	61	0	
Feb-06	0	16	11	5	8	16	0	
Mar-06	3	12	9	3	10	12	0	
Apr-06	1	14	11	3	10	14	0	
May-06	1	8	8	0	9	8	0	
Jun-06	0	20	20	0	12	20	0	
Jul-06	0	16	16	0	10	16	0	
Aug-06	1	9	9	0	8	9	0	
Sep-06	2	10	10	0	13	10	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.

Grant Award Efficiency