Proposal Cycle: Updates and Plans

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- Highlights of CDO activities
- Report on Cycle 16
- Plans for Cycle 17 and beyond
- Proposed changes to GTO target submission timeline
- The “Fair Share” calculation

Highlights

Cycle 16 Peer Review

- 23-27 June 2014, Hilton, Logan Airport
- Target List posted 18th July
- E-letters, including reports and budget allocation (where appropriate) mailed 20th Aug
- Cost proposal deadline: 18th Sept 2014

Annual Chandra Science Workshop:

- X-ray View of Galaxy Ecosystems, held 9-11 July, 2014

Einstein Fellows

- Symposiums too be held CfA, 28-29 Oct 2014
- 2015 competition: Deadline: 6 Nov 2014

Cycle 16 Proposal Statistics

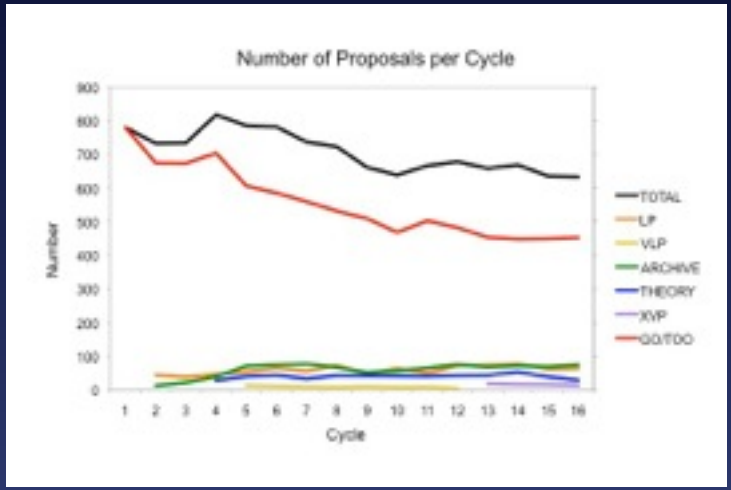
634 proposals submitted:

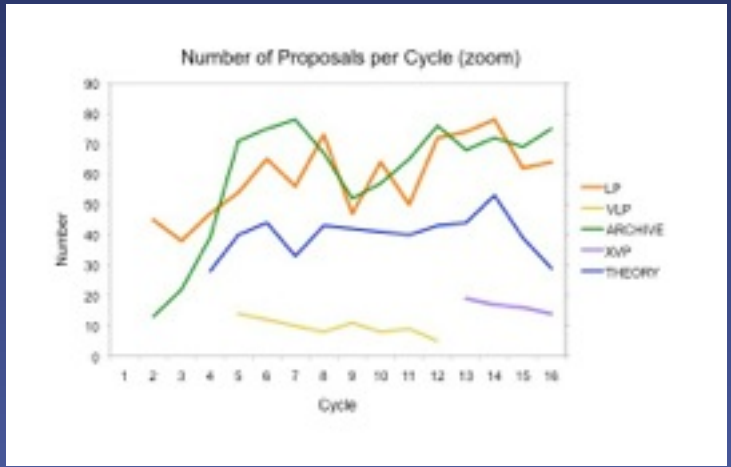
- GO 379
- LP 64
- XVP 14
- Archive 75 (69, Cyc 15)
- Theory 29 (39, Cyc 15)

190 approved

Oversubscription (time): 4.8

Time allocation: 22 Ms, 2 Ms from Cycle 17 for XVP call





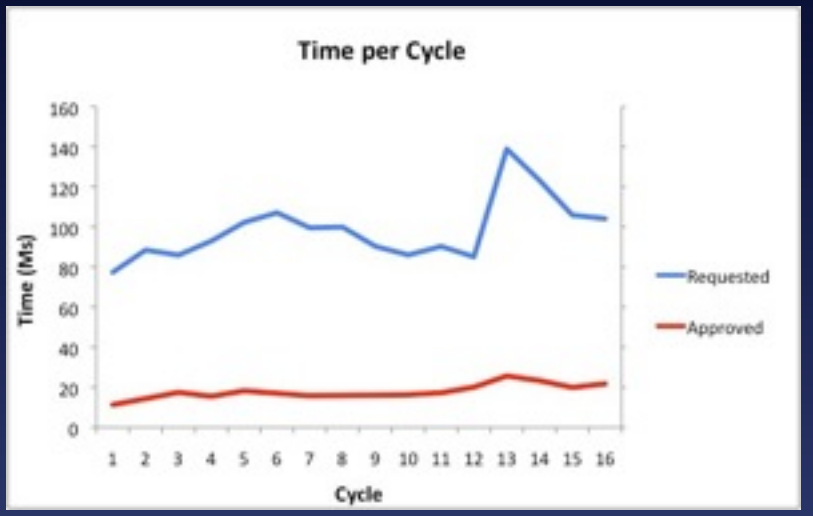
Cycle 16 Proposal Statistics

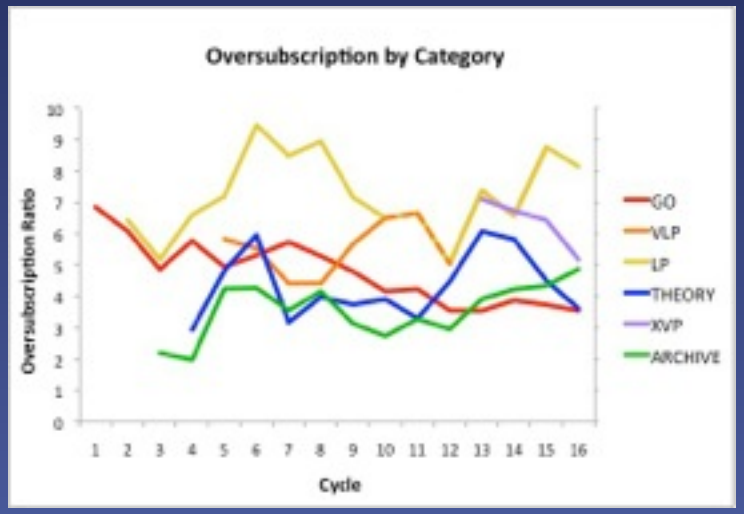
Time allocation:

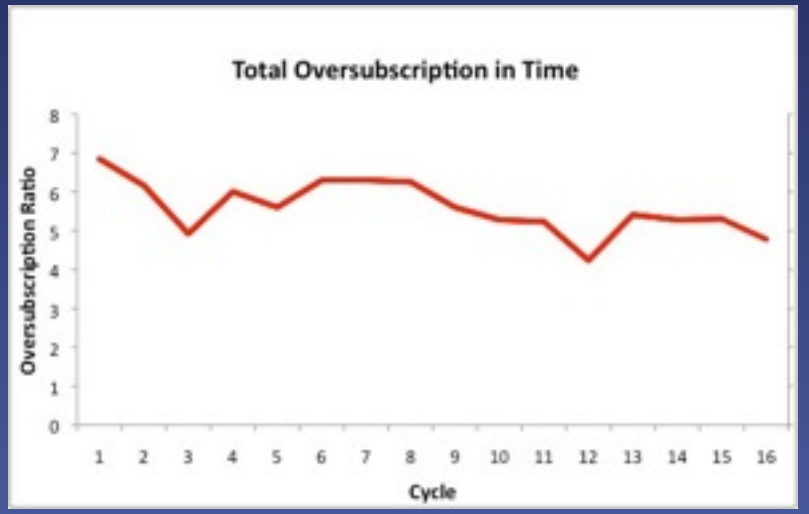
- Total Time: 22 Ms

(2 Ms from Cycle 17)

- LP: 4.0 Ms
- XVP: 5.5 Ms







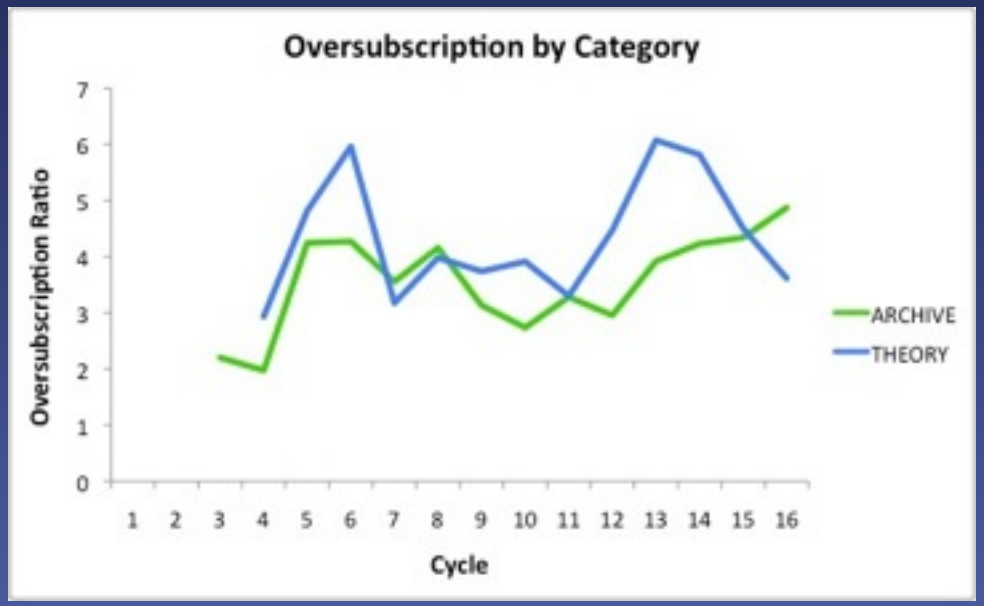
Cycle 16 Proposal Statistics

Archive:

- Budget: $1050K
- Allocated $1058K (13)
- Over-subscription: 4.9

Theory:

- Budget: $600K
- Allocated: $561K (8)
- Over-subscription: 3.4



Cycle 16 XVPs

- Fourteen proposals submitted, time range: 1.25-5.5 Ms (5.5 Ms available)
- Total request: 27.7 Ms (5.1 over-subscribed)
- Three allocated, for 1.25, 2.1 and 2.0 Ms:
  - *The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A* (2 Ms, PI: Wise)
  - *Chandra mapping of the cosmic web converging on the virialization region of Abell 1795* (2.1 Ms: PI Vikhlinin)
  - *Black Hole Fingerprints from Cosmic Dawn to Cosmic Noon* (1.25 Ms, PI Hasinger)

- Process (as last cycle):
- XVP panel (4 pundits) discussed all proposals and brought recommendations to BPP
- Topical panels discussed XVPs and LPs, as usual
- Final decisions made by BPP after discussion of highest-ranked proposals

Plans for Cycle 17

Schedule:

- Call for Proposals and associated software and documentation 16th Dec 2014
- GO Proposal Deadline, 17th March 2015
- Peer Review 23-26th June 2015
- Target list 17th July 2015
- E-letters week of 13th Aug 2015
- Cost Proposal deadline 17th Sept 2015

Joint Programs:

- HST, Spitzer, XMM-Newton, NOAO, NRAO & NuStar continued, Suzaku no longer offered
- NRAO will allocate 120 ks of Chandra time, after VLA upgrade, investigating inclusion of ALMA time

Large Programs:

- 4 Msec for LP (> 300ks), no cap, no XVP

XVP Plans for Cycle 18 and Beyond

- Decision on when/whether to re-start XVPs does not need to be made now, but we need to start thinking about it!
- We are starting an in-depth study of the impact of larger projects (publications, citations, press releases etc) to help evaluate their effectiveness and how we should distribute the time
- Data on the effectiveness of XVPs will just start to be available in 2015: use previous large programs as XVP "proxies"
- Other factors:
  - Thirteen XVPs approved Cycle 13-16
  - XVP oversubscription has dropped from 7 (Cycle 13) to 5.5 (Cycle 16), with a slight decrease in number of submitted proposals
  - LP pressure remains very high

XVP Plans for Cycle 18 and Beyond

Under the assumption we will continue with the XVP program in some form, two scenarios for XVP calls:

- New XVP Call in Cycle 18, borrowing from Cycle 19
  - ~5 Msec available for XVPs as soon as possible
- New XVP Call in Cycle 19, borrowing from Cycle 20
  - Two Cycles without XVPs will allow ~10 Msec LP time in Cycles 17-18, relieving some of the LP pressure

XVP Plans for Cycle 18 and Beyond

					XVP call in Cycle 19	XVP call in Cycle 18
Cycle	***17***	***18***	***19***	***20***	***18***	***19***
Total Science Time	***22.7***	***22.4***	***22.4***	***22.6***	***22.4***	***22.4***
Time already allocated	***7.2***	***5.2***	***5.2***	***7.2***	***5.2***	***7.2***
Available for Peer Review	***15.55***	***17.2***	***17.2***	***15.4***	***17.2***	***15.2***
LP	***4.0***	***6.0***	***4.0***	***4.0***	***4.0***	***4.0***
XVP	***0.0***	***0.0***	***5.0***	***0***	***5.0***	***0***
GO	***11.55***	***11.2***	***10.2***	***11.4***	***10.2***	***11.2***

New GTO target submission timeline

Overview of Chandra GTO program:

- PIs of science instruments are guaranteed observing time for duration of mission

Instrument	*PI*	*share*	*ks*
ACIS	*Garmire*	*1*	*700*
HRC	*Murray*	*1*	*700*
HETG	*Canizares*	*1*	*700*
LETG	*Kaastra & Predehl*	*1/2*	*350*
			2450

- Since Cycle 2 GTO have been guaranteed time but they cannot reserve targets. Any GTO/GO conflicts must be resolved by the peer review.

New GTO target submission timeline

Current Timeline:

- Two weeks before GO deadline:
  GTO targets submitted
  GTO-GTO target conflicts identified
- GO deadline:
  GTOs inform us of joint GO-GTO proposals
- One week after the GO deadline:
  We inform the GTOs of any GTO-GO conflicts, excluding proposals written by GTO team members.
- Three weeks after the GO deadline:
  GTOs submit science proposals for conflicted targets OR drop the targets
- At the Review:
  GTO proposals are disguised as GO proposals. They are approved if the GTO proposal is ranked higher than the competing GO proposal, so long as the GTO proposal is not ranked lower than the GO and below the panel pass-fail line.
- After the peer review:
  GTOs pick unconflicted targets or add time to approved targets.

New GTO target submission timeline

- Advantages:
  - Minimizes load on the Peer Review and saves GTOs from writing unnecessary proposals
  - GTO targets ready for early scheduling <— NO LONGER AN ISSUE
- Disadvantages:
  - Process is extremely cumbersome
  - Requires keeping track of many details by hand, leads to mistakes
- Conflict resolution is a big problem:
  - Review all GTO-GO conflicts to determine whether the conflict is “real” - should be determined by the Peer Review
  - Keeping track of GTO-GO conflicts can be very complicated: multiple GTO targets in in a single proposal can be conflicted with GO targets, some of which are collaborations, some not “real” conflicts
  - Two mistakes in the past 3 years, GTOs lost a target

New GTO target submission timeline

- Disguising GTO proposals at the review:
  - Recommended by the CUC in Jan 2002 because GTO proposals had a significantly higher success rate than GO proposals.
  - Was useful earlier in the mission when there was much more competition for the “best” targets

- Disguise isn’t very successful!
  - GTO proposals often state they are GTO in the science justification because they are part of bigger projects
  - When it is successful it can waste valuable time at the review
  - Proposals need to be tracked by hand

New GTO target submission timeline

- GTOs submit proposals for “First Priority” (FP) targets at the GO deadline.
  - These are targets/programs for which the GTO is prepared to write a proposal
  - ALL conflicts for FP targets go to the peer review.
- GTO science justifications due 2 weeks after the GO deadline.
- GTO proposals at the review are not disguised.
  - Panelists decide if the conflict is “real”
  - If no actual conflict, the GTO target is approved
  - If there is a conflict, the panel will rank the GTO proposal along with GO proposals
  - GTO targets are approved using the current algorithm
- GTOs submit the bulk of their targets after GO targets have been ingested.
  - GTOs can request any target not in an approved GO proposal.
  - Requests for duplicates will be assessed by the CXC director, and may be approved if the observing mode is significantly different
  - GTOs can also add time to any GO target “won” by a member of the GTO team.
- There is a final conflict check to ensure no unintended GTO-GO duplications.

The Budget Allocation (fair share) Calculation

- GO budget $8.6M, Archive $1.0M, Theory $0.6M excluding DDT
- PIs eligible for funding
  - US Institution
  - CoIs at a US institution with foreign PI (1/2 US rate)
  - PIs with multiple affiliations, < 50% at a US institution (1/2 US rate)
- Allocated budget procedure in place since Cycle 1. Value depends on:
  - Total exposure time
  - Number of targets
  - Level of difficulty assigned by the peer review
  - The proposal type (GO, LP, XVP)
  - PI status (US, foreign CoI etc)
  - There is a constant which ensures budget for small allocations does not drop below a useful level

The Budget Allocation (fair share) Calculation

$$L_d(K1_{GO} + K2_{GO} N_T^{0.25} T_{exp}^{0.5})$$

- Example of formula for GO proposals:
- L_d is the level of difficulty 0.9-1.1
- N_T is the number of targets
- T_{exp} is the approved exposure time
- $K1_{GO}$ and $K2_{GO}$ are constants that change with proposal type and from year to year.
- All budgets have a maximum which varies with type
- Constants are varied until the total equals the GO budget for the Cycle, and transitions between proposal types are reasonably smooth