

July 19, 2024

To: Chandra Community
CC: Dr. Nicola Fox, Associate Administrator for NASA SMD
Dr. Mark Clampin, APD Director, NASA SMD
Dr. Patrick Slane, Director, Chandra X-ray Center
Re: Statement on NASA APD Decision to Cut Chandra Funding

In late February, the Chandra X-ray Observatory General Observer (GO) funding was slashed by 30%, necessitated by NASA's decision to substantially reduce Chandra's funding for Fiscal Year 2024 (FY24) and its warning that additional funding cuts were likely. Almost immediately, a [letter concerning the potential dire impacts of this funding reduction on time-domain astronomy](#) — a field prioritized by the Astro 2020 Decadal survey — was drafted by leading researchers in the field and garnered over 130 signatures in a matter of days; it was delivered on March 5 to Dr. Mark Clampin, Astrophysics Division (APD) Director, NASA Science Mission Directorate (SMD).

Shortly thereafter, this committee drafted [an open letter](#) to Dr. Nicola Fox, Associate Administrator for NASA SMD, and Dr. Clampin, urging them to reconsider the reduction in Chandra funding. Such an extreme and sudden cut threatened the health of the U.S. X-ray astrophysics community. That letter was shared with the community and in a matter of days amassed over 700 signatures from astronomers across the world, including a past president of the American Astronomical Society, a past Decadal Survey chair, and a Nobel laureate. It was delivered on March 19.

During the drafting of the second letter, the FY25 President's Budget Request (PBR) was released on March 11, laying out even more devastating cuts to Chandra in order to "start orderly mission drawdown to minimal operations," along with [misleading and inaccurate statements](#) about spacecraft operations, management costs, and post processing of data. On April 8, Dr. Clampin was directly asked during a town hall session at the High Energy Astrophysics Division (HEAD) meeting how the inaccurate statements would be corrected since they hamper the community's efforts to advocate for Chandra; he provided no answer to this. In the following months, this inaccurate narrative has persisted, which is unacceptable.

APD's decision to severely reduce operations is incredibly misguided for several reasons.

Chandra (along with Hubble) received the highest ranking in the last Senior Review, with recommendations to not only continue operations but to augment its funding to increase its scientific return, a clear indication of just how capable Chandra still is. Instead, APD requested and is pursuing the opposite course of action. This is not only against the recommendation of the Senior Review but also against the wishes of the community.

In seemingly reverse order, after the severe budget cuts were made public, APD initiated an Operations Paradigm Change Review (OPCR) panel to assess options for Chandra operations with a reduced budget. This review panel operated outside the established framework of the

Congressionally mandated Senior Review and without review by the only body able to advise APD, the Astrophysics Advisory Committee (APAC).

This abandonment of established processes for guiding decisions about existing missions sets a dangerous future precedent for any mission beyond prime phase. In times of difficult budget pressure, adherence to established procedure and openness about any procedural deviation is critical to ensure a competent review of all necessary considerations.

X-ray astrophysics was born in the U.S., and the field continues to have a vibrant and active community of scientists. They regularly make ground-breaking discoveries and maintain the U.S. as the world leader in X-ray astrophysics. It is a fragile community; it has few avenues for support. Without a flagship and stable GO program, the field will diminish, and the community will shrink. It will be unable to attract new members, and senior scientists may leave for other countries. Future breakthroughs will be made only by the privileged few at wealthy institutions or in other countries with different support models.

APD has defended its request to drastically reduce the mission — potentially setting the stage for its discontinuation — by citing Chandra’s age, which is irrelevant. The telescope continues to perform exceptionally well and keeps generating cutting edge science. Chandra is providing crucial and unique scientific capabilities that will not be replaced by another U.S. telescope for at least a decade, perhaps two. Its combination of time-domain response, angular resolution, and sensitivity is not matched by any current or planned X-ray satellite. Voluntarily diminishing these capabilities for a relatively small cost savings is unjustified and shortsighted. APD’s budget revisions will require a significant layoff of CXC staff, severely limiting the amount of science that Chandra can perform; half of the available observing time and substantial Target of Opportunity capabilities will be lost.

Especially troubling is that APD’s decision is based not on science but on specious and incorrect arguments; its agenda to reduce operations of a flagship mission with no replacement has been justified by ill-defined arguments about “balance.” While it is important to invest in the long-term future, it is just as important to protect a proven resource like Chandra. APD’s decision to significantly reduce Chandra’s capabilities and availability to the community will create a huge imbalance in NASA’s portfolio. Cutting-edge astrophysics is a multi-wavelength, multimessenger endeavor. APD’s proposed cuts would debilitate a key element, inevitably resulting in large gaps in our observations and understanding based on an unbalanced program.

Great Observatories like Chandra are precious. They are national treasures. They are also expensive to build. Chandra was developed and launched without significant cost overruns (~2%). It is paid for, and it is healthy. Significantly reducing its operations now fails to optimize the return on investment for this unique and essential resource.

Many members of Congress know this and [support continued full funding for Chandra](#). On June 6, nine members of Congress — Senators and Representatives — signed [a letter to NASA Administrator Bill Nelson](#) urging NASA “to maintain full FY25 funding for the Chandra mission.” On

July 9, the House Appropriations Committee approved the Fiscal Year 2025 Commerce, Justice, Science, and Related Agencies Appropriations Act; in [its report](#), the committee “supports continued funding for the Chandra X-Ray Observatory, which continues to deliver discoveries addressing a wide range of questions across astrophysics.” On July 10, the House Science, Space, and Technology Committee passed the [NASA Reauthorization Act of 2024](#), which directs the NASA Administrator “to the greatest extent practicable, take no action to reduce or otherwise preclude continuation of the science operations of the Chandra X-Ray Telescope prior to the completion and consideration of the next triennial review of mission extensions for the Astrophysics division conducted pursuant to section 30504 of title 51, United States Code and NASA’s ongoing operations paradigm change review.”

The Chandra Users’ Committee continues to support full operation of Chandra and full funding for the mission and its General Observer program. APD’s proposed cuts will have an outsized impact on X-ray astrophysics and multi-wavelength astrophysics and should not be enacted. The misleading statements in the PBR about the operation of Chandra and processing of data should be publicly corrected. The Chandra User’s Committee calls for greater transparency in APD budget decisions concerning Chandra and an adherence to established channels in reviewing the mission.

David Pooley, Chair, on behalf of the Chandra Users' Committee