

Volume 2, Number 2 (September 2018)

Editor: Samantha Johnson

Contact: 🔀

Visit our NASA Marshall Space Flight Center website and our new public facing website!

Lynx is a large X-ray Observatory that will revolutionize our view of the Universe by providing unique insight into the high-energy drivers that govern its formation and evolution.

Community Involvement

New ideas, fresh perspectives, and objective outside critiques are important to keep Lynx moving forward. Feel free to forward this newsletter to those who might be interested in being a part of this project. With your help, we may see Lynx launch in the 2030s!

Have you mentioned the Lynx mission in a paper or presentation? We want to know! If you feel comfortable sharing, please upload this information to our public Google Drive, or email lynxtelescope@gmail.com.

You can also join the discussion at one of our bi-weekly STDT meetings:

Bi-Weekly STDT Meetings Wednesdays at 1:30 pm Central Connection info can be found here.

Table of Contents

- 1. Decadal Interim Report
- 2. Special Section of JATIS
- 3. 233rd AAS Meeting
- 4. HEAD 17th Divisional Meeting
- 5. The Space Astrophysics Landscape for the 2020's and Beyond
- 6. Calendar
- 7. Correction to last issue



1. Lynx Interim Report

The Lynx Interim Report is now available for <u>public viewing on our website</u>.

2. Journal of Astronomical Telescopes, Instruments, and Systems (JATIS)

JATIS plans to publish a <u>special issue on Lynx</u>. From the JATIS website on special sections:

The Lynx X-Ray Observatory will radically change the way we see the universe by answering some of the most persistent questions of our time: How and when did the first supermassive black holes form, and how do they co-evolve with their host galaxies? What processes drive the formation and evolution of the largest structures in the universe? What high-energy processes play critical roles in the birth and death of stars, and how do they influence planet habitability?

The ability to answer these questions is made possible through the Lynx payload design. Currently in concept phase, Lynx is designed to have leaps in capability over NASA's existing flagship Chandra and the European Space Agency's (ESA) planned Athena mission. More specifically, Lynx will have a 50-fold increase in sensitivity via the coupling of superb angular resolution with high throughput, 16× larger field of view with arcsecond or better imaging, and 10 to 20 times higher spectral resolution for both point-like and extended sources. The primary purpose of this special section is to present details of the Lynx observatory and expected on-orbit performance. Related topics of interest include, but are not limited to:

- instrument and x-ray optics descriptions (system and subsystems)
- structural, thermal, and optical performance
- in-flight performance predictions and modeling
- data analysis algorithms
- instrument-related software systems
- spacecraft systems critical to in-flight performance
- systems engineering practices
- applied lessons learned from previous missions
- planning for the 2030s.

This special section focuses on technical aspects of the Lynx mission and instrumentation. Purely science discussions are to be published elsewhere. All submissions will be peer reviewed. Peer review will commence immediately upon manuscript submission, with a goal of making a first decision within 6 weeks of manuscript submission.

Special sections are opened online once a minimum of four papers have been accepted. Each paper is published as soon as the copyedited and typeset proofs are approved by the author. Submissions should follow the <u>guidelines of JATIS</u>. Manuscripts should be submitted online at http://JATIS.msubmit.net. A cover letter indicating that the submission is intended for this special section should be included.

Submissions for the Lynx special section are due 1 October 2018.

3. 233rd AAS Meeting

Date: 6-10 January 2019

Location: Seattle, Washington

The highlight of this year's AAS meeting is Chandra's 20th anniversary. Make sure to stop by the Lynx booth! This year's AAS will feature a Special Session on the 2020 Decadal Mission Concept Studies, including Lynx. Multiple Lynx talks will be featured throughout the conference. Information on Lynx talk times and additional exhibitor space will be sent out later. For more information on the 233rd AAS meeting, check out the meeting website.

Registration deadlines:

Early registration: Through 27 September

Regular registration: 28 September —8 November Late registration: 9 November—10 December

Abstract deadlines:

Regular abstract deadline: 3 October

Late abstract deadline, posters only: 5 December

4. HEAD 17th Divisional Meeting

Date: 17-21 March 2019

Location: Monterey, California

The 17th meeting of the High Energy Astrophysics Division will take place this upcoming March. Abstracts will be accepted in late November with registration opening in December. Keep an eye on the meeting <u>website</u> for updates.

5. The Space Astrophysics Landscape for the 2020s and Beyond

Date: 1-3 April 2019

Location: Potomac, Maryland

This upcoming symposium will be sponsored by Universities Space Research Association (USRA). The science organizing committee includes three Lynx STDT members: Feryal Ozel, Joel Bregman, and Daniel Stern. Topics will include:

- Science priorities and themes for the next decade and beyond (with a 20-year horizon)
- Results from the four NASA-funded large mission concept studies (HabEx, LUVOIR, Lynx, and Origins Space Telescope), as well as other possible large (>\$1B) mission concepts
- Concepts for medium-sized Probe-class missions (larger than Explorers and <\$1B)
- Relevant ground-based facilities and science goals (e.g., Multi-Messenger activities)
- Major international missions currently planned for the same time frame
- Updates on current missions expected to be operational in the next decade
- Relevant major enabling capabilities including in-space assembly, satellite servicing, new NASA heavy lift and commercial launch vehicles, and exploration planning for lunar return and Mars
- Possible commercial partnerships
- Program balance considerations

For more information, check out the <u>meeting website</u>.

6. Calendar

Check out our calendar for STDT meetings, conferences, and outreach events that feature Lynx.

7. Correction to Last Issue

In the last issue of this newsletter, May 2018, the first author for the SPIE paper "Compensating film stress in silicon substrates for the Lynx x-ray telescope mission concept using ion implantation" was accidentally left out of the announcement. Apologies, the announcement should have read:

Compensating film stress in silicon substrates for the Lynx x-ray telescope mission concept using ion implantation,
Brandon D. Chalifoux, Youwei Yao, Heng E. Zuo, Ralf K. Heilmann, Mark L. Schattenburg,
Massachusetts Institute of Technology (USA) [10699-186]