Lynx Newsletter

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Visit our website!

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Introduction

About Lynx

Lynx, formerly X-ray Surveyor, is an x-ray telescope planned for NASA's 2020 Astrophysics Large Mission Concept Decadal Survey. NASA's 2013 Enduring Quests, Daring Visions Astrophysics Roadmap identified a new X-ray surveyor as vital to the advancement of our knowledge of astrophysics and astronomy. Lynx will be the successor to Chandra, one of NASA's great observatories. It will take lessons learned from Chandra's rich heritage and combine it with innovative new technologies for orders of magnitude higher sensitivity. The Lynx design will include both large viewing area and high angular resolution, allowing for numerous, unique astrophysical observations.

The Lynx Study Office is a partnership between Marshall Space Flight Center and the Smithsonian Astronomical Observatory. The Lynx team includes participants from multiple NASA centers, other government facilities, and academic institutions in regions from around the world.

How was Lynx named?

The lynx is a feline with keen eyesight and, in many cultures and traditions, a symbol of great insight and the supernatural ability to see through to the true nature of things.

Historically, Galileo was a proud member of Italy's Accademia dei Lincei (Academy of the Lynx), a scientific society devoted to the incisive investigation of the natural world. It was in the Accademia dei Lincei that the term ``telescope'' was first coined.

About the Newsletter

This monthly newsletter will provide updates on the progress of the study and present opportunities for greater community involvement.

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Community Involvement

For Lynx to be highly ranked in the 2020 Decadal Survey, it needs input from the entire astronomical community. New ideas, fresh perspectives, and objective outside critiques are important to keep the project 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 weekly STDT meetings:

Weekly STDT Meetings
Wednesdays at 1:30 Central
Telecon: 844-467-4685 Passcode: 313600#

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Introduction to Working Groups

The Lynx Science and Technology Definition Team (STDT) has chartered several Science Working Groups (SWGs), an Instrument Working Group (IWG), and an Optics Working Group (OWG).

Optics Working Group

The OWG is responsible for assisting the STDT in demonstrating a credible and feasible path exists to fabricate an X-ray telescope to support the X-ray Surveyor science goals. The OWG seeks expert assistance from academia, industry, and research institutions in identifying potential approaches for creating the X-ray mirrors and related technologies.

If interested in learning more, see the charter.

Instrument Working Group

The goal of the IWG is to support the STDT in defining the science instruments required for a compelling and executable mission. The IWG will help the STDT translate science goals into technical instrument requirements, provide the STDT information and metrics needed to make scientific tradeoff decisions, and support the STDT in assessing technology readiness and preparing technology development plans and roadmaps.

If interested in learning more, see the charter.

Science Working Groups

The SWGs are responsible for identifying outstanding science questions, developing a compelling science case, and aiding the STDT with producing a mission concept that best addresses these questions. We welcome members both internal and external to the X-ray community, at all career stages, and from domestic and foreign institutions. For further details, please read the full Science Working Group Charter.

There are eight science working groups:

Cycles of Baryons in and out of Galaxies
First Accretion Light in the Universe
Evolution of Structure and AGN populations
Physics of Plasmas
Physics of High Density Matter, Compact Objects, and Accretion
Physics of Feedback

Stellar Lifecycles
X-rays in the Multi-wavelength, Multi-Messenger Era

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Industry Partners

Lynx is interested in recruiting industry partners to assist with instrumentation design and development. The IWG and OWG have a joint Technical Information Meeting (TIM) scheduled for May 22-23, 2017 in Huntsville, Alabama. Several companies have already expressed interest in participating. Sign-up for participation can be found here. There will be a call-in number for those who cannot attend in person. Working on Lynx is an excellent opportunity for companies to further develop technologies, contribute to new science, and promote their technological capabilities.

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Seminar Update

Lynx has a monthly science webinar series. Previous webinars have included subjects such as active galactic nuclei, quasars, exoplanets, and SBH feedback. Take a look at some of our past webinars. If you are interested in presenting, you can sign up here, and we will kindly consider your topic for a future talk.

Upcoming webinar:
X-ray Surveyor and the Baryon Cycle
Date: TBA
Juna Kollmeier, Carnegie Institution for Science

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Calendar Updates

You can view our public Google calendar! Additionally, Gmail users can add events directly from this calendar to their own.

Upcoming Events:

IWG and OWG Industry Days/TIM
May 22-23, 2017 in Huntsville, AL

Industry partners will join the IWG and OWG in discussing Lynx's development and learn how they can get involved. Interested industry partners can sign up here.

From Chandra to Lynx: Taking the Sharpest X-ray Vision Fainter and Farther
August 8 – 10, 2017 in Cambridge, Massachusetts,

Registration is open as of April 2017.

Since 1999, the Chandra X-ray Observatory has provided unprecedented high-spatial resolution X-ray vision of the invisible universe. Together with its high-resolution X-ray spectroscopic capabilities, Chandra continues breakthrough studies of our universe from the distant supermassive black holes and the large-scale environments around galaxy clusters to stars and objects in our solar system. Lynx, formerly known as the X-ray Surveyor, is one of the large strategic mission concepts identified in the 2013 NASA Astrophysics Roadmap ("Enduring Quests, Daring Visions"). Lynx is the first future X-ray mission concept planning to match the spatial-resolution, and thus be a true successor to Chandra. The high-resolution X-ray imaging with a tremendous increase in sensitivity will allow Lynx to pursue multiple quests deeper into the invisible X-ray universe. This workshop seeks to leverage Chandra's legacy and maximize its impact on the development of

Lynx science and design objectives. Lynx's Chandra-like spatial resolution, together with a tremendous increase in sensitivity will allow multiple quests deeper into the invisible X-ray universe.

Recent Past Events:

Spring 2017 STDT Face to Face Meeting
April 6-7, 2017 at The Westin in Huntsville, AL

Attendees at this meeting discussed the science behind the mission and reported the status of different working groups.

Webinar: Towards understanding the inefficiency of star formation in galaxies
Andrey Kravtsov, University of Chicago
March 8, 2017

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