



EUV and X-ray Optics: Synergy between Laboratory and Space (OO109)

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Extreme Ultraviolet (EUV) and X-ray Optics have many applications in many areas of recent science and technology ranging from space (astronomy) to the laboratory, and numerous alternative designs of these optics have been suggested and implemented. The apertures range from micromirrors of less than 1 mm to a few meters in the case of space applications. Novel schemes of source-optics systems and experimental results show higher brightness and better imaging or diagnostic capabilities.

The purpose of this conference is to bring together scientists, manufacturers, optical and mechanical engineers, designers and users of EUV and X-ray optics, in order to exchange ideas, highlight possible problems and challenges linked to their use and to seek ways to overcome the current limitations.

New or potential users of EUV and X-ray optics will benefit from clear reviews by experienced specialists discussing the advantages and disadvantages of these advanced optical arrangements. An important part of the meeting will be dedicated to the use of adaptive EUV and X-ray optics: how to improve their performances, and reviewing new results and recent advances.

An additional goal of the conference is to bring together EUV and X-ray optical scientists specialising in both terrestrial and space applications, with benefits for both sides. Many application areas of EUV and X-ray optics require novel technologies and new approaches in order to achieve better imaging quality, and some approaches designed and developed originally for space optics should also be applicable in laboratory optics, and vice versa.

Presentations discussing technologies for future space X-ray astronomy missions are encouraged. These missions require development of mostly innovative technologies; the possibilities, the results obtained so far and details of new ideas are suitable topics for discussion. The recent situation in the field strongly demonstrates the urgent need of novel, cost effective approaches and solutions.

It is clear that the requirements of future large X-ray astronomy missions are so demanding that they need a truly interdisciplinary approach in a wide international collaboration. The technologies will include X-ray optics based on Si wafers and advanced glass forming for precise X-ray optics, but also other possibilities, as well as related advanced metrology, measurement and testing. These technologies can also be used for laboratory EUV and X-ray optics, and presentations based on such applications will be welcome. In addition, discussions of new projects and results achieved in synchrotron and laboratory EUV and X-ray optics are requested, including considerations of how related fields can benefit from these achievements.

Both the laboratory and space EUV and X-ray communities have begun efforts in the development of active / adaptive optics with the aim of achieving superfine angular or spatial resolutions. This conference will also cover all aspects, development and use of such optical techniques. Researchers (including industrial partners) working in the following aspects of EUV and X-ray optics are encouraged to submit papers for consideration:

- overviews of EUV and X-ray optics technologies for laboratory and space
- overviews of applications of EUV and X-ray optics
- reflective, diffractive and refractive EUV and X-ray optics
- novel concepts, designs and technologies for EUV and X-ray optics
- theory, modelling and simulation of EUV and X-ray optics
- integrated devices and systems (sources, optics, detectors)
- devices and fabrication approaches to achieve improved quality EUV and X-ray optics
- active / adaptive EUV and X-ray optics
- multilayer X-ray optics
- optics for hard X-rays
- electronics and control of EUV and X-ray optical devices and systems
- measurement, characterization and assessment of EUV and X-ray optical devices and systems, including reliability
- new classes of experiments and improvements to existing techniques
- scientific results obtained with EUV and X-ray optics.

The conference organisers hope to receive contributions from experienced groups from important world facilities and institutes (including industrial partners). The aim is to focus on the leading current EUV and X-ray optics technologies, and those with the potential to be realizable in the future.

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Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

Abstracts due	9 November 2022
Authors notified and programme posts online	16 January 2023
Registration opens	19 January 2023
Submission system opens for manuscripts and poster PDFs*	20 February 2023
Poster PDFs due for spie.org preview and publication	29 March 2023
Manuscripts due	5 April 2023
Advance upload deadline for oral presentation slides**	21 April 2023

*Contact author or speaker must register prior to uploading

**After this date slides must be uploaded onsite at Speaker Check-in

What you will need to submit

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the programme
- Keywords used in search for your paper (optional)
- Check the individual conference Call for Papers for additional requirements (for example, some conferences require 2- to 3-page extended summary for technical review, or have instructions for award competitions)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation..

How to submit your abstract

- Visit the conference page: www.spie.org/OO109call
- You may submit more than one abstract but submit each abstract only once.
- Click the "Submit An Abstract" button on the conference page.
- Sign in to your SPIE account or create an account if you do not already have one.
- Follow the steps in the submission wizard until the submission process is completed.

Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

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- Submit a 4-page-minimum manuscript, by the advertised due date, for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Ensure that all clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor in the USA, allow at least 60 days for clearance
- Attend the meeting
- Present at the scheduled time

Review and programme placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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