

NASA Athena Study Team Update

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NAST Co-chair

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Charter of the NAST Task Group

- ✓ Assist NASA in developing and articulating a compelling science case supporting the NASA participation in the ESA-led Athena mission for the 2020 Decadal Survey.
- ✓ Provide the U.S. community with information on U.S. participation in Athena including activities involving the U.S. role in Athena science and technology, and provide NASA with U.S. community input regarding the U.S. role on Athena.
- ✓ Provide communication between the U.S. science community and the ESA Athena Study Science Team (ASST) and the X-IFU and WFI Consortia.
- ✓ Provide communication to NASA about Athena science and mission study activities through their role as NASA's representatives on the Athena Science Working Groups.
- ✓ Support NASA's Athena Study Office by providing analysis on scientific and technical issues, as requested.

NAST Membership

X-IFU Members

Simon Bandler (GSFC)
Tim Kallman (GSFC)
Rich Kelley (GSFC)
Caroline Kilbourne (GSFC)
Scott Porter (GSFC)

WFI Members

Mark Bautz (MIT)
Dave Burrows → Abe Falcone (PSU)
Ann Hornschemeier-Cardiff (GSFC)
Ralph Kraft (SAO)

Ex-officio

Kristin Madsen (GSFC/UMBC)
Robert Petre (GSFC)
Katja Pottschmidt (GSFC/UMBC)
Panayiotis Tzanavaris (GSFC/UMBC)

Science Members

Steve Allen (Stanford)
Carlos Badenes (U. Pittsburgh)
David Ballantyne (Georgia Tech)
Tamara Bogdanovich (Georgia Tech)
Niel Brandt (PSU)
Joel Bregman (U. Michigan)
Laura Brenneman (SAO)
Megan Donahue (Michigan State)
Karl Forster (Caltech)
Massimiliano Galeazzi (U. Miami)
Richard Griffiths (U. Hawaii)
Sebastian Heinz (U. Wisconsin)
Jon Miller (U. Michigan)
Paul Plucinsky (SAO)
Andy Ptak (GSFC)
Randall Smith (SAO)
Eleonora Troja (GSFC)
Scott Wolk (SAO)
Will Zhang (GSFC)

The NAST and NewAthena

- Although ESA has given Athena a major reboot, the mission is now heading in the right direction and the support systems provided by the astronomers are still in place. In the U.S., this is the NAST.
- The ASST has been dissolved and replaced by the Science Re-Definition Team (SRDT). The NAST is in close contact with the U.S. representatives on the SRDT, Rachel Osten and Lia Corrales.
- On the European side, in order to support continued community engagement with the mission, the Athena Community Office (ACO) is still operating, as are the Science Working Groups (SWGs) and Topical Panels (TPs).
 - Athena webinars
 - Regular website updates
 - Regular newsletters

Recent NAST Activities and Recommendations

- The NAST has held meetings every ~6 months for the past 3 years, most recently in February 2023.
- The NAST remains the means of collecting community input on Athena within the U.S., and delivering messages to that community. This is only possible because it has a mixture of NASA officials, people at GSFC working on technology, and scientists from around the country.
- Fitting within the mission within the €1.3B cost cap while retaining its core science depends on the U.S. contributing the cryochain. The NAST supports this contribution.
- The NAST also supports continued development of the SPO mirror technology; a number like 6.5" at the time of launch appears to be within reach.
- The NAST urges the international community and NASA to remain cognizant of the international nature of this mission, and hold to those partnerships as the process develops.

Take-Away

- The U.S. community can still influence what NewAthena's capabilities need to be!
- The NAST retains its confidence in the mission, which will bring flagship-class X-ray observing capabilities to U.S. guest observers at the cost of a SMEX and serve as a critical component of the panchromatic mission landscape of the 2030s-2040s.
- ***We call on the U.S. community to continue its support for NewAthena, urging NASA to protect the U.S. contribution to the mission and to do everything in its power to help bring the NewAthena to fruition.***