

Astrophysics Explorers AO Community Announcement NNH18ZDA014L

The National Aeronautics and Space Administration (NASA) Science Mission Directorate (SMD) is releasing this Community Announcement concerning its intention to solicit investigations for the Astrophysics Explorers Program. The Astrophysics Explorers Program conducts Principal Investigator (PI)-led space science investigations to advance NASA's strategic goals in astrophysics, which are to discover the origin, structure, evolution, and destiny of the Universe and search for Earth-like planets. Additional information concerning these areas of investigation is provided through appropriate links found on the SMD homepage at <https://science.nasa.gov/>.

The current state of planning calls for NASA SMD to release an Announcement of Opportunity (AO) in the spring of 2019 that will solicit proposals for Small Explorer (SMEX) missions to accomplish Astrophysics Explorer Program science objectives. NASA also plans to release simultaneously a solicitation for Astrophysics Explorer Missions of Opportunity (MO) through the NASA Announcement of Opportunity NNH17ZDA0040, Third Stand Alone Missions of Opportunity Notice (SALMON-3). A draft SMEX AO and draft SALMON-3 Program Element Appendix (PEA) are expected to be ready for release for comment in late Calendar Year (CY) 2018.

The PI-managed mission cost cap for an Astrophysics SMEX mission is expected to be no greater than \$195M in Fiscal Year (FY) 2020 dollars, including launch but not including any contributions. Standard launch services on an expendable launch vehicle (ELV) for SMEX missions may be proposed to be provided by NASA at a charge of \$50M in FY2020 dollars against the PI-managed mission cost cap. Alternative (to NASA-provided) access to space may be proposed within the PI-managed mission cost cap.

NASA expects to solicit MO science investigations that are defined in the SALMON-3 AO as Partner MOs, New Missions using Existing Spacecraft MOs, and Small Complete Mission MOs, including investigations requiring flight on the International Space Station. The PI-managed mission cost cap for these MOs is expected to be no greater than \$75M in FY2020 dollars. Suborbital/SmallSat-class MOs, including missions on ultra-long duration balloons, CubeSats, and SmallSats such as those accommodated on an ESPA ring, will have a PI-managed mission cost cap expected to be no greater than \$35M in FY2020 dollars.

SMEX missions are expected to be managed as Class D missions, Partner MOs and New Missions using Existing Spacecraft MOs are expected to be managed at a risk class consistent with the parent mission or existing mission's risk class, and Small Complete Mission MOs are expected to be managed as streamlined Class D missions.

The currently approved Astrophysics Explorer Program planning budget is sufficient to select and execute one SMEX mission and one or two MOs, depending on cost.

The current planning is for the selection process to be done in two stages. In Step 1, it is anticipated that two or three SMEX mission proposals and one to three MO mission proposals may be selected for nine-month Phase A concept studies. Each SMEX concept study would be funded up to \$2M in real year dollars, and each MO concept study would be funded up to \$500K

in real year dollars. For Step 2, NASA will conduct a detailed review of the Phase A concept study reports. As a result of this second evaluation, NASA expects to select one SMEX mission and one or two MO missions to proceed into Phase B and subsequent mission phases. NASA desires to launch the SMEX mission before May 2025.

Proposals in response to this AO will be due 90 days after its formal release. Participation will be open to all categories of U.S. and non-U.S. organizations, including educational institutions, industry, not-for-profit organizations, Federally Funded Research and Development Centers, NASA Centers, and other Government agencies.

The schedule for the solicitation is intended to be:

Release of draft AO:	Late CY 2018 (target)
Release of final AO:	Spring 2019 (target)
Preproposal conference:	~ 3 weeks after final AO release
Proposals due:	90 days after AO release
Selection for competitive Phase A studies:	Winter 2020 (target)
Concept study reports due:	Fall 2020 (target)
Down-selection:	Summer 2021 (target)

The Astrophysics Explorer Program SMEX AO and SALMON-3 PEA may contain provisions that differ substantially from this preliminary notice, in which case the provisions in the AO and SALMON-3 PEA will take precedence. The Astrophysics Explorer AO will be based on the Standard PI-led Mission AO Template available at http://soma.larc.nasa.gov/standardao/sao_templates.html. Proposers should read the Draft Astrophysics SMEX AO and SALMON-3 PEA carefully when they are released.

NASA has not approved the issuance of the Astrophysics SMEX AO or SALMON-3 PEA and this notification does not obligate NASA to issue the announcements and solicit proposals. Any costs incurred by prospective investigators in preparing submissions in response to this announcement are incurred completely at the submitter's own risk.

Further information will be posted on the Explorer Program Acquisition website at <https://explorers.larc.nasa.gov/2019APSMEX/> as that information becomes available. Questions or comments about this intention to release an Astrophysics SMEX AO may be addressed by email to the Astrophysics Explorers Program Scientist: Dr. Linda S. Sparke at linda.s.sparke@nasa.gov (subject line to read "Astrophysics SMEX AO"). Responses to all inquiries will be answered by email and also posted at the Frequently Asked Questions (FAQ) location of the Explorer Program Acquisition website; anonymity of persons/institutions who submit questions will be preserved.