



Heliophysics Explorers Program (HEP) 2019 Medium-Class Explorer (MIDEX) Announcement of Opportunity (AO) Pre-Proposal Conference Overview Solicitation

July 23, 2019

Dan Moses

NASA Science Mission Directorate

Heliophysics Division Explorers Program Scientist



HEP MIDEX Solicitation Overview



- The NASA Science Mission Directorate Heliophysics Division has released Solicitation NNH19ZDA013O, the Heliophysics Explorers Program (HEP) 2019 Medium-Class Explorer (MIDEX) Announcement of Opportunity (AO) on 2 July 2019.
- The purpose of this AO is to solicit proposals for Heliophysics investigations to be implemented through the Explorer Program.
- All investigations proposed in response to this solicitation must support the goals and objectives of the Heliophysics Explorer Program, must be implemented by Principal Investigator (PI) led investigation teams, and must be implemented through the provision of **complete spaceflight missions**.
- Mission category providing maximum agility in addressing science goals across Heliophysics



NASA Heliophysics Science Objective & Goals



- The NASA Strategic Objective (2018 NASA Strategic Plan) that encompasses Heliophysics:
 - “Understand the Sun, Earth, Solar System, and Universe”.
- In response to the above strategic objective, the Science Mission Directorate conducts heliophysics investigations addressing the following science goals:
 - Explore the physical processes in the space environment from the Sun to the Earth and throughout the solar system;
 - Advance our understanding of the connections that link the Sun, the Earth, planetary space environments, and the outer reaches of our solar system; and
 - Develop the knowledge and capability to detect and predict extreme conditions in space to protect life and society and to safeguard human and robotic explorers beyond Earth
- Resource documents for NASA Heliophysics Science Goals
 - *2014 Science Plan for NASA’s Science Mission Directorate*
 - *Our Dynamic Space Environment: Heliophysics Science and Technology Roadmap for 2014-2033*
 - *Solar and Space Physics: A Science for a Technological Society - 2013 NRC Decadal Strategy for Solar and Space Physics*



MIDEX AO at a Glance



- Principal Investigator (PI) led Mission
- Fixed PI Managed Cost Cap (PIMCC) of \$250M (FY19)
- Category 2 missions (per NPR 7120.5E)
- Class C payloads (per NPR 8705.4).
 - (Based on \$250M < LCC < \$1B)
- Two-Step Selection
 - Step 1 Selection for Phase A
 - Concept Study Report due 9 months after Phase A kick-off
 - Phase A funded at \$1.25M
 - Anticipate 2 to 3 Phase A selections
- Phase B - 12 Months
- Phase C-D ~3.5yr
- Launch Readiness Date NLT February 2026
- NASA provided launch per “Launch Services Program Information” document available from the program library. No alternative access to space.
<<https://explorers.larc.nasa.gov/HPMIDEX/programlibrary.html>>
- ISS and Lunar Gateway can also be considered for spaceflight



Proposal Schedule



- AO Release Date July 2, 2019
- Preproposal Conference July 23, 2019
- Mandatory Notice of Intent to Propose Deadline August 2, 2019
- Electronic Proposal Submittal Deadline September 30, 2019
 - 11:59 p.m. Eastern Time
- Letters of Commitment Due (with Proposal) September 30, 2019
- Deadline for Receipt of Proposal on CD or DVD-ROMs October 4, 2019
 - 4:30 p.m. Eastern Time
 - NASA Research and Education Support Services (NRESS)
 - Suite 500, 2345 Crystal Drive, Arlington, VA 22202
 - Commercial Delivery Telephone 202-479-9030
- Step-1 Selections Announced (target) Q2 CY 2020
- Initiate Phase A Concept Studies (target) Q2 CY 2020
- Phase A Concept Study Reports Due (target) Q1 CY 2021
- Down-selection of Investigation(s) for Flight (target) Q4 CY 2021
- Launch Readiness Date NLT February 2026

Mission of Opportunity – previously offered in 2018

- The Explorers Mission of Opportunity typically released with the 2019 MIDEX was released in **2018** as Program Element Appendix M (PEA-M) for NASA’s Third Stand Alone Missions of Opportunity Notice (SALMON-3) NNH17ZDA004O
 - PEA M: 2018 Heliophysics Science Mission of Opportunity
 - **NNH17ZDA004O-HPSMO**
- The due date for proposals to the Explorers Mission of Opportunity AO has passed (Fall 2018)
- The next HEP Mission of Opportunity AO is planned to be released with the 2021 HEP SMEX AO.

US Participating Investigator (USPI) – offered through ROSES 2019

- The USPI solicitation has been de-coupled from the HEP proposal cycle
 - It is expected that the proliferation of SmallSat missions from other agencies will require a more flexible schedule of releases.
- The USPI solicitation is element B.12 of ROSES-2019



References



2019 Heliophysics MIDEX Acquisition Page

The 2019 Heliophysics Explorer MIDEX acquisition home page is available at:

<http://explorers.larc.nasa.gov/HPMIDEX/>

The contents of the web site include the following:

- Links to MIDEX pages
- 2019 Heliophysics MIDEX major milestones
- Community announcements
- FBO
- Teaming interest
- Pre-proposal conference



MIDEX Reference Material



Program Library

It is incumbent upon the proposer to ensure that the documents used in proposal preparation are of the date and/or revision available in the Program Library (<https://explorers.larc.nasa.gov/HPMIDEX/programlibrary.html>).

A detailed Change Log has been implemented, and will continually document updates to the Program Library.



Questions?



**All further questions pertaining to the MIDEX AO
MUST
be addressed to:**

**Dr. Daniel Moses
Heliophysics Explorers Lead Program Scientist
Science Mission Directorate
NASA Headquarters
Washington, DC 20546
dan.moses@nasa.gov
(subject line to read “2019 Heliophysics MIDEX”)
202.358.0558**