

**2017 Solar Terrestrial Probes #5  
Interstellar Mapping and Acceleration  
Probe (STP-5 IMAP)  
Announcement of Opportunity**

**Solar Terrestrial Probes Program  
Q&A**

<b>Change Log</b>		
<b>Rev.</b>	<b>Date</b>	<b>Description of Changes</b>
01	1/20/17	Added Q&A 1
02	5/8/17	Added Q&A 2
03	5/11/17	Added Q&As 3 - 9
04	5/22/17	Added Q&A 10
05	8/29/17	Added Q&As 11 - 15
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07	10/02/17	Added Q&A 17
08	10/06/17	Added Q&A 18

**Q-1 Will the STP IMAP Draft AO and the STP MO Draft PEA be released at the same time?**

The current plan is for the MO Draft PEA to be released after the IMAP Draft.

**Q-2 Is there a requirement to justify not using AMMOS?**

Not using AMMOS does not need to be justified. However, development and use of mission-unique adaptations to AMMOS and/or ground/operations system solution other than AMMOS need to be described and budgeted for in the proposal. (See Requirement 45)

**Q-3 Are there any special instructions for proposers, such as inclusion of an accelerated schedule, for the single-step selection option?**

Section 1.1 of the AO states that NASA reserves the right to select through a single step. The AO has been written to accommodate the ability to select through a single step by not deferring certain proposal requirements to Step 2. Any schedule impacts from executing the single-step selection option would be addressed in Phase A.

**Q-4 Are unencumbered cost reserves required on Phase A?**

Unencumbered cost reserves are not specifically required for the PI-Managed Mission Cost of Phase A activities, nor are they recommended. The AO does not establish minimum unencumbered cost reserves for any single Phase, only the *cost to complete* Phases A/B/C/D. Section 5.6.3 states: “For the purpose of this AO, the unencumbered cost reserves on the PI-Managed Mission Cost are measured as a percentage against the cost to complete through Phases A/B/C/D.” Requirement 71 states: “Proposals shall identify and justify the adequacy of the proposed cost reserves. Proposals shall include a minimum of 25% of unencumbered cost reserves against the cost to complete Phases A/B/C/D and shall demonstrate an approach to maintaining required unencumbered cost reserves through subsequent development phases.” The requirement does, however, provide for the inclusion of all activities, which the PI is responsible for and are funded out of the PI-Managed Mission Cost, as part of the basis to determine unencumbered cost reserves.

**Q-5 Should CM&O costs be identified in the B3a and B3b cost tables at the WBS level, the mission level, or both?**

Both. From AO Requirement B-54: “... Tables B3a and B3b shall identify the proposed cost required in each mission phase and in each Fiscal Year; the costs shall be in real year dollars (RY\$) in Table B3a and FY2017 dollars (FY2017\$) in Table B3b. The top portion of Tables B3a and B3b shall contain cost data relevant to the PI-Managed Mission Cost. The lower portion shall contain cost data for contributions, and enhanced mission costs. The rows in Tables B3a and B3b shall be the NASA standard WBS elements as defined in NPR 7120.5E. The costs for most elements shall be provided to WBS level 2, as shown in Tables B3a and B3b. Exceptions are the costs of individual instruments or sample return capsules and any unique flight system elements such as coordinating science ground stations, DSN, or nonstandard elements such as sample facilities, which shall be explicitly shown. The columns in Tables B3a and B3b shall be grouped and subtotaled by mission phase and shall be labeled with the appropriate real or Fiscal Years. Years that span more than one mission phase shall be split into two columns by mission phase. ...”

**Q-6 What is the Notification Proposal process? What changes are allowed between the submissions of the Notification and the Full proposals?**

The required Notification Proposal process is described in Section 6.1.2 and includes the material required for submission. Of those material items listed, the (1) science objectives, item (c)(i), and; (2) investigators, items (a), (b), and (d), cannot change between submissions of the Notification and Full proposals.

**Q-7 Please clarify the page limit calculation for additional instruments and additional flight elements.**

Requirement B-4 in Appendix B of the AO describes the page limitations.

- Two extra page(s) each is (are) allotted for each additional separate, non-identical science instrument in the Science Section (Sections D and E),
- Two extra page(s) each is (are) allotted for each additional separate, non-identical flight element (e.g., cruise element, sample return element, additional spacecraft) (e.g., additional spacecraft are allotted two extra pages, but only non-identical spacecraft) in the Mission Implementation and Management Sections (Sections F and G),
- Two extra page(s) is (are) allotted for all science enhancement options (SEOs) combined in the Science Implementation Section (Section E).
- The total number of extra pages in the Science and Mission Implementation sections combined shall not exceed a maximum of 24 extra pages +5 for I-ALIRT + 5 for TDO regardless of the number of science instruments and unique flight elements.
- Ex 1: A proposal with 3 instruments (i.e., 2 additional instruments), 1 flight element, 2 SEOs, I-ALIRT, and TDO would have  $2*2$  (instrument) + 2 (SEO) + 5 (I-ALIRT) + 5 (TDO) = 16 extra pages
- Ex 2: A proposal with 11 instruments (i.e., 10 additional instruments), 4 flight elements (i.e., 3 additional flight elements), and TDO could potentially have  $[10*2$  (instruments) +  $3*2$  (flight elements)] + 5 =  $[26] + 5 = 31$  extra pages. However, because the combined extra pages for additional instruments, additional flight elements, and SEOs in the Science and Mission Implementation sections cannot exceed 24 pages, the total would be  $[24] + 5 = 29$  extra pages.

**Q-8 Will the Cost Table B3a be posted in the Program Library?**

The Excel tables file has been updated to be consistent with the IMAP Draft AO Tables and now includes Table B3a.

**Q-9 If proposing an I-ALIRT or TDO, where should the costs for these items be placed on the B3a and B3b tables?**

For costs up to the incentives, lines for the TDO and I-ALIRT should be added in both the Total Mission Cost and Enhanced PI-Managed Mission Cost sections of the

cost tables and identified as WBS 04. For costs in excess of the TDO and I-ALIRT incentives, lines for the TDO and I-ALIRT should be added under WBS 04 in the PI-Managed Mission Cost section of the tables.

**Q-10      What are the evaluation criteria for TDO evaluation?**

From Section 5.9.5: If a TDO is proposed, the Scientific Merit (Factor A-6), Implementation Merit (Factor B-7), and the TMC Feasibility (Factor C) will be evaluated independent of the Baseline and Threshold Missions, except for separability from and impact to the Baseline and Threshold missions.

Factor A-6 states: “Scientific value of any PI-developed ... Technology Demonstration Opportunities (TDOs), if proposed. This factor includes assessing the potential of the ... TDO to enlarge the impact of the investigation and/or the value to future investigations of demonstrating the selected technology.”

Factor B-7 states: “Scientific Implementation Merit and Feasibility of any PI-developed ... Technology Demonstration Opportunities (TDOs), if proposed. This factor includes assessing the appropriateness of the ... TDO to enlarge the impact of the investigation and/or add value to future investigations. Although evaluated by the same panel as the balance of Scientific Implementation Merit and Feasibility factors, this factor will have no impact on the overall criterion rating.”

Under Factor C, the Draft AO states: “The Factor C evaluation will not consider [the] ... TDO to be part of the Baseline Science Mission implementation. However, a separate evaluation of the feasibility of the proposed ... TDO implementation will be performed. The TDO has to be shown to be clearly separable from the implementation of the Baseline Science Mission.”

We note the contradictory language regarding Baseline and Threshold mission independence and separability between Section 5.9.5 and Factor C. The Final AO will correct the Factor C language to be consistent with Section 5.9.5, i.e. “Baseline and Threshold Mission” instead of “Baseline Science Mission.”

Also, Requirement 102 will be updated in the Final AO as follows:

Requirement 102 This section, which shall not exceed five pages in length, shall describe implementation and risks of the TDO, and how maturation of the TDO may create new capabilities for IMAP and/or future Heliophysics missions that may enhance their science return. At a minimum, this description shall address the following topics:

- 1) Description of technology demonstration implementation with respect to integration and testing of flight qualified hardware, if applicable.

- 2) Demonstration of the understanding of any inherent risks associated with the TDO. Also, address how no risks will be posed to either the baseline or threshold mission success.
- 3) Plan for demonstration of the technology.
- 4) Description of the benefits of the proposed technology demonstration, including description of how this technology may have continuing applicability to future Heliophysics missions.
- 5) Provision of a cost estimate for implementing the TDO. Include a discussion of the estimating techniques used to develop the cost estimate.

**Q-11      The Notification Proposal process is different from the past Notice of Intent process. Why was it introduced?**

The use of Notification Proposals was introduced in the SMD Research and Analysis programs. As stated in Section 6.1.2, “To facilitate planning of the proposal evaluation, in particular to avoid conflicts in the peer review process, and to inform prospective proposers of any changes to this AO, NASA requires all prospective proposers to submit a Notification Proposal...” A Notification Proposal was found to speed up the implementation of the evaluation process as all conflicts of interest are known in advance of submission of full proposals. Introduction of this process is expected to reduce the standard evaluation schedule by up to six weeks.

**Q-12      Are there attachments allowed in submitting a Notification Proposal?**

No, the main contents including the science objectives of the proposed mission, the general design or architecture of the mission, the instruments that may be included in the payload, and identification of new technologies that may be employed as part of the mission must be copied into a text box in NSPIRES. The maximum length allowed is 4,000 characters.

**Q-13      Within the solicitation there are instructions that talk about a lead for each institution. Elsewhere it says to name the PI. So who is the lead?**

Section 4.3.1.2 of the AO defines the responsibilities of the PI: “The PI is responsible for all aspects of the successful implementation of the mission.” Every institution with team members on a proposal needs to define which team member is their organizational lead. For the Notification Proposal, the AO states: “The name of the organizational lead from each organization (industrial, academic, nonprofit, and/or Federal) included in the proposing team, and the organization’s role in the proposed investigation.” The organizational lead is the Point of Contact (POC) for each institution involved in the proposal. The organizational lead must be a member of the proposal team and named in the proposal.

**Q-14      The communication and outreach plan in 5.5.2 is required. Can you clarify that? It is required to be done, but is it required in the proposal?**

The requirement is to develop the plan during Phase B. Proposers do not need to submit a communication and outreach plan for the IMAP AO.

**Q-15      Section 5.5.3 of the IMAP AO (as amended) states on page 34: "SC is not a form of teaching or research assistantship. SC must not be proposed to provide whole year or multi-year tuition and stipends normally provided by scholarships or fellowships. SC may be proposed to include the cost of incentives, stipends, travel, equipment or services, etc. designed to enable a student to successfully participate in Research and Development (R&D)."**

**How should I understand this? Does it mean that we can have graduate students working on the IMAP SC, but their tuition and research stipends should be paid through a different grant?**

This question was sent in before the IMAP Student Collaboration Document was posted in the IMAP Document Library. Stipends can be paid out of the Student Collaboration. However, as the IMAP Student Collaboration Document states: "An IMAP SC is distinguished from traditional assistantships, scholarships, fellowships or internships based on the level of hands-on experience in the IMAP spaceflight project. An IMAP SC therefore must not be proposed to provide whole year or multi-year tuition and stipends."

In other words, the purpose of the IMAP Student Collaboration is not to provide multi-year tuition or stipends, but it has to be the (hands-on) experience of participation in a NASA flight project.

**Q-16      When will the IMAP Student Collaboration Document be posted to the IMAP Program Library?**

This document was posted on August 17, 2017 to the Program Specific Documents section of the Program Library.

**Q-17      Who should be contacted for assistance with Deep Space Network costs?**

The web site provided in IMAP AO Section 5.2.5 for obtaining information and assistance with Deep Space Network costs has been recently revised. The URL to access is now:

<https://www.jpl.nasa.gov/deepspace/about/commitments-office/proposal-preparation/>

For questions concerning DSN capabilities and services, the following individuals can be contacted:

Steve Waldherr  
(818) 354-3416  
stefan.waldherr@jpl.nasa.gov

Robert Glen Elliott  
(818) 235-4162  
[Glen.Elliott@jpl.nasa.gov](mailto:Glen.Elliott@jpl.nasa.gov)

**Q-18 Please explain how the IMAP Full Proposals are to be submitted.**

The directions are posted on the NSPIRES page for the solicitation at:

<https://nspires.nasaprs.com/external/solicitations/summary/init.do?sollid={3C4D5DB7-30EF-FB0F-1BB9-2CD93D189E06}&path=open>

The document is entitled: “How to Create a Full Proposal based on the Notification Proposal (.PDF)”.