



Dynamic Neutral Atmosphere-Ionosphere Coupling (DYNAMIC) Solicitation

Pre-Proposal Conference
Announcement of Opportunity Overview

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Glossary

AO	Announcement of Opportunity
EP	Evaluation Plan
GDC	Geospace Dynamics Constellation
NOI	Notice of Intent
PMW	Potential Major Weakness
PPC	Pre-Proposal Conference
RPL	Rideshare Payload
SPA	Secondary Payload Adapter
TMC	Technical, Management, and Cost
TRL	Technology Readiness Level
VADR	Venture-Class Acquisition of Dedicated and Rideshare

Outline

- AO Process, Scope [6](#)
- Use of Non-DYNAMIC Measurements [12](#)
- Additional AO Aspects [17](#)
- Selection Process [22](#)
- Questions [26](#)

References Annotation

- Discussions may reference relevant solicitation documents/materials
 - AO §#.# AO Section
 - AO Req. ## AO Requirement
 - EP ## AO Evaluation Plan slide
 - PL XYZ Program Library document
 - PPC XYZ ## Pre-Proposal Conference presentation, slide
 - Q&A X-## AO Questions & Answers entry

Evaluation Organization

DYNAMIC PPC: Overview

Evaluation Panel

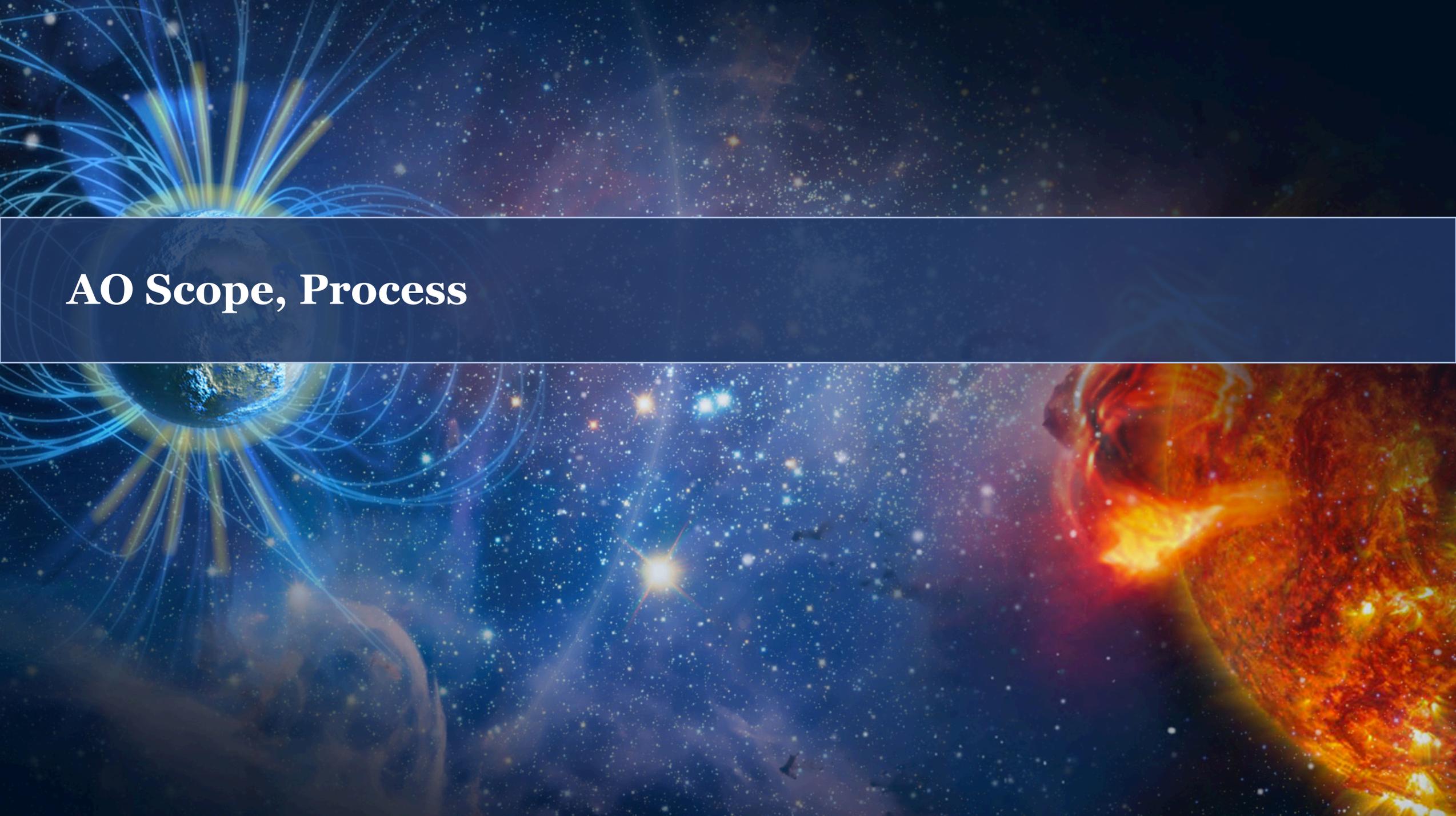
Dr Jared Leisner, Program Scientist
Heather Futrell, Program Executive
Science Mission Directorate (SMD), NASA Headquarters

Science Evaluation Panel

Dr Jared Leisner, Program Scientist
Heather Futrell, Program Executive
Heliophysics Division, SMD

TMC Evaluation Panel

Elisabeth Morse, Acquisition Manager (AM)
Behzad Raiszadeh, Backup AM
Omar Torres, Backup AM
NASA Science Office for Mission Assessments (SOMA)

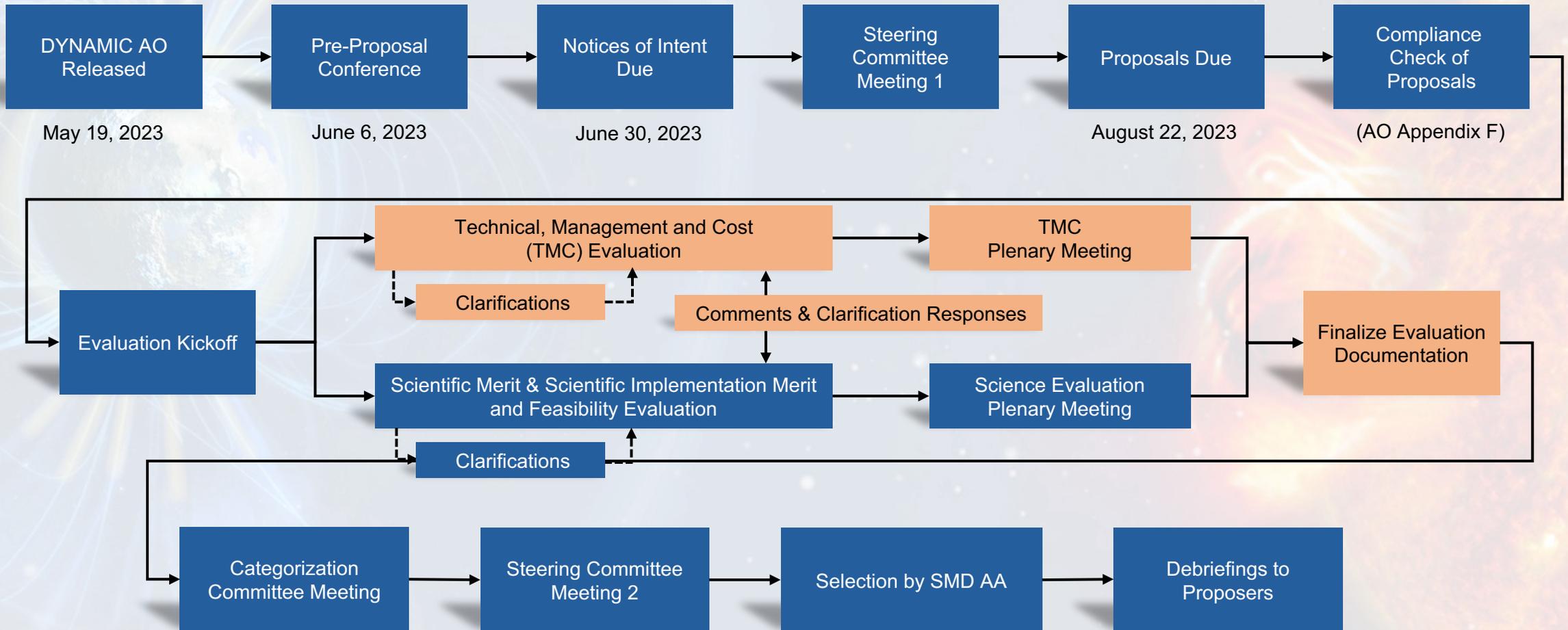
The background is a composite of three space-related images. On the left, Earth is shown with its blue and white magnetic field lines extending into space. The center features a vast field of stars of various colors against a dark blue background. On the right, a close-up of the Sun's fiery, orange and red surface is visible.

AO Scope, Process

Process

- Solicitation structure
 - Two-step process, but NASA reserves the right for one-step selection [AO §1.1]
 - Expects to select approximately two Step-1 proposals to conduct Phase A concept studies
 - Expects to down-select up to one project to proceed into Phase B
- Proposal submission [AO §3, §6]
 - Mandatory NOI (30 June 2023)
 - Proposals submitted via NSPIRES (22 August 2023)
 - Augmented proposals, accompanying material via Box (29 August 2023)
- Clarification process [EP 47-51, PPC TMC Review 33-37]
 - Material distributed, received via Box
 - Additional instructions will be distributed after proposal submission
- Selection process [AO §7.1.3, §7.3]

Process, Solicitation Flow



Scope, Required

- Science investigation
 - Focused, fully achievable science objectives [AO §5.1.1; AO Req. 4; Q&A S-3]
 - “A goal is understood to have a broad scope [...], while an objective is understood as a more narrowly focused part of a strategy to achieve a goal [...]. Proposed investigations **must achieve their proposed objectives**; however, the investigation is **expected to make progress toward a goal** without fully achieving it.”
 - Compelling advance on high-level DYNAMIC science questions [AO §2.3; AO Req. 3; Q&A S-3, E-2]
 - DYNAMIC science questions defined by [2013 Solar and Space Physics Decadal Survey](#)
- Complete spaceflight projects [AO §5.2.1]
 - Unadjusted AO Cost Cap of \$250M (FY23), not including access to space or contributions [AO §5.6.1]
 - Minimum unencumbered cost reserves, potential adjustments to the AO Cost Cap [PPC TMC Review 18]
 - Mission launch, AO-defined
 - AO-provided access to space [PPC TMC Review 20]
 - Delivery date to launch integrator NLT 31 December 2028 [AO Req. 102]
 - Launch around time of GDC launch [AO Req. 13, 14]
 - Mission lifetime, clearly defined
 - No AO-specified DYNAMIC mission lifetime [AO §4.1.4]
 - Projects expected to enhance safety and mission assurance requirements for proposed mission lifetime [PPC TMC Review 21]
 - GDC prime Phase E science operations planned for three years [AO §5.1.4]

Scope, Incentivized

- Hosting of GFE Auroral Imager [AO §5.9.5; PPC Overview 14]
 - \$10M FY23 incentive [AO §5.6.1]
 - Ability to use hosted Auroral Imager data in science investigation [AO §5.1.2.2, 5.1.4]
 - Baseline, not Threshold Investigation [AO Req. 13, 14]
 - Additional technical requirements [PPC TMC 19, PL Auroral Imager Accommodation Parameters and Measurement Capabilities]

Scope, Not Required

- Deferred to Step 2
 - Science Enhancement Option [AO §5.1.5]
 - Student Collaboration [AO §5.5.2; PL SPD-31]
- Deferred to Phase B
 - Communications Plan [AO §4.1.3]
- Not requested
 - Education Program Plan [AO §4.1.3]

The background is a composite of three distinct astronomical images. On the left, a view of Earth from space with its blue and white atmosphere and a complex network of glowing blue and yellow magnetic field lines extending into space. In the center, a field of stars against a dark blue background, with one particularly bright star showing a prominent four-pointed diffraction pattern. On the right, a close-up of a nebula or star-forming region, characterized by vibrant orange, red, and yellow colors with intricate filamentary structures.

Use of Non-DYNAMIC Measurements

Leveraging Non-DYNAMIC Measurements

- Projects must execute an investigation that uses measurements obtained during the mission science operations
 - DYNAMIC-provided measurements [AO Req. 7, 8]
 - GDC measurements [AO §5.9.4]
 - Scope of measurements [AO §5.1.2.1]
 - Interface between DYNAMIC and GDC [AO §5.4.1]
 - Auroral Imager, NASA-provided [AO §5.9.5]
 - Other non-DYNAMIC measurements [AO §5.1.2]
- Proposals are responsible for all aspects of the inclusion (in proposal), acquisition (during operations), and analysis (in science investigation) of all non-DYNAMIC measurements. [AO §5.1.2]

Leveraging GDC Measurements

- NASA is formulating DYNAMIC to permit the leveraging of GDC mission capabilities [AO §5.9.4]
 - May assume a subset of GDC measurement capabilities currently planned [AO §5.1.2.1; PL GDC Measurement Capabilities]
 - Restricted in assumptions of GDC constellation location, configuration [AO Req. 13, 14]
- Proposals leveraging GDC measurements are responsible for:
 - the interface with the GDC project [AO §5.4.1]
 - completion of the DYNAMIC investigation without scientific contribution from the GDC project [AO §5.1.2.1]

Leveraging Auroral Imager Measurements

- NASA is formulating DYNAMIC with the incentive to accommodate a NASA-provided Auroral Imager [AO §5.9.5]
 - May assume a set of measurement capabilities [AO §5.1.2.2; PL Auroral Imager Accommodation Parameters and Measurement Capabilities]
 - For Baseline Investigation, not Threshold Investigation [AO Req. 13, 14]
 - Must meet technical accommodation requirements [PPC TMC Review 19]
- Proposals accommodating Auroral Imager are responsible for:
 - the interface with the Auroral Imager team lead [AO §5.4.1]
 - completion of the DYNAMIC investigation without scientific contribution from the Auroral Imager team [AO §5.1.2.1]
 - archiving of Auroral Imager team-delivered data products [AO §5.1.2.2]

Leveraging Other Measurements

- NASA recognizes the value that other, non-DYNAMIC measurements can provide to a DYNAMIC investigation [AO §5.1.2]
 - In addition to GDC measurements, NASA-provided Auroral Imager
- Non-DYNAMIC data included in a proposal must be accompanied by a description of why those data have a low risk of unavailability to DYNAMIC for the lifetime of the project
 - Measurements produced by only a small number of providers are not low risk
- Proposals are responsible for all aspects of the inclusion (in proposal), acquisition (during operations), and analysis (in science investigation) of all non-DYNAMIC measurements. [AO §5.1.2]
 - Evaluation process will include assessment of the investigation's inclusion of the measurements
- DYNAMIC AO anticipates a small number of non-DYNAMIC measurements
 - Lower Atmosphere Characterizations [AO §5.1.2.3]
 - Space Environment Contextual Information [AO §5.1.2.4]
 - Ground-Based Observations [AO §5.1.2.5]



Additional AO Aspects

Data, Software Management Plans

- Projects are subject to NASA guidelines regarding data and software publication [AO §4.4.2, 4.4.3, 4.5.2, 4.5.3]
 - NASA Plan for Increasing Access to the Results of Scientific Research [PL NASA Plan for Increasing Access]
 - SMD Policy Document (SPD) 41: Scientific Information Policy for the Science Mission Directorate [PL SPD-41]
 - Heliophysics Division Science Data Management Policy [PL HPD SDMP]
- Data Management Plan documents data analysis, management, and archiving [AO Req. 9]
 - Calibration, publication, archiving of data
 - Data latency period
 - Documents
 - Project Data Management Plan [PL PDMP template]
 - Calibration and Measurement Algorithm Document [PL CMAD template, SDO/EVE CMAD]
- Software Management Plan documents scientific software and tools [AO Req. 10]
 - Products (software, tools, documentation)
 - Open source release from inception (license, repository)
 - Management (testing process, responsible team members)

Diversity and Inclusion Plan

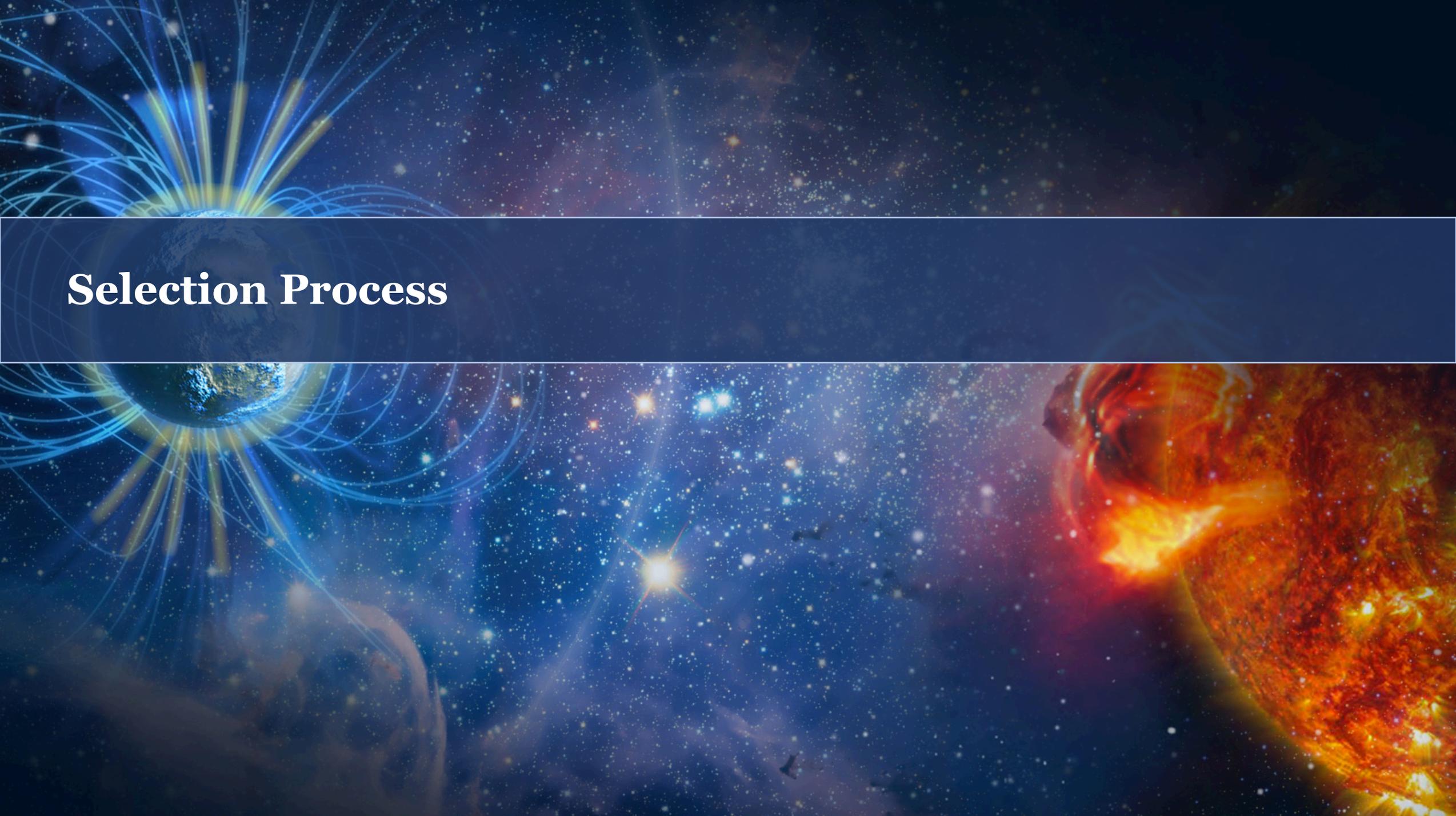
- NASA has core value of Inclusion [AO §5.3.8; PL Strategic Plan for DEIA]
 - Supports the benefits of inclusive and diverse communities
 - Expects that inclusion, diversity, equity, and accessibility values will be reflected in composition/culture of proposal teams
 - Published Strategic Plan for Diversity, Equity, Inclusion, and Accessibility
- Proposals must include a Diversity and Inclusion Plan [Req. 52]
 - Presents broad goals, objectives, project activities (incl. specific actions), methods to assess and document progress
 - Tailored to issues the investigation team expects to encounter during the proposed work
 - Encouraged to leverage institutional resources, but shall tailor to project-specific details
- Plan will be evaluated in Factor B-6 [PPC Science Review 26]

Citizen Science

- Citizen Science (CS) is a modality that can be proposed for use in the production of scientific results for project activities. [AO §5.1.6; Q&A S-6, S-9]
 - May be used in Baseline Science Investigation, incentivized activities, invited option/opportunity
 - Proposed and evaluated as part of the full proposal, held to same rigorous standards
 - CS in Baseline Investigation will be evaluated on Forms A, B, and D
 - CS in incentivized activities (e.g., SC), invited option/opportunity (e.g., SEO) will be part of those evaluations
 - Managed by the investigation science team [AO §5.4.4]
- Proposals with CS must fulfill additional requirements [AO Req. 17]
 - Requirements flow from SMD policy [AO §J.16; PL SPD-33]
- CS websites posted in the Program Library as external resources (i.e., not part of solicitation-referenced documents)
 - [NASA Citizen Science Leaders Series](#): Workshop series for scientists who lead projects
 - Links to [SMD Citizen Science](#): Recent projects, related resources, relevant groups
 - [CitizenScience.gov](#): Gov't-wide hub for projects, tools, resources

Letters of Commitment, Support

- Letters of Commitment and Support are both permitted [AO §5.8.1, §5.8.2, §5.8.3]
 - Letter of Commitment is unchanged from other recent AOs
 - Letter of Support may be included where Letter of Commitment is not applicable
- Letter of Support signees...
 - ...*do not* join as partners in the proposal
 - ...*do not* endorse the intrinsic merit, including significance or impact, of a proposal
 - ...*do* provide statements of fact about capabilities that are currently or will be available for the investigation's future use
- Letters of Support may be included to address potential risks of unavailability of non-DYNAMIC measurements to the project during science operations [AO §5.1.2.5]

The background is a composite of three distinct astronomical scenes. On the left, a view of Earth from space shows its blue and white surface, with a complex network of glowing blue and yellow magnetic field lines extending into the dark void. The center of the image is filled with a dense field of stars, ranging from small white specks to larger, bright yellow and blue stars with prominent diffraction spikes. On the right side, a large, vibrant nebula or star-forming region is visible, characterized by swirling patterns of orange, red, and yellow light, suggesting intense heat and energy.

Selection Process

Categorization and Steering Committees

- NASA will convene one Categorization and two Steering Committee [AO §7.1.2, EP 54]
 - Steering Committee, pre-evaluation
 - Categorization Committee, post-evaluation
 - Steering Committee, post-categorization
- Committees provide independent assessments within the solicitation process
 - Categorization Committee: Considers the evaluation results, categorizes the proposals for the Selection Official [AO §7.1.2]
 - Steering Committee: Assesses evaluation process, reviews results of proposal evaluation and categorizations
- Committees consist of only NASA Civil Servants and unconflicted Intergovernmental Personnel Act (IPA) appointees

Selection Decision

- Selection Official is SMD Associate Administrator
 - May consult with senior members of SMD and the Agency concerning the selections
- Sponsoring Division prepares for the selection decision [AO §7.1.3]
 - Final evaluation results
 - One or more options for the selection decision
 - Selection recommendation
- Selection Official may consider a wide range of programmatic factors [AO §7.3]
 - Based on proposal categorization and evaluations, influenced by Division programmatic considerations
 - Overriding consideration will be to maximize scientific value while advancing NASA's science goals and objectives

The image is a composite of three distinct astronomical scenes. On the left, a view of Earth from space shows its blue and white surface, with a complex network of glowing blue and yellow magnetic field lines extending into the dark void of space. The background is a vast field of stars, with a prominent bright yellow star in the center and several other stars of varying colors and brightness. On the right side, a close-up view of the Sun is shown, displaying its fiery orange and red surface with bright, turbulent solar flares and coronal mass ejections. The overall composition is set against a deep blue and black cosmic background.

Questions?

All further questions pertaining to the DYNAMIC AO
MUST be addressed by email to:

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(subject line to read “DYNAMIC AO”)

