NONREIMBURSABLE INTERAGENCY AGREEMENT BETWEEN

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AND THE U.S. NATIONAL SCIENCE FOUNDATION
FOR SCIENCE ENHANCEMENT THROUGH COORDINATED OBSERVATIONS
OF PARKER SOLAR PROBE, SOLAR ORBITER AND THE DANIEL K. INOUYE
SOLAR TELESCOPE

ARTICLE 1. AUTHORITY AND PARTIES

The National Aeronautics and Space Administration, located at 300 E Street SW, Washington, DC 20546 (hereinafter referred to as "NASA")" enters into this Interagency Agreement (hereinafter referred to as "IAA") in accordance with 51 U.S.C. § 20113(e). The U.S. National Science Foundation, Division of Astronomical Sciences, located at 2415 Eisenhower Ave, Alexandria, VA 22314-4684 (hereinafter referred to as "NSF"), enters into this IAA in accordance with the National Science Foundation Act of 1950 (42 U.S.C. § 1861 et seq.). NASA and NSF may be individually referred to as a "Party" and collectively referred to as the "Parties."

ARTICLE 2. PURPOSE

NASA's Parker Solar Probe and the ESA/NASA Solar Orbiter missions are in their prime operational phase, and the Daniel K. Inouye Solar Telescope (DKIST) is now operational. The three observatories, together with other space and ground-based assets, form an unprecedented multi-messenger constellation with the potential to revolutionize our understanding of the Sun and the inner heliosphere. This agreement is to coordinate observing time conducted by DKIST to coincide with the Parker Solar Probe perihelia and the remote sensing windows on Solar Orbiter, as well as other periods of special interest such as radial alignments and quadratures. The goal is to enhance the science return of all three projects through synergistic remote sensing and in-situ observations of features and phenomena at multiple levels in the solar atmosphere and in the solar wind.

Specifically, Parker Solar Probe is making close approaches to the Sun (24 orbits in the prime mission through 2025), flying closer than ever before; and Solar Orbiter, which began its seven-year science phase in November 2021, has close approaches to Sun every six months. Solar Orbiter has three remote-sensing windows in each orbit, nominally centered around the times of perihelion and maximum excursions in solar latitude. DKIST, a ground-based observatory, takes high resolution images of the Sun, and NASA wishes to work with DKIST to understand what causes phenomena in the solar atmosphere and in the solar wind that are observed remotely and in-situ by instruments on board the Parker Solar Probe and Solar Orbiter spacecraft.

ARTICLE 3. <u>RESPONSIBILI</u>TIES

NASA will use reasonable efforts to:

- 1. Work with NSF to organize a working group drawn from the relevant Parker Solar Probe, Solar Orbiter, and DKIST science team members to formulate an observing program that optimizes the multi-messenger science to be achieved through coordinated observations with the three facilities;
- 2. Assess the results of the multi-messenger science working group and develop a plan for coordinated observations that would maximize science return for Parker Solar Probe, Solar Orbiter and DKIST;
- 3. Make any coordinated observations performed by Parker Solar Probe and Solar Orbiter in conjunction with DKIST public without a proprietary period (e.g., within 6 months of observations taken); and
- 4. Investigate the possibility of a joint NASA-NSF funding opportunity to support this unique multi-messenger science (e.g., a multi-messenger guest investigator program).

NSF will use reasonable efforts to:

- 1. Work with NASA to organize a working group drawn from the relevant Parker Solar Probe, Solar Orbiter, and DKIST science team members to formulate an observing program that optimizes the multi-messenger science to be achieved through coordinated observations with the three facilities;
- 2. Assess the results of the multi-messenger science working group and develop a plan for coordinated observations that would maximize science return for Parker Solar Probe, Solar Orbiter and DKIST;
- 3. Work with the National Solar Observatory (NSO) and the DKIST operations team to secure a portion of Directors Discretionary Time (DDT) to conduct the coordinated multi-messenger science observations (per the DKIST Data and Access Policy, DDT is limited to a maximum of 10% of the total DKIST time per observing cycle);
- 4. Work with NSO to ensure any coordinated observations performed by DKIST in conjunction with Parker Solar Probe and Solar Orbiter available to the public without a proprietary period (e.g., within 6 months of the observations taken); and
- 5. Investigate the possibility of a joint NASA-NSF funding opportunity to support this unique multi-messenger science (e.g., a multi-messenger guest investigator program).

ARTICLE 4. SCHEDULE AND MILESTONES

The planned major milestones for the activities defined in the "Responsibilities" Article are as follows:

N/A

ARTICLE 5. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Antideficiency Act (31 U.S.C. § 1341).

ARTICLE 6. PRIORITY OF USE

Any schedule or milestone in this IAA is estimated based upon the Parties' current understanding of the projected availability of its respective goods, services, facilities, or equipment. In the event that either Party's projected availability changes, NASA or NSF, respectively, shall be given reasonable notice of that change, so that the schedule and milestones may be adjusted accordingly. The Parties agree that NASA's and NSF's use of its own goods, services, facilities, or equipment shall have priority over the use planned in this IAA.

ARTICLE 7. LIABILITY AND RISK OF LOSS

Each Party agrees to assume liability for its own risks arising from or related to activities conducted under this IAA.

ARTICLE 8. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

NASA and NSF agree that the information and data exchanged in furtherance of the activities under this IAA will be exchanged without use and disclosure restrictions unless required by national security regulations (e.g., classified information) or as otherwise provided in this IAA or agreed to by NASA and NSF for specifically identified information or data (e.g., information or data specifically marked with a restrictive notice).

ARTICLE 9. <u>INTELLECTUAL PROPERTY RIGHTS - INVENTION AND PATENT</u> RIGHTS

Unless otherwise agreed upon by NASA and NSF, custody and administration of inventions made (conceived or first actually reduced to practice) under this IAA will remain with the respective inventing Party. In the event an invention is made jointly by employees of the Parties (including by employees of a Party's contractors or subcontractors for which the U.S. Government has ownership), the Parties will consult and agree as to future actions toward establishment of patent protection for the invention.

ARTICLE 10. <u>RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND</u> MEDIA

NASA or NSF may, consistent with Federal law and this Agreement, release general information regarding its own participation in this IAA as desired. Insofar as participation of the other Party in this IAA is included in a public release, NASA and NSF will seek to consult with each other prior to any such release, consistent with the Parties' respective policies.

Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115-10 (the "NTAA"), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA's 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that, if this IAA is entered into pursuant to NASA's 51 U.S.C. §20113(e) authority, this IAA will be disclosed, without redaction, in accordance with the NTAA.

ARTICLE 11. TERM OF AGREEMENT

This IAA becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or five years from the effective date, whichever comes first.

ARTICLE 12. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Agreement by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 13. CONTINUING OBLIGATIONS

The rights and obligations of the Parties that, by their nature, would continue beyond the expiration or termination of this Agreement, e.g., "Liability and Risk of Loss" and "Intellectual Property Rights" and related clauses ["Financial Obligations" if reimbursable] shall survive such expiration or termination of this Agreement.

ARTICLE 14. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Agreement.

Management Points of Contact

NASA National Aeronautics and Space Administration

Simon Plunkett
Solar Orbiter Program Scientist
300 E Street SW
Washington, DC 20546
Phone: (202) 358-2034
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Arik Posner Parker Solar Probe Program Scientist 300 E Street SW Washington, DC 20546 Phone: (202) 549-3788

arik.posner@nasa.gov

National Science Foundation Division of Astronomical Sciences

Carrie Black Program Director (NSO & DKIST) 2415 Eisenhower Ave Alexandria, VA 22314-4684 Phone: (703) 292-2426 Fax: (703) 292-9034

cblack@nsf.gov

ARTICLE 15. DISPUTE RESOLUTION

All disputes concerning questions of fact or law arising under this IAA shall be referred by the claimant in writing to the appropriate person identified in this IAA as the "Points of Contact." The persons identified as the "Points of Contact" for NASA and NSF will consult and attempt to resolve all issues arising from the implementation of this IAA. If they are unable to come to agreement on any issue, the dispute will be referred to the signatories to this IAA, or their designees, for joint resolution after the Parties have separately documented in writing clear reasons for the dispute. As applicable, disputes will be resolved pursuant to The Department of the Treasury's Intragovernmental Transaction Guide (Treasury Financial Manual, Vol. 1, Chapter 2, Part 4700, Appendix 10 (hereinafter, the "Intragovernmental Transaction Guide")).

ARTICLE 16. MODIFICATIONS

Any modification to this IAA shall be executed, in writing, and signed by an authorized representative of NASA and the NSF.

ARTICLE 17. APPLICABLE LAW

U.S. Federal law governs this IAA for all purposes, including, but not limited to, determining the validity of the IAA, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

ARTICLE 18. LOAN OF GOVERNMENT PROPERTY

The parties shall enter into a NASA Form 893, Loan of NASA Equipment, for NASA equipment loaned to Partner.

ARTICLE 19. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	NATIONAL SCIENCE FOUNDATION DIVISION OF ASTRONOMICAL SCIENCES
BY: Joseph Westlake Director, Heliophysics Division, Science Mission Directorate	Smith, Robert Control of Digitally signed by Smith, Robert BY: Robert C. Smith Interim Director, Division of Astronomical Sciences
DATE: 8 July 2024	DATE: