June 11, 2026

Dr. Joe Westlake
Director, NASA Heliophysics Division

american astronomical society
SOLAR PHYSICS DIVISION

Dear Dr. Westlake,

The Solar Physics Division (SPD) of the American Astronomical Society commends and thanks the NASA Heliophysics Division (HPD) leadership team for formulating and sharing the new vision provided in the virtual community meeting on May 20, 2026. The SPD leadership has collected feedback from the community and presents it below. The SPD community looks forward to continuing the conversation with HPD leadership at the Solar Physics Division meeting in Baltimore in August.

We recognize that this is a long letter. It represents the breadth and depth of opinions we received from the community, as well as providing some concrete examples of the impacts of the change in philosophy and implementation. The bottom line up front: **While there were both positive and negative responses on the shift in focus of the Heliophysics Division, there was an overall consensus that the field, as it is currently structured, may not be able to absorb the changes in funding structure, and thus not be able to fully realize all the elements of the new Heliophysics vision.** Our most significant recommendation: **Seek feedback from and engage with a broad cross-section of the community and key community stakeholders, to ensure community engagement, and to understand the state of the workforce and roadblocks the community will face in delivering on the new vision. This engagement should occur prior to implementing major programmatic changes to the HPD scientific enterprise.**

The SPD embraces the recognition of the strong connections between heliophysics, space weather, exploration, and societal needs. We fully endorse the view that science has a responsibility toward human beings, toward society, and toward the future. Heliophysics is uniquely placed to help us understand our star, our planet, our technological environment, and our place in the cosmos. It can protect infrastructure, improve space-weather forecasting, support exploration, and inspire generations of scientists and citizens. Quoting a senior scientist, "...taken as a whole this re-emphasis really will resonate with our funding stakeholders, and in turn allow us to flourish." Additionally, the SPD recognizes the importance of building the relationships between scientists and forecasters and commends the Space Weather office for working to build those relationships through organized workshops.

Furthermore, the SPD has long believed in the importance of a united heliophysics community that brings together all subdisciplines, as demonstrated by our endorsement of the COSPAR Heliophysics Guidelines, and our regular, joint meetings with the Space Physics and Aeronomy (SPA) section of the American Geophysical Union (i.e., TESS / the Heliophysics Summit). The SPD advocates for finding synergies that achieve new scientific advancement and breakthroughs while maintaining the highly specialized, cutting-edge skillsets that comprise the subdisciplines within heliophysics.

Overall, then, aligning federal support from the Heliophysics Division with projects that demonstrate a clear connection with the overarching principles above will strengthen our community, and we applaud the Heliophysics Division for its shift in this regard. The SPD recognizes that the strength of our community is its multi-faceted nature. Our community is a vibrant mix of established scholars and research professionals from across the Sun's domain, balanced with a very healthy influx of students/early-career individuals who represent the future leadership and strength of the field. SPD members participate in large teams, small groups, and some even do their best work alone, sharing results through meetings and workshops and formally through the journal publication process.

Likewise, some SPD members work full time at national labs or private companies, while others are primarily professors at educational institutions and only commit a fraction of their time to research. Almost every response we received expressed concern over the future of the workforce, especially our early career scientists, and many of the recommendations below address potential impacts to the workforce. One early career scientist stated: "I love the ambition outlined in the slides and the vision they present for the future. However, ambitious scientific goals require people to achieve them. My concern is that, unless the funding environment improves, many of the early-career scientists and engineers needed to realize that vision will have already moved on." The educators are particularly important to the Heliophysics Division's goal of workforce development of fostering and supporting a healthy pipeline of heliophysics scientists and future leaders; without them our field could not survive. These critical educators include professors that may be the sole heliophysicist at undergraduate serving institutions. (The SPD and the SPA are planning to complete a survey of the heliophysics community this fall which will capture the state of the workforce. The first results will be available at the AGU meeting in December.)

There is significant concern that the future implementation of the plan presented, though not yet fully realized, will have an adverse impact on this highly specialized skillset and will fail to protect the educational pipeline necessary to achieve the vision presented by the HPD leadership. A large portion of our community expressed concerns that the targeted science objectives might be too narrow to drive the synergies required to achieve the needed understanding of the coupled systems-of-systems that are the bedrock of heliophysics. Further, there was significant concern that the pivot away from 'curiosity-driven' science will, in the long term, hinder scientific breakthroughs and innovation. We believe that application-driven needs and curiosity-driven science are both integral to a robust science program. There was also concern that over-emphasizing 'large' space weather events obscures the need for physical understanding of daily space weather that will be crucial for the new vision, including the Artemis and Moon to Mars programs.

Below is a list of recommendations from the SPD community.

Seek feedback and ensure broad community engagement before implementing major programmatic changes through transparent and inclusive processes.

We appreciate the broad community engagement that the HPD leadership is planning for the summer. We encourage additional listening sessions with members of the community at different types of institutions and in different career stages.

Ensure that 'societal value' is defined broadly, encompassing the needs of future generations and advancements in space weather capabilities, while also addressing immediate operational requirements.

NASA's enduring strength lies in fundamental discovery, ambitious space missions, and enabling future breakthroughs. Maintaining NASA's global leadership in heliophysics requires balancing near-term operational utility with sustained investments that enable the breakthroughs of tomorrow.

Ensure a diverse funding portfolio that spans the full range of project scales, from focused PI-led initiatives to expansive collaborative networks with an eye toward preserving the unique, highly specialized expertise that is required for optimal progress in heliophysics research.

Almost every response we received expressed concern over the R&A presentation, specifically that the move toward longer and larger awards would preclude smaller grants. There was near-universal appreciation on the emphasis on longer, more stable awards and reduced proposal burden, which could provide welcome stability and more scientific productivity. Additionally, there was a recognition that consolidated team efforts offer unique value. However, while the larger grants would reduce the number of proposals that would have to be written, the higher stakes and the added complexity of multi-faculty, multi-institutional proposals/grants may add managerial work both at the proposal preparation and grant administration stage. In addition, there is a large risk for gap years that would leave faculty or research scientists without grant funding, which could be devastating for the heliophysics community. A one-year gap in funding could significantly reduce the heliophysics workforce.

Additionally, an elimination or reduction in small-sized grant opportunities would most negatively impact early career scientists and faculty at small institutions. Small grants are the entry point for many early career scientists into the realm of independent research. Without them, these young scientists will lose vital training on leading research projects and contributing to NASA's vision.

Many small institutions rely on summer research support and smaller PI-led grants to maintain their heliophysics expertise and train students. If funding becomes concentrated in large, established groups, these institutions may remain technically eligible but become effectively noncompetitive. From their grant funding, faculty are expected to cover the full cost of undergraduate and graduate students, with the expectation for good performance being that each faculty member supports several students. Faculty evaluations - especially for tenure - look for the number and total sum of grant funding, especially focusing on the number grants led by the researcher, and number of graduated students.

Protect dedicated pathways for PI-led research that prioritize fundamental discovery, unconventional methodologies, and specialized investigations that may lack immediate practical outcomes but are essential for long-term progress.

It is reasonable and necessary for the overall HPD portfolio to have strategic goals and relate those goals to the needs of our stakeholders. It would be harmful, however, if every foundational research project were expected to demonstrate near-term operational use, user

engagement, product relevance, or readiness-level advancement. Heliophysics provides many examples of how transformative discoveries did not begin with a clear user, product, metric, or transition pathway. Ideas once considered speculative or even dismissed — including Alfven waves, helioseismology, and Parker's prediction of the solar wind — later became organizing concepts for understanding and predicting space weather. The value of foundational science is often not apparent at the outset. Work that appears specialized, narrow, or "niche" today may become central tomorrow. If evaluation criteria require every project to show near-term relevance to the power grid, GPS signal integrity, the health and well-being of astronauts, or a specific operational user, many valuable early-stage ideas may never receive support. We suggest calibrating reporting and engagement mandates to suit the specific nature of each program. Metrics such as readiness levels and operational transitions are vital for R2O2R efforts yet applying them as universal requirements risks stifling the exploratory nature of foundational science.

Reevaluate the plan to quickly ramp down missions.

Most of the responses we received expressed concern over the mission presentation on the immediate ramp down in missions after the prime mission period. In the R&A presentation, there was an appreciation of how longer, more stable awards would improve scientific outcome. The SPD has found the same to be true of missions. Many missions produce their most important science years after launch, once instruments are well understood and long-term datasets exist. The standard prime mission is just 2 years, not even 25% of a single solar cycle. The SPD requests that NASA consider extending the standard prime mission for heliophysics missions to ~50% of a solar cycle. When evaluating mission extensions, the SPD suggests prioritizing scientific merit over fixed timeline constraints and consider the unique contributions of long-baseline observations, solar-cycle continuity, and the capture of rare events that define the true return on NASA's initial investment.

If NASA invests in building and launching a mission, it should also invest in fully realizing the scientific return from that mission through strong support for mission science teams and guest investigator programs. The largest science funding for a mission comes in Phase E and the extended mission. If extended mission science funding ends, those scientists will require ROSES funding to continue those scientific investigations and perform new ones. Thus several community members questioned whether the accelerated ramping down of missions would be accompanied by a corresponding increase in R&A funding for analysis of mission data to ensure those scientific investigations still occur. Though a move to more frequent missions is exciting, there is additional concern that this would effectively move money away from science support and into engineering to the point of being unable to sustain the heliophysics science expertise.

Finally, the extended phase of many missions provides critical funding and training for early and mid-career scientists. It allows for key roles, such as Principal Investigator and Project Scientists to pass from the original scientists to mid-career researchers. This training is key to producing individuals to lead future NASA missions. Indeed, many of heliophysics' current mission PIs had their start by assuming a leadership role during the extended mission phase.

Consider the messaging.

Though the messaging in the presentation may resonate with our funding stakeholders, there were a few phrases that landed poorly in the heliophysics community. The statement about moving away from “curiosity-driven science” troubled many respondents, as it implies an artificial and false dichotomy, pitting curiosity against practical applications, when history has demonstrated that curiosity helps ensure that practical applications are achieved. Likewise, ‘directed research’ is a phrase that many interpreted as ‘only very particular research activities by specific institutions or researchers will get funding’, i.e., limited competition. The SPD endorses ‘aiming,’ rather than ‘directing,’ heliophysics research activities towards focused objectives and outcomes.

Also, for many decades, there have been large efforts throughout the community to bring all aspects of heliophysics together. We are glad that the Heliophysics Division is codifying this effort, but many found it without merit to say that we currently have “fragmented theories,” that we need to “break down silos,” and move away from “my science”. Examples of the community embracing the full field of heliophysics can be seen with the start of NASA’s Living with a Star program and the development of the Center for Integrated Space Weather Modeling (CISM), both of which started in the early 2000s, and even extends back to the International Solar-Terrestrial Physics (ISTP) science initiative to have coordinated, simultaneous investigations of the Sun-Earth space environment in the 1990s.

Again, we thank the NASA Heliophysics Division leadership team for continuing this discussion and for seeking feedback from the heliophysics community. We look forward to speaking with you in person soon.

Sincerely,

The SPD Committee
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