

David Chenette  
Heliophysics Division  
NASA Headquarters  
300 E. Street, SW  
Washington, DC 20546

April 18, 2014

Dear Dave,

As you know, the Solar and Heliospheric Management Operations Working Group (SH-MOWG) met on March 26 & 27 to discuss issues of importance to the Heliophysics Division. Thank you for taking time to speak with us. As a result of our discussions, both at NASA Headquarters and subsequently by e-mail, we have arrived at three findings. The first, concerning research and analysis funding, is especially significant and urgent. We met jointly with the Geospace MOWG on the second day, and they share the views expressed in the first and closely related second findings.

The SH-MOWG stands ready to help the Heliophysics Division in any way that it can. Please feel free to call on us.

On behalf of the committee,

Sincerely,

*Jim*

James A. Klimchuk, Chair

SH-MOWG members:

Doug Braun  
Alan Cummings  
Marc DeRosa  
Jim Drake  
Heather Elliott  
Justin Kasper  
Jim Klimchuk  
Kuen Ko  
David McKenzie  
Matt Penn  
Tom Woods

## 1. Research and Analysis Funding

Research and Analysis (R&A) funding is critical to the success of the Heliophysics Division. It is the primary avenue by which the nation achieves the full scientific return from its investment in space missions, and the means by which future missions are identified. It is therefore highly counterproductive that funding in the Heliophysics competed grants programs has decreased by 26% since 2004, when corrected for inflation. We applaud the Division's recognition of the problem and desire to make corrections. We fully support the plan to increase R&A funding by \$10M as soon as possible, as a start toward bringing research and analysis to a more appropriate fraction (15-20%) of the total Division budget. This is consistent with the recommendation of the Decadal Survey, which placed the DRIVE initiative as the top priority after completing the ongoing missions. We also applaud the Division's intention to contribute 2% of the estimated total cost of future missions to the Guest Investigator Program. However, we note that the next few years are critical, since scientists---especially the new generation of young scientists who are the future---are being forced to leave the field due to shrinking R&A funds. Without these researchers, the United States will not have the workforce required to execute a successful program in Heliophysics. We encourage the Division to realize its rebalancing goals as soon as possible.

## 2. Greater Transparency in Budget Reporting

The Heliophysics budget reporting lines obscure the true amount of funding for many Heliophysics activities, and often mislead various non-expert observers and government overseers (e.g., science reporters, researchers, sponsors in Congress and OMB). For example, only about 25% of the \$165.3M listed on the "Heliophysics Research" line for FY13 was spent on actual research; the remaining 75% was spent on infrastructure and administration, items that benefit the entire Science Mission Directorate (SMD) and are merely bookkept by the Heliophysics Division on behalf of the SMD. Consequently, such reporting has led to gross misconceptions that Heliophysics Research grant support had grown, as evidenced by numerous articles and blogs reporting with the recent Presidential Budget Request. In reality, competed grant funding has remained flat in nominal dollars for the past decade and thus has actually *decreased* in real dollars by 26% during this time period. We therefore encourage NASA to be more transparent in the way it reports budgets so that such detrimental trends are more apparent. As a start, we suggest that the "Heliophysics Research" budget line be renamed as "Heliophysics Infrastructure and Research." We also find that the current misconceptions might be avoided if the total funding for all the Heliophysics competed grants programs were clearly identified, so that it can be tracked from year to year and so that differences among divisions in the SMD can be more easily identified. We understand that official budget documents have restricted formats, so this information can be included in supplemental materials, which should be an important part of any budget presentation, written or otherwise.

### 3. Partnerships

Partnerships with other countries and with other US agencies are an important way to realize as many of the Decadal Survey science goals as possible under the highly constrained funding environment that we now face. There have been many outstanding successes in which NASA is a major partner in missions led by other agencies, Hinode being a recent example. Such partnerships should be pursued in the future. A different model that is underutilized is where foreign countries are major partners in NASA-led missions. Foreign countries have participated in NASA missions in the past, but usually by contributing components to instruments, not by contributing entire instruments or instrument suites. We suggest that the Heliophysics Division explore ways for other countries and other US agencies to be major partners in our future missions.