NASA Planetary Science Advisory Committee (PAC)
March 9-10, 2020 Virtual Meeting Findings

Europa Clipper Launch Vehicle

In 2016, Congress mandated that the Europa Clipper mission must launch on the Space Launch System (SLS). Given that schedule and cost concerns with the SLS are driving NASA to consider using an alternate launch vehicle, the Europa Clipper design must accommodate two different launch vehicles. The PAC finds that the potentially significant costs associated with maintaining compatibility with two different launch vehicles should be identified. Furthermore, the PAC finds that every effort should be made to avoid allowing these costs to impact the mission's ability to meet its science objectives regardless of which launch vehicle is eventually chosen.

New Frontiers

The PAC strongly endorses the importance of the upcoming review by the National Academies of Sciences, Engineering and Medicine (NASEM) Committee on Astrobiology and Planetary Science (CAPS) of the slate of missions for NASA's New Frontiers 5 Announcement of Opportunity. However, the PAC recognizes that the optimal methodologies to pursue the science objectives for any given New Frontiers priority investigation may have evolved since they were prioritized in the NASEM's last Planetary Science Decadal Survey and the changes in these optimal methodologies may not have been captured by the NASEM's recent mid-term review.

WFIRST

Great benefits for Solar System science have been achieved via remote sensing with NASA's Astrophysics Division (APD) missions (e.g., the Great Observatories). Software to allow these space telescopes to track moving targets has been key for enabling this science. As of this writing, moving target tracking has been removed from the APD's WFIRST mission, despite the presence of this capability on most Astrophysics missions to date. The PAC finds a need for information from the APD and/or the WFIRST project about the status of this capability and possibilities for including it. The PAC also finds that it would be prudent for SMD to consider whether this capability should be made standard for space telescope missions, to avoid having to revisit the question for each flight project at added cost and effort.

ISFM

The PAC finds that the philosophy and implementation of NASA's Internal Scientist Funding Model (ISFM), now in its third year, remains unclear and has not been sufficiently communicated to the planetary community. Per the PAC's July, 2018 findings, the implementation of this new approach to supporting science at NASA centers must be done in a transparent manner. Clear standards and metrics are necessary to evaluate whether the new approach is successful in maximizing scientific return to NASA per research dollar. The PAC finds

that NASA should present the standards for success and performance metrics of the first two years of the ISFM at the next PAC meeting to mitigate this lack of transparency. These metrics should include, e.g., how the ISFM has affected the number of submitted ROSES proposals, the fraction of the overall R&A budget now allocated through the ISFM vs. through standard peer-review, community service activities being undertaken by ISFM-supported scientists, metrics to assess ISFM scientific productivity and early career scientist involvement, and planned review standards for continuation and level of future ISFM allocations.

Planetary Data Ecosystem

The PAC applauds the innovative and useful efforts by the Planetary Science Division to define a Planetary Data Ecosystem. Their efforts to communicate the concepts behind, and importance of, a Planetary Data Ecosystem will significantly improve the discoverability and usability of high-level data products from NASA planetary spacecraft missions. The PAC recommends that these efforts continue to receive full support and maintain a high level of visibility with respect to the NASA Planetary Science Division.