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Technology Space Flight Test Program

NASA Advisory Council Recommendation:

The Science Committee urges that NASA institute a technology space flight test program to close the “mid-technology readiness level (TRL) gap” between Earth-based tests and flight readiness. This program would take testing of new flight technologies and instruments to the next level, bridging a critical gap to keeping the technology pipeline open and sustaining a robust technology development community.

Major Reasons for the Recommendation:

There is a persistent gap between testing of new flight subsystem and instrument technologies on Earth and their eventual acceptance for use in space flight. This is commonly termed the “mid-TRL” level gap. Technical reviewers of proposals for flight projects, and flight project managers, are very reluctant to approve new technologies for flight that have no previous flight heritage. To eliminate this conundrum, a flight program is required whose sole purpose is to take the necessary risks to fly new technologies and certify them for science and exploration flights. NASA’s past “New Millennium” technology flight program used to provide this service and should be revived.

NASA Response:

NASA agrees with this recommendation and plans the following actions:

1. As the NASA Chief Technologist reported at the April 2010 meeting of the NAC Science Committee, NASA has included in the President’s FY 2011 budget request a crosscutting technology demonstrations program.
2. The President’s FY 2011 budget request is currently under review by the U.S. Congress. NASA will monitor the progress of the President’s budget request and will report back to the NAC as events warrant.