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AMERICAN R&D POLICY AND THE PUSH FOR SMALL SPACE MISSIONS AT NASA

**Abstract**

The history of the National Aeronautics and Space Administration (NASA) is often told in a top-down fashion, focusing on key leaders and decision-makers as the drivers of NASA policy. This paper will highlight the role of the scientific community in shaping NASA policy, while also examining the effect of the broader U.S. research and development environment on the space science community.

Beginning in the 1970s, federal RD policies placed new pressures on scientists, particularly those in academia, to find independent funding. At the same time NASA's planetary flight missions became more elaborate and expensive, and as a result launched less frequently. By the early 1990s, a consensus began to build calling for a lower-cost line of missions that would launch more frequently. This appealed to NASA leadership (focused on reducing the costs of space exploration) as well as the science community (eager for more frequent missions to a more diverse set of destinations).

This paper will analyze the Discovery program's eleven flight missions to determine the degree to which the program has met the goals of NASA leadership or the scientific community, and how the professional landscape has shifted for the scientists involved in planetary science in the United States. The paper will also address the question of whether the program has served to alleviate some of the new challenges faced by researchers and students.

Through the use of documents from the NASA Historical Reference Collection, the Jet Propulsion Laboratory archives, the National Archives and Records Administration, National Science Foundation data, and interviews with representatives of the science community, this paper will show how policies enacted in the 1970s-1990s impacted universities and government entities, which in turn shifted requirements of researchers and students. The paper will also track changes in the NASA proposal process due to federal initiatives. This paper is based on new research not presented at any previous meeting.