

MSFC's Advanced Space Propulsion Formulation Task

Lawrence D. Huebner, Harold P. Gerrish, Joel W. Robinson, and Terry L. Taylor
Technology Development and Transfer Office
Mail Code ZP30, Marshall Space Flight Center, AL, 35812
(256) 544-5246, (256) 544-5853 (fax)
Lawrence.D.Huebner@nasa.gov

In NASA's Fiscal Year 2012, a small project was undertaken to provide additional substance, depth, and activity knowledge to the technology areas identified in the In-Space Propulsion Systems Roadmap, Technology Area 02 (TA-02), as created under the auspices of the NASA Office of the Chief Technologist (OCT). This roadmap was divided into four basic groups: (1) Chemical Propulsion, (2) Non-chemical Propulsion, (3) Advanced (TRL<3) Propulsion Technologies, and (4) Supporting Technologies. The first two were grouped according to the governing physics. The third group captured technologies and physics concepts that are at a lower TRL level. The fourth group identified pertinent technical areas that are strongly coupled with these related areas which could allow significant improvements in performance. There were a total of 45 technologies identified in TA-02, and 25 of these were studied in this formulation task. The goal of this task was to provide OCT with a knowledge-base for decision-making on advanced space propulsion technologies and not waste money by unintentionally repeating past projects or funding the technologies with minor impacts. This formulation task developed the next level of detail for technologies described and provides context to OCT where investments should be made.

The presentation will begin with the list of technologies from TA-02, how they were prioritized for this study, and details on what additional data was captured for the technologies studied. Following this, some samples of the documentation will be provided, followed by plans on how the data will be made accessible.