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High Thrust-To-Power Annular ION Engine Status. MICHAEL PATTERSON, NASA Glenn Research Center, JOHN FOSTER, University of Michigan — The NASA-patented Annular Ion Engine (AIE) may be one means of achieving significant advances in performance over state-of-art electric propulsion thruster technologies presently employed in space. In particular, the AIE may enable increases in the thrust-to-power (F/P) ratio. A technology option that can deliver increased F/P ratio is particularly attractive for application to Earth-orbital missions, where minimizing the transfer-time to operational orbit, or rapidly executing maneuvers, may be highly desirable. This work discusses the on-going activities at NASA Glenn Research Center and at University of Michigan to optimize the AIE ion optics and the discharge magnetics designs, to yield a high F/P AIE for Earth-orbital applications.

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