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Surface Material Deposition on a Ferroelectric Plasma Thruster[1]
B.T. HUTSEL, S.D. KOVALESKI, T. WACHARASINDHU, R. ALMEIDA, J.W. KWON, University of Missouri — The ferroelectric plasma thruster (FEPT) is being developed for micropropulsion. The FEPT produces thrust by the acceleration of ions from plasma formed at the surface of a ferroelectric disk. Ions are accelerated due to the electrostatic fields generated from an applied RF voltage. The generated surface plasma is composed of electrode material (silver or aluminum) deposited on the crystal. Experiments are being conducted to optimize the material deposition on the FEPT. Finite element simulation software is used to model the materials effect on the generated electrostatic fields. Measurements of total ion currents and plasma composition for various depositions are compared.

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B.T. Hutsel
University of Missouri

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