

SPACE PROPULSION SYMPOSIUM (C4)
Electric Propulsion (4)

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INFLUENCE OF PROPELLANT PROPERTIES ON THE PERFORMANCE OF A PULSED PLASMA
THRUSTER

Abstract

Pulsed plasma thrusters(PPTs) have been used widely in space flight mission due to their high specific impulses, low power requirements, and simple propellant management. The propellant is one of the most important factors which influent the performance of PPTs. Teflon is the most common propellant for PPTs. In this study, Teflon was modified by seeding additives to change the characteristics of ionization and heat conduction. The influence of properties of propellants on the performance of PPTs was investigated by measuring the performance parameters of PPTs using different modified propellants.