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RESEARCH AND DEVELOPMENT OF LIPS-300 ION THRUSTER

**Abstract**

Abstract: Combining the promotion of space propulsion demands during the development of electric propulsion technology, one of the trends is to develop ion thrusters with high power, multi work modes and multi-function capabilities. This paper depicts the design of LIPS-300 ion thruster which has three work modes at high, intermediate and low thrust level. It is capable of operating 175mN maximum thrust at Isp (specific impulse) 3500s with 5kw power consumption. Its applications are for fully electric thruster equipped satellite, high orbit maneuver and deep-space exploration missions, which require high thrust, high Isp long life and variable power capabilities to achieve maneuver, station keeping, de-orbit, momentum wheel discharge and main propulsion system for deep space exploration tasks. This paper introduces key parameters of LIPS-300 ion thruster, magnetic field structure and ion optics design.

Key words: LIPS-300, ion thruster, multi work mode