

IAF SPACE PROPULSION SYMPOSIUM (C4)  
Electric Propulsion (4)

Author: Dr. Alexander Lovtsov  
SSC Keldysh Research Centre, Russian Federation, lovtsov@kerc.msk.ru

Mr. Mikhail Selivanov  
SSC Keldysh Research Centre, Russian Federation, lovtsov@kerc.msk.ru

Mr. Andrey Kostin  
SSC Keldysh Research Centre, Russian Federation, lovtsov@kerc.msk.ru

STATUS OF HIGH-POWER ION THRUSTER AND FLOW CONTROL UNIT QUALIFICATION

**Abstract**

Using of high power space transportation systems equipped with electric propulsion needs development and qualification of electric thrusters with power equal to tens of kW. The optimal specific impulse of such systems designed for deep space missions should be very high (up to 10000 s). Elements for electric propulsion systems are developing at KeRC. The qualification status of 35-kW ion thruster IT-500 with nominal specific impulse 7000 s and flow control unit is described in this paper. The IT-500 is able to provide thrust in the range from 375 to 750 mN. Mechanical, environmental, thermal and acoustic tests are successfully completed. Lifetime tests are under processing at the moment.