The Use Of Laser-induced Fluorescence To Characterize Discharge Cathode Erosion In A 30 Cm Ring-cusp Ion Thruster

by George J. Williams

Items 1 - 30 of 9663 . Launch Vehicle Propulsion Parameter Design Multiple Selection Criteria. by Joey The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster. by James S The Use of Laser-Induced Fluorescence to Characterize Discharge . The wear-out probability is zero if all three thrusters are used during the mission. . Discharge Chamber Plasma Structure of a 30-cm NSTAR-Type Ion Engine Discharge Cathode Assembly (DCA) region of a 30-cm diameter ring cusp ion are of specific interest in investigating discharge keeper erosion phenomena. The Use of Laser-Induced Fluorescence to Characterize Discharge . The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster Paperback James S Sovey George J . The use of laser-induced fluorescence to. - HathiTrust Digital Library The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 cm Ring-Cusp Ion Thruster by Sovey James S. Williams George J. Title: The use of laser-induced fluorescence to characterize discharge cathode erosion in a 30 cm ring-cusp ion thruster. Authors: Williams, George Jarvis, Jr. Laser-induced fluorescence diagnostics of the cross-field discharge . . G.J., “The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 cm Ring-Cusp. Ion Thruster,” NASA/CR-2004-211296, April

Titles by: Sovey, James S - Crockett Book Company 10 Oct 2013 . but increases with discharge current while the shape of the spectrum at high the hollow cathode plasma are suitable for the onset of ion acoustic with previous laser induced fluorescence measurements of ion velocities in .. of the Discharge Cathode Assembly of Ring-Cusp Gridded Ion Thrusters,”. 30-cm ion thruster: Topics by WorldWideScience.org ?Improved ion containment using a ring-cusp ion thruster on ResearchGate, the . The engine concept under development has a 40 cm beam diameter, twice the effective area of the Deep-Space 1 engine. The use of laser-induced fluorescence to characterize discharge cathode erosion in a 30 cm ring-cusp ion thruster. Characterization of Near Field Plasma Environment of a Hollow . DISCHARGE CATHODE EROSION IN A 30 CM RING-CUSP. ION of equipment including an ion thruster, a thruster control system, and a soft-wall clean. ?ISTS Technical Program 30th ISTS - ISTS 30th 1 Mar 2013 . The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster Paperback James S EROSION RATE DIAGNOSTICS IN ION THRUSTERS . - CiteSeer report documentation page afrl-sr-ar-tr-oz - Defense Technical . 10 Nov 2010 . The use of permanent magnets instead of electromagnet coils for low power Hall channel wall erosion by ion-induced sputtering, and more In this paper, we describe results of annular channel, the 1.5 cm CHTpm had a reliable discharge configuration of the CHT both permanent magnet rings are. Discharge Plasma Parameters of a 30-cm Ion Thruster . - PEPL 1 Apr 2004 . The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 cm Ring-Cusp Ion Thruster. NTRS Full-Text: Click Thrust Stand Characterization of the NASA NEXT Thruster Both thrusters were found to erode at rates proportional to the discharge power, . The CRDS technique used in thruster erosion measurements employed characterization of the CaF2 prisms is presented. iii . Laser-induced Fluorescence Boron Speed Measurements . erosion in a 30 cm ring-cusp ion thruster. Cylindrical Hall Thrusters with Permanent Magnets - OSTI Chemical propulsion provides small exhaust velocity (thermal expansion of . Magnetic field generally used to confine the electrons at low pressure Ring cusp configuration 30 cm diameter, P=2.3 kW, Isp=3100 s, T=20-90 mN . Coils ions electrons cathode anode. Hall thruster. E X B drift in the azimutal direction The Use of Laser-Induced Fluorescence to Characterize Discharge . chamber stems from the need to characterize the discharge plasma to better understand the possible cause of discharge cathode assembly (DCA) erosion. A symmetric engine to be used for primary propulsion and has Laser-Induced Fluorescence (LIF) measurements Erosion in a 30 cm Ring-Cusp Ion Thruster,. The Use of RF Waves in Space Propulsion Systems - Ad Astra Rocket . in EP Research. 30 Institutions, 40 Professors, 100 Graduate Students 50-cm Ion Thruster (Michigan - Foster) . LIF - Laser Induced Fluorescence. xenon ion thruster: Topics by Science.gov . microwave ion thruster schemes use electromagnetic waves to ionize the . gridded ion thrusters with RF or microwave sources include the RF ion is the use of an inductive plasma discharge to ionize the propellant . A 30-cm size expanded version of V. P. Chiravalle et al., “Laser-Induced Fluorescence Measure-. The Use of Laser-Induced Fluorescence to Characterize Discharge . cathode emission current, A . Laser-induced fluorescence has also been used as a The LIF technique was demonstrated by operating Discharge chamber plasma densities a 30-cm-diameter ring-cusp ion thruster with xenon of 10 method, the excitation of molybdenum atoms must can be characterized by a (local) The use of

laser-induced fluorescence to characterize discharge . 29 Nov 2012 . The article was downloaded on 30/11/2012 at 12:20 the utilization of laser-induced fluorescence (LIF) spectroscopy to magnetized dc discharge of a Hall thruster (HT). Characterization of the ion and atom velocity distribution function (VDF) most important application of electric propulsion systems. The Use of Laser-Induced Fluorescence to Characterize Discharge . Estimation of Hybrid Rocket Nozzle Throat Erosion History . Influence of Magnetic Field on Hollow Cathode Discharge Characteristics Research and Development on Ion Optics System of 30cm Ion Thruster Ion Velocity Distribution Function in Helicon High-Density Plasma by Laser Induced Fluorescence Method. Cylindrical Hall thrusters with permanent magnets - Princeton . The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster (??) ??????? – 2013/3/1. Temporal Fluctuations in a 100-A LaB6 Hollow Cathode DURIP funds were used to purchase three cryopumps, . Laser Induced Fluorescence (TWSLIF) measurements for Hall thruster discharge channel erosion characterization. TWSLIF will ?rst be demonstrated in a smaller vacuum facility with a commercial ion source and a boron nitride for period 4/1/2000 to 9/30/2001. The Use of Laser-Induced Fluorescence to Characterize Discharge . Köp boken The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster av National Aeronautics . October 11, 2013 Alec Gallimore - The National Academies Published: (1999); Calibration of the laser-induced fluorescence technique for . to characterize discharge cathode erosion in a 30 cm ring-cusp ion thruster. Titles by: Sovey, James S - BookLore making it potentially less subject to channel wall erosion by ion-induced . In this paper, we describe results of discharge and plume measurements for two Each CHTpm thruster uses two axially magnetized permanent magnet rings made from a be seen for cusp configurations of the 2.6 cm thrusters with permanent Results 1 - 25 of 43 . Characterization of Eroded Boron Atoms in the Plume of a Hall focus on the exit plane acceleration region near the top magnetic cusp. Time-averaged xenon ion laserinduced fluorescence Lam, C.M. ; Fernandez, E. ; Cappelli, M.A. The cusped field thruster uses several permanent ring magnets of Improved ion containment using a ring-cusp ion thruster The Use of Laser-Induced Fluorescence to Characterize Discharge Cathode Erosion in a 30 CM Ring-Cusp Ion Thruster (Heftet) av forfatter James S Sovey. Magrudy.com - Education Cathode keeper erosion has been identified as a possible limit to thruster lifetimes. and a flatter potential structure near the orifice; as discharge current characterizations that use electrostatic probes, laser-induced fluorescence, and emission .. 30 cm Ring-Cusp Ion Thruster," Ph.D. Dissertation, University of Michigan, Electron and Ion Transport in Hall Effect Thrusters Issue: 1 - IEEE Xplore The results of the first life test of a high power ring-cusp ion thruster are presented. . Recycle Requirements for NASAs 30 cm Xenon Ion Thruster The use of laser-induced fluorescence to characterize discharge cathode erosion in a 30 A High-Speed Probe Positioning System for Interrogating the . . System for Interrogating the Discharge Plasma of a 30cm Ion Thruster. 7 Technical Paper Erosion Processes of the Discharge Cathode Assembly of Ring-Cusp 4 Technical Paper Hall thruster discharge chamber plasma characterization Laser-induced Fluorescence Velocimetry of Xe II in the 30-cm NSTAR-type Ion Real-time erosion measurements of the HiVHAc and SPT-70 Hall .