

IEPC 2017 - Complete Technical Program with Session Information - PRELIMINARY

		<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>	<u>Track 7</u>	<u>Track 8</u>	<u>Poster</u>	
		Monday								Poster	
		Hall Thrusters - 1 (Peter Peterson, Taylor Matlock) Conference A	Cathode Physics - 1 (Natalie R. Caruso, Shigeru Yokota) Conference B	Hall Thruster Modeling - 1 (Eduardo Fernandez, Yong Cao) Conference C	Overviews of Flight and Other Programs - 1 (Pratik Saripalli, Akira Kawasaki) Conference D	Micropropulsion - 1 (Hiroyuki Koizumi, Ane Aanesland) Conference 4	Ion Thrusters - 1 (Yasushi Ohkawa, Hans Leiter) Conference 6	Diagnostics and Measurements - 1 (Andrei Smolyakov, Yoshiki Matsunaga) Conference 7	RF Thrusters - 1 (Daisuke Ichihara, Yoshitaka Tani) Conference 8	Poster	
9:00	570	Development of Stationary Plasma Thruster SPT-230 with Discharge Power of 10...15 kW <i>Mira Bernikova, Vladimir Gopanchuk, Roman Gniazdor, Valery Zhsan, Maria Katsanova, Kirill Savchenko, Igor Pyatykh</i>	Alternative Neutralization Technologies Enabling the use of Exotic Propellants in Electric Propulsion <i>Antonio Gurciullo, Andrea Luca Fabris, Aaron Knell</i>	Study of Electron Transport in Hall Effect Thruster with 2D-theta Particle-In-Cell Simulation <i>Vivien Croes, Trevor Laffer, Romin Lucken, Antoine Tavant, Anne Bourdon, Pascal Chabert</i>	Status of the Asteroid Redirect Robotic Mission (ARRM) <i>John R. Brophy and Thomas M. Randolph</i>	Laboratory Testing of a Modular 8- Thruster Scalable Ion Electro Spray Propulsion System <i>Andrea G. Iou Schouten, Brian B. Brady, Myrlam P. Easton, Aura C. Labatete-Goepfinger, Thomas J. Curtiss</i>	Double-Sided Ion Thruster for Contactless Space Debris Removal: Experimental Results <i>Mantas Dobkevicius, Davar Feli, Maria Simanova, Agha Mingo Perez</i>	Active Wave Injection Diagnostic for Plasma Dispersion Relation Measurements <i>Sebastián Rojas Mata and Edgar V. Choucri</i>	RF vs. Acceleration Power Distribution in Helicon Electrostatic Thruster <i>Daisuke Ichihara, Yoshiyuki Nakagawa, Akira Iwakawa, Akihiro Saso, Takuya Yamazaki</i>	90	POSTER: Numerical Study of Power Deposition, Transport, and Acceleration Phenomena in Helicon Plasma Thrusters <i>Mirko Magarotto, Franko J. Bosi, Giacomo Gallina, Marco Manente, Paolo de Calo, Fabio Trezzolani, Daniele Pavarin, Davide Melazzi</i>
9:20	40	High-Impulse SPT-1000 Thruster with Discharge Power of 1.0...3.0 kW <i>Roman Gniazdor, Anton Komarov, Olga A. Mitrofanova, Pavel Saevets, Denis Semenenko</i>	Characterization of Thermionic Emission from Multiple Fabrication Methods of 12[CaO]-7[MgO] ₂ Electrode <i>Natalie R. S. Caruso and Michael S. McDonald</i>	Kinetic Modeling of Plasma Plume using Multi-GPU Forest of Octree Approach <i>Revathi Jambunathan and Deborah Levin</i>	The Strategic Research Clusters on Space Electric Propulsion: A New Instrument of the European Commission <i>Lopez Reig and José González del Amo</i>	Colloid Thruster Droplet Evolution Analysis Using Molecular Dynamics <i>Neil Mehta and Deborah Levin</i>	Update of the NEXT Ion Thruster Service Life Assessment with Post-test Correlation to the Long Duration Test <i>John T. Yin, George Soulas, Rohit Shastri, Maria Choi, Timothy Sauer, Verhey</i>	Interferometric Force Probes for Thruster Plume Diagnostics and Indirect Thrust Measurements <i>Thomas Trottenberg, Alexander Spethmann, Holger Kersten</i>	Two-Dimensional Characteristics of Electromagnetic Plasma Acceleration by Using Rotating Magnetic Field <i>Takeru Furukawa, Kohji Takizawa, Daisuke Kuwahara, Shunjiro Shinohara</i>	91	POSTER: Study on the Influence of the Magnetic Field Topology on the Power Deposition in a Helicon Plasma Source <i>Mirko Magarotto, Franko J. Bosi, Giacomo Gallina, Marco Manente, Paolo de Calo, Fabio Trezzolani, Daniele Pavarin, Davide Melazzi</i>
9:40	41	Investigation of the Thrust Vector Angle Stability of Stationary Plasma Thrusters <i>Roman Gniazdor, Anton Komarov, Sergei Pridanikov, Kiril Savchenko</i>	Development of a Microplasma-Based Heaters, Inserters, Cathode <i>Ryan P. Gott and Kunming Gu</i>	Analytical and Numerical Study of the Electron Velocity Distribution Function in a Hall Discharge <i>Andrey Shagayda, Aleksey Tarasov, Dmitry Tomilin</i>	Electric Propulsion Activities at ESA <i>José González del Amo</i>	A Neutralizer-Free Gridded Ion Thruster Embedded into A 1U CubeSat Module <i>Dmytro Rafalskyi and Ane Aanesland</i>	Azimuthal Velocity Measurement of μ 10 Microwave Ion Thruster by Laser Induced Fluorescence Spectroscopy <i>Ryudo Tsukazaki, Yuta Yamamoto, Satoshi Hosoda, Kazutaka Nishiyama, Hitoshi Kunikida</i>	Mitigation of Detrimental Electric Thruster Force Measurement Effects <i>Andreas Neumann, Chris Volkmar, Christopher Giele, Klaus Hannemann</i>	Thrust Measurement and Error Analysis of the IMPULSE Resonant Microwave Cavity Drive <i>Michael S. McDonald, Michael W. Numerger, Logan T. Williams</i>	260	POSTER: Reducing the effects of Aerodynamic Forces on Small Satellites operating in Very Low Earth Orbit through shape optimisation <i>Jonathan A. Walsh, Lucy Berthoud, Andrew Bacon</i>
10:00	195	Characterization of Secondary Electron Emission Yield from Velvet-Type Materials <i>Angelica Ottaviano, Chenggang Jin, Sanhaa Baherjee, Yevgeniy Raibets</i>	Low Current Heaterless Hollow Cathode - Development Overview <i>Dan Lev, Dmytry Mykytychuk, Gal Alon, Leonid Appel, Omri Seeman, Yoav Hadass</i>	The Influence of a Hall Thruster Operating Mode on the Plasma Sheath Location <i>Andrey Shashkov and Alexander Lovtsov</i>	Electric Propulsion R&D at Osaka Institute of Technology <i>Ryota Fujita, Hirokazu Tahara, Kyoko Takada</i>	Life Time Characterization of the In-line Screw Feeding Vacuum Arc Thruster <i>Igal Kronhaus, Yonatan Maor, Matteo Laterza</i>	Design and Optimization of a Ring Cusp Thruster with Simulated Beam Extraction <i>Felix Cannat, Michele Coletti, Simone Ciarrali, Stephen B. Gabriel</i>	Determination of Electromagnetic Emission from Electric Propulsion Thrusters Under Ground Conditions <i>Sergey Baranov, Nikolay Vazhenin, Andrey Plokhikh, Gari Popov</i>	Experimental Investigation of Thrust Performance on Position Relationship between RF Antenna and Magnetic Cup <i>Yuya Oshio, Tomohiro Shimada, Nishida</i>	226	POSTER: Azimuthal Dynamics in a Hybrid Model of Hall Thrusters <i>Eduardo Fernandez</i>
10:20	85	Performance Characteristics and Interior Plasma Phenomena of High-Power & High-Specific-Impulse Hall Thruster for Manned Mars Exploration <i>Yusuke Kurokubo, Yuya Takahata, Tetsuo Kakuma, Mitsuyoshi Kobayashi, Kyohei Fujiwara, Tetsuji Kawakami, Hirokazu Tahara, Kyoko Takada, Tomoyuki Ikeda</i>	Plasma and Thermal Performance Characteristics of a 10-Ampere Class C12A7 Hollow Cathode <i>Michael S. McDonald and Natalie R. S. Caruso</i>	Development of a Background Flow Model of Hall Thruster Neutral Injection <i>Jason D. Frieman, Thomas M. Liu, Mitchell L. R. Walker</i>	Research and Development of PROITERES Micro/Nano-Satellite Series at Osaka Institute of Technology <i>Ryota Fujita, Hirokazu Tahara, Kyoko Takada</i>	Time-of-Flight Characterization of a Microfabricated Electro Spray Thruster Emitter Array <i>Enric Grustan-Gutierrez, Manuel Gamero-Castaño</i>	Status Report of Diamondoids as Alternative Propellants for Ion Thrusters <i>Patrick Dietz, Peter E. Köhler, Waldemar Gärtner, Kristof Holke, Peter J. Klar, Peter R. Schreiner</i>	Analysis for the Effects of Electromagnetic Emission from Stationary Plasma Thrusters on Interference <i>Nikolay Vazhenin and Andrey Plokhikh</i>	Superficial Study for Effects of Acceleration Frequency on the Performance in an Electrodeless Inductive Plasma Accelerator <i>Kazuya Yaginuma, Hokuto Sekine, Hiroyasu Kurashige, Toohiro Matsumura, Hiroyuki Koizumi, Kimiya Komurasaki</i>	533	POSTER: Characterization of a 1/8" E-Beam, Inc. BaO Hollow Cathode <i>Matthew Baird, Nagual Simmons, Kristina M. Lemmer</i>
10:40	215	Ion Acceleration through a Magnetic Barrier - Toward an Optimized Double-Stage Hall Thruster Concept <i>Jean-Pierre Boeuf, Loïc Dubois, Freddy Gaboriau, Laurent Liard, Dominique Harribey, Carole Hénaux</i>	Development and Characterization of an C12A7 Low Power Hollow Cathode <i>Martin Tajmar and Richard E. Wirz</i>	OrCa2D Simulations for Life Assessments of the BaO and LaB6 Hollow Cathode Options in the Hall Effect Rocket with Magnetic Shield <i>Alejandro Lopez-Ortega, Ioannis G. Mikelides, Dan M. Goebel</i>	An Overview of Electric Propulsion Activities at CNES <i>Claude Boniface and Thomas Lienart</i>	2D mapping of a vacuum arc thruster plasma plume parameters <i>Antoine Blanchet, Luc Herrens, L. Vieoiss</i>	Three-Dimensional Particle Simulations of Discharge Characteristics for a Miniature Microwave Discharge Ion Thruster Using Water as Propellant <i>Kengo Nakamura, Hiroyuki Koizumi, Yoshinori Takao</i>	Engineering Model Development of Water Resojet Propulsion System: AQUARIUS for the SLS EM-1 CubeSat: EQUULEUS <i>Jun Asakawa, Keita Nishi, Hiroyuki Koizumi, Naoki Takeda, Ryu Fusee, Kimiya Komurasaki</i>	Design and Optimization of a High Density Helicon Plasma Source for a MW-Level Electromagnetic Thruster at LIP <i>Xiaodong Wen, Tianping Zhang, Yanhui Jia, Chenchen Wu, Ning Guo, Xinfeng Sun</i>	460	POSTER: Investigation of Plasma Chemistry of 2-Hydroxyethylhydrazine Nozzle <i>Forrest Kidd and Kristina Lemmer</i>
11:00	71	Characteristics of Self-Induced Magnetic Field of Hollow Cathode Discharge <i>Tianhang Meng, Zhongli Ning, Daren Yu</i>	Characteristics of Self-Induced Magnetic Field of Hollow Cathode Discharge <i>Tianhang Meng, Zhongli Ning, Daren Yu</i>	Gridded Ion Engine Standardized Electric Propulsion Platforms <i>Faied Infed</i>	Gridded Ion Engine Standardized Electric Propulsion Platforms <i>Faied Infed</i>	Development of a 60,000-s, Lithium-fueled, Gridded Ion Thruster <i>John R. Brophy</i>	Study of the RMF Effect on the Acceleration of Field Reversed Configuration Thruster <i>Xinfeng Sun, Yanhui Jia, Tianping Zhang, Juanjuan Chen</i>	Study of the RMF Effect on the Acceleration of Field Reversed Configuration Thruster <i>Xinfeng Sun, Yanhui Jia, Tianping Zhang, Juanjuan Chen</i>	351	POSTER: Investigations of Plasma Interference in Hall Thruster Cluster Operation <i>Kazuya Oshio, Takeshi Miyasaka, Tomohiro Kita, Masahiro Sakoda, Ryo Kawamura, Makoto Asahara, Kohji Kurii, Yuki Mamiya, Hiroki Kanie</i>	
11:20	203	Numerical Study on Energy Loss in Discharge Channel of Hall Thruster <i>Jian-fei Long, Tianping Zhang, Ming-ming Sun</i>		ST7 Disturbance Reduction System (DRS) Technology Demonstration and Future Gravity Wave and Escalator Observatory Mission Applications <i>John Ziemer, Andrew Romero-Wolf, Charley Dunn, Tom Randolph, Garth Franklin, Curt Geller, Sharyam Javdani, Than Li, Colleen Marrese-Reading, Rena Li, Phil Barel, Vlad Hrubty</i>						188	POSTER: 5W Level Magnetic Field Talked Micro Thruster with Anode Layer <i>Seunghun Lee, Holak Kim, Keuntae Doh, Wonho Choe</i>
11:40	294									294	POSTER: In situ Erosion Measurements of Advanced Structured Materials for High-Performance Electric Propulsion <i>Gary Li, Carrie Hill, Michael Holmes, Richard E. Wirz</i>

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Monday Lunch											
12:00											
	Hall Thrusters - 2 (Yoshinori Nakayama, Rafael Borrajo) Conference A	Cathode Physics - 2 (Zhongxi Ning, Laurent Garrigues) Conference B	Hall Thruster Modeling - 2 (Kenichi Kubota, Francesco Taccogna) Conference C	Overviews of Flight and Other Programs - 2 (Rei Kawashima, Mariano Andreucci) Conference D	Micropropulsion - 2 (Alain Demaire, Michael Micci) Conference 4	Ion Thrusters - 2 (Stefan Weis, Daoru Han) Conference 6	Diagnostics and Measurements - 2 (Justin Little, Ryudo Tsukizaki) Conference 7	MPD Thrusters - 1 (Luc Herrero, Akihiro Sasoh) Conference 8			
13:40	228 High-Power Performance of a 100-kW class Nested Hall Thruster Scott J. Hall, Benjamin A. Jorns, Alec D. Gallimore, Hans Kamhawi, Thomas W. Haag, Jonathan A. Mackey, James H. Gilland, Peter Y. Peterson, Matthew J. Baird	287 Advancements in Reservoir-Type and Scandate Hollow Cathode Technology Wayne L. Ohtinger, Bernard Vancil, John Lorr, Victor Schmidt, James E. Polk	178 A First-Principles Model Based on Saturation of the Electron Cyclotron Drift Instability for Electron Transport in Hydrodynamic Simulations of Hall Thrusters Alejandro Lopez-Ortega, Ira Katz, Vernon K. Chaplin	166 Development of a Solar Electric Propulsion System for The First Brazilian Deep Space Mission Jo� Leonardo Ferreira, Alexandre A. Martins, Rodrigo Andr�s Miranda, Ivan Soares Ferreira, Alexander Subbanov, Othon Cabo Winter	149 First-Principle Modelling of Electrostreaming, and the Effects of Dissipation in Electropray Thrusters Manuel Gamero-Casta�o	264 Integrated Testing of Iodine BIT-3 RF Ion Propulsion System for 6U CubeSat Applications Michael Tsay, John Frongillo, Jung Zwaikien, Joshua Model, Carl Barcroft	186 Performance and Vibration Characterization of a Low-Thrust Toroidal Thrust Balance Logan T. Williams, Michael S. McDonald, Michael F. Osborn	80 Thermal Analysis of High-Power Steady-State Fully Radiation-Cooled MPD Thrusters with Permanent Magnets for In-Space Operations Kengo Chino, Yoshihiko Sugiyama, Shota Sato, Hirokazu Tahara, Kyoto Takada			467 POSTER: Testing and Characterization of Counterbalanced Pendulum Thrust Stand for Electric Propulsion Fabio Trezzolini, Mirko Magarotto, Marco Manente, Daniele Moretto, Franko D. Bosi, Giacomo Galina, Paolo de Calo, Daniele Melazzi, Daniele Pavarin
14:00	229 Laser Induced Fluorescence Measurements of the Acceleration Zone in the 12.5 kW HERMeS Hall Thruster Vernon H. Chaplin, Benjamin A. Jorns, Ryan W. Conversano, Robert B. Lobbia, Alejandro Lopez-Ortega, Ioannis G. Mavridis, Richard R. Hofer	291 Thermal Profile of a Lanthanum Hexaboride Heatless Hollow Cathode Alexander Daykin-Iliopoulos, Stephen B. Gabriel, Igor Golosnyy	122 Electron Anomalous Transport in Hall Thruster Channel by 3D PIC-MCC model Francesco Taccogna and Pierpaolo Minelli	169 QinetiQ High Power Electric Propulsion System and Architectural Options for Future Applications Stephen Clark and Jaime Perez-Luna	109 Time Resolved Emission Divergence Mapping of an Ionic Liquid Ferrofluid Electropray Source Brandon A. Jackson and Lyon B. King	295 Miniature Axial Ring-Cusp Ion (MARCI) Discharge Design and Performance Test Ben Darrangkulak and Richard E. Wizer	211 Evaluation of Active Vibration Isolation on Direct Thrust Noise Measurements Eduard Bosch Borras, Jos� Gonz�lez del Amo, Ben Hughes, Dan Veal, Charlie Jarvis, Sean Woodward	81 Research and Development of High-Power Steady-State MPD Thrusters with Divergent and Cusp Magnetic Fields Using Permanent Magnet Kengo Chino, Yoshihiko Sugiyama, Shota Sato, Hirokazu Tahara, Kyoto Takada			432 POSTER: Characterization of a Laser-Electrostatic Hybrid Thruster by Alternating Electric Fields Haruhito Kato, Yuki Nakamura, Kaede Yano, Hideyuki Horisawa
14:20	232 Design of the H9 Magnetically Shielded Hall Thruster Richard R. Hofer, Sarah E. Cusson, Robert B. Lobbia	298 An Experimental and Theoretical Study of Hollow Cathode Plume Mode Oscillations Marcel P. Georjın, Benjamin A. Jorns/Alec D. Gallimore	201 Development of a Fully Two-Dimensional Electron Fluid Model for Plasma Thrusters Daniel P�rez-Grande, Jiewei Zhou, Adri�n Dominguez, Pablo Fajardo, Eduardo Aheido	181 Adaptability of the SSL SPT-140 Subsystem for use on a NASA Discovery Class Mission: Cygnus Ray Liang, Peter W. Lord, Lee C. Rotlisberger	206 Electropray Propulsion Engineering Toolkit (ESPET) Benjamin St. Peter and Rainer A. Dressler	326 Numerical 3D Ion Extraction Code Incorporated Self-Consistency into a Model of a Radio-Frequency Ion Thruster Andreas Reeh, Uwe Probst, Peter J. Klar, Pylych	245 Application of Force Measuring Probes for the Investigation of Sputtering and as Diagnostic for HEMTs and Hall Thrusters Alexander Spethmann, Thomas Trottenberg, Holger Kersten, Franz Georg Hey, Lou Grinnud, St�phane Mazouffre	182 Mass Flow Rate Dependence of the Applied-Field Thrust Component from an MPD William J. Coogan and Edgar Y. Choueiri			407 POSTER: Development of Chemically-augmented Low-power Arcjet Thrusters Yuka Arai, Shoko Shabagaki, Kai Wada, Mitsutoshi Tsuchiya, Tomoyuki Ikeda, Hideyuki Horisawa
14:40	239 Performance of the H9 Magnetically Shielded Hall Thrusters Sarah E. Cusson, Richard R. Hofer, Robert B. Lobbia, Benjamin A. Jorns, Alec D. Gallimore	301 Fully Kinetic Simulations of Ion Beam Neutralization: Effects of Neutralizer Location on Plume Characteristics Joseph Wang, Yijian Zhao, Yuan Hu	209 2D and 3D Hybrid PIC-Fluid Modelling of Electric Thruster Plumes Adri�n Dominguez, Filippo Cicchicci, Mario Merino, Pablo Fajardo, Eduardo Aheido	591 Highly Efficient Miniatured Hall-Type Thruster and Rotamak Projects at SSF Shuyan Xu, Mark Lim, S. Y. Huang, Lu, Igor Levchenko	207 Electropray from Arrays of Miniaturized All-Photopolymer Emitters Torsten Henning, Katharina Huhn, Felix Becker, Stefan Hengsbach, Klaus Bade, Peter J. Klar	311 System Identification and Beam Current Control of a Radio-Frequency Ion Thruster Applied to Different Types of Coil Geometry Niklas Wolf, Uwe Probst, Peter J. Klar	271 Development of a Gridless Retarding Potential Analyser Franz Georg Hey, Christopher Groll, Max Vaupel, Alexander Seil, Kar Heinz Eckert, Claus Br�mmer, Martin Tajmar, Dennis Weisse, Ulrich Johann	208 Evaluation of Quasi-steady Operation of Applied Field 2D-MPD Thruster using Electric Double-Layer Capacitors Shunichiro Ide, Ryudo Tsukizaki, Hitoshi Kunikida			163 POSTER: Modeling of Oscillation-Induced Radiation for Noninvasive Diagnostics of Hall Thrusters Lui T. C. Hui and Ivan S. Ferreira
15:00	342 Effect of Magnetic Field on Anode Temperature Distribution in a Hall Thruster Jianzhi Li, Jimen Liu, Wei Mao, Zhiyong Gao, Hong Li, Daren Yu	364 Development of Hollow Cathodes for 5-to-20-kW Hall Thrusters Daniela Pedrini, Jacopo Grassi, Federico Torrini, Tommaso Andreucci, Fabrizio Paganucci, Mariano Andreucci	216 New Insights from PIC Simulations on the OIB Electron Drift Instability in Hall Thrusters Jean-Pierre Boeuf		210 Characterization of EMI (HFJ2)F Using a Carbon Xerogel Ionic Liquid Ion Source Catherine Miller, Caroline Bates, Paulo Lozano	454 Performance Dependency on Microwave Frequency and Discharge Chamber Geometry of the Water Ion Thruster Yuichi Nakagawa, Daki Tomita, Hiroyuki Koizumi, Kimiya Komurasaki	272 Development of a Highly Sensitive, Highly Stable Micro-Newton Thrust Balance Franz Georg Hey, Max Vaupel, Alexander Seil, Kar Heinz Eckert, Claus Br�mmer, Martin Tajmar, Dennis Weisse, Ulrich Johann	235 Ten-Ampere-Level Direct Current Operation of Applied-Field Magneto-plasma dyna mics (MPD) Thruster Using LaB ₆ Hollow Cathode Akira Iwakawa, Hayato Kasuga, Keisuke Mizutani, Daisuke Ichihara, Akihiro Sasoh, Kohai Kojima, Tatsuya Hoaki, Kimura, Yoshihiro Kawamata, Masaaki Yasui			200 POSTER: Experimental Study of Helicon Plasma Thruster using Advanced Acceleration Methods Daisuke Kuwahara, Shuichi Nishimura, Takeru Furukawa, Tomoya Yamase, D. Aoki, K. Arima, Y. Ishigami, H. Horita, Shunjiro Shinohara
15:20		74 Progress on New Scandate Hollow Cathode for Electric Propulsion Jie Feng	155 Simulation of Electron Streamline in Hall Thruster Coupling Area Tianhang Meng, Zhongxi Ning, Daren Yu				330 Phase-Resolved Optical Emission Spectroscopy of a Neutralizer-Free Gridless Ion Thruster James P. Dedrick and Andrew R. Gibson	157 POSTER: Numerical Simulation and Discharge Characteristics Study on 200 W Hall Thruster with Long Life Ding Yongjie, Su Hongbo, Li Peng, Sun Heshi, Wei Lijun, Peng Zhiwen, Wu, Xu, Yu, Yu Daren			
15:40							277 Iodine Fluorescence Schemes for Thruster Diagnosis Earl Scime, Derek Thompson, John McKee	158 POSTER: Simulation Study on the Discharge Performance Influence of Magnetic Field to Double Stage Hall Thruster Ding Yongjie, Li Peng, Sun Heshi, Wei Lijun, Peng Zhiwen, Wu, Yu Daren			

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Tuesday										
		Hall Thrusters - 3 (Gen Ho, Jason Frieman) Conference A	Cathode Physics - 3 (Antonio Gurcullo, Kristina Lemmer) Conference B	Hall Thruster Modeling - 3 (Eduardo Aheido, John Yim) Conference C	Overviews of Flight and Other Programs - 3 (Vincent Jacod, Vernon Chaplin) Conference D	Micropropulsion - 3 (Daniel Bock, Dan Courtney) Conference 4	Pulsed Plasma Thrusters - 1 (Kazuhiko Toyoda, Rainer Dressler) Conference 7	Electrothermal and Other Thrusters - 1 (Joshua Rovoy, Daisuke Kawahara) Conference 6	RF Thrusters - 2 (John Foster, Jaime Cavalle) Conference 8	
9:00	338	Noninvasive Characterization of the Near-Field Plasma of the HERMeS Thruster George J. William, Peter V. Peterson, Hani Kamhawi, Daniel A. Herman	Development and Characterization of an r-Neutralizer based on a BIM-4 Ion-Source Peter E. Köhler, Hans Leiter, Philipp Bauer, Peter J. Klar	Comparative Study of Cylindrical Hall Plasma Thrusters through Particle-In-Cell Numerical Simulations Rodrigo A. Miranda, Alexandre A. Martins, José L. Ferreira	13 kW Advanced Electric Propulsion Flight System Development and Qualification JERRY JACKSON, May Allen, Roger M. Myers, Andy Hoskins, Erich Sönderker, Ben Weislander, Artie Tolentino, Sam Habibzai, Jason	Microfabrication of a Massive Emitter Array for Higher Thrust Density of Ionic Liquid Electrospay Thrusters Yoshihiro Takao, Kaito Nakagaw, Naoki Inou, Kazuma Emoto	DEBIT OF SPACE Debris by Exposure of Plasma Flows Exhausted from Electric Thrusters - R&D of the OIT PROTERES-4 Hiroyuki Fujita, Hiroaki Hashimoto, Hirokazu Tahara, Kyoko Takada	Research and Development of Low-Power DC Anode-Radiation-Cooled Arcjet Thrusters Using Low-Toxicity Propellants Katsuya Shinogaito, Suguru Shiraki, Yuki Fukutome, Kazuyoshi Okuda, Takefumi Mimura, Hirokazu Tahara, Kyoko Takada, Ai Muroyama, Yusaku	First Performance Measurement Results of the Phase Four RF Thruster M. Umair Siddiqui, Chris Cretel, Joshua Synowiec	POSTER: Study on Discharge-Mode Transition Property of Hall Thruster Ding Yongjie, Peng Zhiwen Wu, Xu Yu, Li Peng, Sun Heshi, Yu Daren
9:20	345	Performance Enhancement of Anode-layer-type Hall Thruster Using Mixture Propellant Junko Yamasaki, Shigeru Yokota, Kohji Shimamura	Life of the Lanthanum Hexaboride Hollow Cathode for the 12.5 kW HERMeS Hall Thruster Dan M. Goebel, Giulia Becatti, James E. Polk	A Preliminary Design Tool for Hollow Cathodes Mario Panelli, Antonio Smorali, Francesco Battista	Development Status of a 12.5 kW Hall Thruster for the Asteroid Redirect Robot Mission Richard R. Hofer and Hani Kamhawi	In-plume Thrust Measurement of NanoEEP Thruster with a Force Measuring Probe using Laser Interferometry Daniel Bock, Alexander Spethmann, Thomas Trottenberg, Kersten Hergen	Research and Development of Electrothermal Pulsed Plasma Thruster Systems for Powered Flight of the 2nd OIT PROTERES Satellite Naoki Morikawa, Koki Ryhuo, Koshi Ono, Kosuke Enomoto, Keita Kanooka, Ryota Fujita, Hirokazu Tahara, Kyoko Takada	Performance Impacts of Geometry and Operating Conditions on a Low Reynolds Number Micro-Nozzle Flow Logan T. Williams and Michael F. Osborn	Experimental Performances of a 1-kW HPT by means of Plasma Diagnosis Jaime Navarro Cavalle, Mick Wijnen, Pablo Fajardo, Mario Merino, Eduardo Aheido	POSTER: A New External Loop for Cathode Independent Life Test to Simulate Effect of Discharge Current Oscillation between Cathode and Thruster Wenbo Li, Liqiu Wei, Xinyong Yang, Daren Yu
9:40	355	Magnetic Responsiveness of Magnetic Circuit composed of Electrical Steel for Hall Thruster Yusuke Oka, Ryudo Tsukizaki, Hitoshi Kunikida	Heater Validation for the NEXT-C Hollow Cathodes Timothy R. Verhey, George S. Soulas, Jonathan A. Mackey	HEMPT Thruster Discharge and Plume Simulation with a 2D+3D-PMC and a 3D Hybrid Fluid-PIC Code Dimitri Kabinfeld, Filippo Cebicki, Mario Merino, Eduardo Aheido, Julia Duris, Norbert Köch, Paul Matthias, Stefan Kennitz, S. Liskow, Paul Matthias, Ralf Schneider, K. Matyash, Daniel Kahnefeld, K. Luskow, J. Lewerenz, Stefan Kennitz, F. Holtmann, Ralf Heidemann	The Technological and Commercial Expansion of Electric Propulsion in the Past 20 Years Dan Lev	Modeling of Colloid Thrusters for Mission Analysis Enric Grustan-Gutiérrez and John P. W. Stark	Development of Commercially Available Electrothermal Pulsed Plasma Thruster Systems for Micro/Nano-Satellites Koshi Ono, Naoki Morikawa, Koki Ryhuo, Kosuke Enomoto, Keita Kanooka, Ryota Fujita, Hirokazu Tahara, Kyoko Takada	Operation Characteristics of Diverging Magnetic Field Electrostatic Thruster Daisuke Ichihara, Akira Wakawa, Akihito Sasoh	Development and Test of an High Power RF Plasma Thruster in Project SAPERE-STRONG Fabio Trezzolani, Mirko Magagnoli, Marco Manente, Daniele Moretto, Frank J. Bos, Giacomo Gallina, Paolo de Carlo, Davide Melazzi, Daniele Bruson	POSTER: Experimental Study of a Pulsed Plasma Thruster with a Capillary Based Nozzle Structure Yanan Wang, Weidong Ding, Le Cheng, Jiaqi Yan, Zhichuang Li
10:00	366	Electron Emission Measurement and Modeling for Stationary Plasma Thruster Operation Marc Vilemant, Pierre Sarraih, Laurent Garrigues, Mohamed Behaj, Claude Boniface	Ion Acoustic Wave Propagation and Heating in a High-Current Hollow Cathode Plume Christopher Dodson, Benjamin A. Jorns, Richard E. Wirz	Influence of Different Anode Voltages on the HEMPT Paul Matthias, Ralf Schneider, K. Matyash, Daniel Kahnefeld, K. Luskow, J. Lewerenz, Stefan Kennitz, F. Holtmann, Ralf Heidemann	MEPS Project - Engineering Model Development and Testing Status Dan Lev, Leonid Appel, Amoz Davidson, Barak Walkovig, Jacob Herscovitz	Plume Characterization of NanoEEP Thrusters with a Plasma Diagnostics Facility using Carbon-velvet Probes Daniel Bock, Felix Paries, Philipp Lauffer, Michael Kopnarski, Martin Tajmar	Characterization and Optimization of Liquid-Abative and Air-Breathing PPT, Part I: Thrust and Discharge Performance John Schönherr, Jonathan Skolden, Hiroyuki Koizumi, Georg Herdrich	Design of a Water-Propellant 17.8-GHz Microwave Electrothermal Thruster Sergio E. Gallucci, Michael M. Miceli, Sven G. Bölen	Development and Testing of a Miniature Helicon Plasma Thruster Fabio Trezzolani, Marco Manente, Elena Toson, A. Sebno, Mirko Magagnoli, D. Moretto, F. Bos, Peter De Carlo, D. Melazzi, D. Pawani	POSTER: Study on the Performance Enhancement of the Capillary Discharge Based Pulsed Plasma Thruster Le Cheng, Weidong Ding, Yanan Wang, Jiaqi Yan, Zhichuang Li, Saikang Shen
10:20	367	A Model for Turbulence-Induced Electron Transport in Hall Thrusters Maryam Reza, Farbod Faraj, Tommaso Andreucci, Mariano Andreucci	The Effect of Orifice Size on Lanthanum Hexaboride Hollow Cathode Performance and Thermal Behavior Pablo Guerrero, James E. Polk, Dan M. Goebel, Alejandro Lopez-Ortega, Ioannis G. Mikellides	Multiscale Modeling of a CAMILA Hall Thruster Discharge Matteo Laterza and Igal Kronhaus	Overview, Qualification, and Delivery Status of the HEMPT based Ion Propulsion System for SmallSatCO Stefan Weiss, Alexey Lazurenko, Angeto Genovese, Ralf Heidemann, Peter Holtmann, Heiko Stalzer	The Last Development of Low-power Electric Propulsion for Small Spacecraft Jia Yanhui, Zhang Tiangang, Zhi-wen Wu Xianming, Wang Shangmin, Zhi-wen Wu Chenchen, Ke Yujun	Characterization and Optimization of Liquid-Abative and Air-Breathing PPT, Part II: Spectroscopic Investigation Tony Schönherr, Dennis Ilk, Kimiya Komurasaki, Georg Herdrich	Resistojet Thrusters for Auxiliary Propulsion of Full Electric Platforms Gianluca Cifali, Tommaso Andreucci, Mariano Andreucci	Exploratory Testing of a Radio-Frequency Thruster for Small Satellites Elena Kravina and Ilija Zadrev	POSTER: Investigation on the Low Energy Capillary Discharge Based Pulsed Plasma Thrusters Le Cheng, Weidong Ding, Yanan Wang, Jiaqi Yan, Zhichuang Li, Saikang Shen
10:40	595	Lessons Learned from Making Hall Effect Thruster Insulators Geoff Randle	PPS*5000 Cathode Development Lahib Baika, Benjamin Laurent, Olivier Duchemin	Particle-In-Cell Simulation of a HEMPT Thruster Digital Prototype Optimized for Future Satellite Applications Julia Osras, Norbert Köch, Daniel Kahnefeld, Paul Matthias, Gumar Bandelow, Karl Liskow, Stefan Kennitz, Ralf Schneider	Overview of the Development of the Advanced Electric Propulsion System (AEPS) Daniel A. Herman, Todd Toft, Walter Santiago, Hani Kamhawi	ST7 Disturbance Reduction System (DRS) Colloid Micronewton Thruster (CMNT) Performance and Model Validation in Flight John Ziemer, Andrew Romero-Wolf, Charley Dunn, Tom Randolph, Garth Franklin, Curt Cutler, Shahram Javidnia, Thanh Li, Colleen Maresca	μ-PPT Electro-propulsion System Development and First Flight Application Wang Shangmin, Tian Licheng, Feng Weiwei, Li Xingda, Zhang Tiangang, Gao Jun, Luo Weidong, Chen Xinwei	Direct Thrust Measurement of ECR Plasma Thruster Performance and Comparison between Xenon and Krypton Théo Vialis, Julien Jarrige, Denis Paukan	POSTER: Fundamental Scaling Laws of Field-Reversed Configuration Based Thrusters Joshua M. Woods, Benjamin A. Jorns, Alec D. Gallimore	
11:00	440	Hollow Cathode Operation with Different Gases Stephen B. Gabriel, Alexander Daykin-Iliopoulos, Matthew Praeger, Michele Coletti	Current Statuses of Lanthanum Hexaboride Hollow Cathode Life Test Yang Wei, Zhang Tiangang, Jia Yanhui, Feng Jie, Guo, Zhongqi Ning, Liu Mingcheng, Wang Qianan	Research and Development of 6-kW-class Hall Thrusters for All-electric Propulsion Satellite and Deep Space Explorers Ikoh Funaki, Shigeyasu Ihara, Shinatora Cho, Kenichi Kubota, Hiroki Watababe, Kenji Fuchigami, Gen Ito, Yosuke Tashiro	Electric Propulsion Systems Development and Integration Activity at Orbital ATK Michael Glogowski	5 W Abative Pulsed Plasma Thruster for Experimental Results Xinwei Chen, Shangmin Wang, Weiwei Feng, Xingda Li, Weidong Luo, Licheng Tian	Investigation on the Ion Velocity Distribution in the Magnetic Nozzle of an ECR Plasma Thruster using LIF Measurements Julien Jarrige, Sara Coreyro, Paul-Quentin Elias, Denis Paukan	POSTER: Production of Multiply Charged Ions in Cylindrical Hall Thruster Plasmas Holak Kim, Seung-Han Lee, Keun-tae Doh, Youbsong Lim, Wonho Choe	POSTER: Propulsion through Direct Conversion of Fusion Energy John Slough, Anthony Pancotti, Akhisa Shimazu	
11:40	593								POSTER: Miniaturized Technological Plasma Sources: Perspectives for Electric Propulsion Kateryna Bazaka, Shuyan Xu, Igor Levchenko	

IEPC 2017 - Complete Technical Program with Session Information - PRELIMINARY

	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>	<u>Track 7</u>	<u>Track 8</u>	
Tuesday									
Lunch									
12:00	Hall Thrusters - 4 (Maria Choi, Stéphane Mazouffre) Conference A	Cathode Physics - 4 (Christopher Wordingham, William Ling) Conference B	Hall Thruster Modeling - 4 (Scott Hall, Yongjei Ding) Conference C	Overviews of Flight and Other Programs - 4 (Richard Wirz, Shinatora Cho) Conference D	Micropropulsion - 4 (Andrea Schouten, Yoshinori Takao) Conference 4	Diagnostics and Measurements - 3 (Alexander Spethmann, Robert B. Lobbia) Conference 7	Plume Interaction - 1 (Olivier Duchemin, Koichi Ushio) Conference 6	PPUs - 1 (Connie Liu, Jerry Jackson) Conference 8	
13:40	379 Development of a 5 kW Low-erosion Hall Effect Thruster Vittorio Giannetti, Antonio Piragino, Farbod Faraji, Maryam Reza, Andrea Leporini, Manuel Saravia, Tommaso Andreussi, Angela Rossodivita, Mariano Andreucci	259 Cesium Hollow Cathode with Internal Discharge and Gas Feed for Electric Propulsion Applications Oleksii Cherkun and Demet Ulujen	340 Numerical Prediction of Ingestion Mass Flow Rate on Hall Thruster Performance Measurement Gen Ito, Rei Kawashima, Kinya Komurasaki, Hiroyuki Koizumi, Kenji Fuchigami	305 Development of a Hydrazine Arcjet System Operating at 100 Volts Input Voltage Dieter Zube and Keith Goodfellow	472 Two-Stage Micro-Propulsion System based on Micro-Cathode Arc Thruster Jonathan Kolbeck and Michael Keidar	336 Evaluation of Various Probe Designs for Measuring the Ion Current Density in a Hall Thruster Plume Stéphane Mazouffre, Guillaume Lorgeou, Laurent Garrigues, Claude Boniface, Kathé Dannemayer	60 A Survey of Xenon Ion Sputter Yield Data and its Relevance to Electric Propulsion Spacecraft Integration John T. Yim	171 PPU Mk3 for 5-kW Hall Effect Thrusters Eric Bourguignon and Stéphane Frassele	597 POSTER: Fusion Divertor Simulating Experiment Using Applied-field Magneto-plasmodynamic Thruster Kil-Byoung Chai
14:00	380 Identification, Evaluation and Testing of Alternative Propellants for Hall Effect Thrusters Tommaso Andreussi, Cosimo Ducici, Vittorio Giannetti, Andrea Leporini, Manuel Saravia, Angela Rossodivita, Mariano Andreucci	486 Experimental and Numerical Investigations of a 5-A-class Cathode with a Lull, Flat Disk Emitter in the 2-A-20 A Current Range Romain Jousset, Gaëtan Sary, Lou Grimaud, Laurent Garrigues, Stéphane Mazouffre, Benjamin Laurent, Claude Boniface, Stéphane Oriol, Frédéric Auvion	390 Full Chamber Hall Thruster Simulations with a Patched Two-Dimensional Potential Solver and a Detailed Plume Model Luis Brieda and Michael Keidar	359 A Quick Review of an Electrodynamics Tether Experiment on the H-T Transfer Vehicle Yasushi Ohkawa, Kentaro Ito, Teppei Okumura, Satomi Kawamoto, Koichi Inoue, Yuki Kobayashi, Takashi Kobayashi, Shigeo	33 AEPD System as a Standard On-ground Tool for Electric Propulsion Thrusters Fabrizio Scroletti, Damiano Pagano, Carsten Bundesmann, Christoph Eichhorn, Frank Scholze, Daniel Spemann, Hans Leber, Holger Kersten, Richard	405 High Precision Thrust Balance Development at the George Washington University Jonathan Kolbeck and Michael Keidar	238 A Comprehensive Numerical Approach to the M&S of Plume Interaction Effects on Solar Electric Propulsion Spacecraft Luis M. Bermúdez, Christine A. Agathon Burton, Debasis Basak, Michael J. Glogowski	199 Testing of the PPU Mk3 with the XR-5 Hall Effect Thruster Eric Bourguignon, Caroline Desauvages, Stéphane Frassele, Steven Xu, Ben Welander, Ronald Corey	481 POSTER: Plasma Properties in a 100 A Class Heaterless Hollow Cathode Junko Yamasaki, Moyuru Yonaha, Shigeru Yokota
14:20	381 Characterization of a 20 kW-Class Hall Effect Thruster Andrea Leporini, Vittorio Giannetti, Tommaso Andreussi, Daniela Pedrini, Antonio Piragino, Angela Rossodivita, Mariano Andreucci	303 High Current Lanthanum Hexaboride Hollow Cathode for 50-200 kW Hall Thrusters Dan M. Goebel, Giulia Becatti, Alejandro Lopez Ortega, Richard R. Hofer	402 Particle Simulation of a Hall Thruster with Internally-Mounted Cathode Shinatora Cho and Kenichi Kubota	374 HT100-In-Orbit Validation: uHETSat Mission Tommaso Misiur, Vincenzo Stanione, Nicola Melega	485 Feasibility Study of a Micro-Electrospray Thruster Based on a Porous Glass Emitter Chengyu Ma and Charles Ryan	441 Development of Advanced Electric Propulsion Diagnostic Tools at IOM: Current Status Carsten Bundesmann, Christoph Eichhorn, Frank Scholze, Daniel Spemann, Horst Neumann	300 A Fast Estimate Tool for Redeposition caused by Sputtering during Terrestrial Testing Gunnar Bandelow, Ralf Schneider, Julia Duras, Norbert Koch, Stefan Kemnitz, Aleksandr Kalentyev	266 AIRBUS DS Power Processing Units: New HET and GIT PPU Developments Qualification Status Fernando Pinto, Javier Palencia, Nicoletta Wagner, Guillaume Glorieux	510 POSTER: Annular Ion Engine Development Status Michael Patterson, Kevin McCormick, Neil Arthur, Thomas Haag, John E. Foster
14:40	387 Dispersion Relation Measurements of Plasma Modes in the Near-Field Plume of a 9-kW Magnetically Shielded Thruster Zachariah A. Brown and Benjamin A. Jorns	465 Characterization of the Near-Keeper Plume Region of a Laboratory Hollow Cathode Operating on Xenon and Iodine Zachary R. Tallfer and John J. Blandino	403 Investigation of Rotating Spoke Instabilities in a Wall-less Hall Thruster. Part II: Simulation Konstantin Matysh and Ralf Schneider	240 Electric Propulsion Activities at TUBITAK UZAY: Laboratory Work and Mission Plans Demet Ulujen, Banu Cipek Aydin, Ismail Sedat Güllü, Yusuf Yurttaş, Oleksii Cherkun	173 Electro-spray Emission using Porous Emitters with Flat Ends Xinyu Liu and Xiaoming Kang	442 Incoherent Thomson Scattering Diagnostic development for Plasma Propulsion Investigations Benjamin Vincent, Sedina Tokita, Stéphane Mazouffre	314 Synergic Erosion of Ceramic by Electron and Ion Simultaneous Irradiation of the Hall Thruster Channel Walls Pierre Sarrahl, Virginie Ingumbert, Claude Boniface	337 Development of a Controlled High Voltage Power Supply for Gridded Ion Thrusters Christian Röbler, Uwe Probst, Jens Simon	142 POSTER: Langmuir Probe Measurements of BUSTLab Microwave Electrothermal Thruster Plume Mehmet Serhan Yildiz, Nazil Turan, Murat Celik
15:00	392 Performance, Stability, and Plume Characterization of the HERMES Thruster with Boron Nitride Silica Composite Discharge Channel Hani Kamhawi, Wensheng Huang, Thomas Haag	205 Plasma Characteristics in Hollow Cathode Emitter Region of 30 cm Diameter Ion Thruster Junko Yamasaki, Moyuru Yonaha, Shigeru Yokota	230 Full-PIC Code Validation and Comparison against Fluid Models on Plasma Plume Expansion Mia Li, Mario Merino, Eduardo Abedo, Hai-bin Tang, Alena Kitaeva		349 Voltage Controlled Dual Mode of Ionic Liquid Electro-spray Yuntao Guo, Zhiwen Zhewen Wu, Jinyi Xu, Wang Liu	449 Optical Emission Spectroscopy Diagnosis of Helicon Plasma Thruster Operating with Argon Yacine Babou, Mick Wippen, Jaime Navarro-Cavalié, Eduardo Ahedo	69 Interaction Effect Analysis of Ion Thruster Plume on GEO Satellite by using DSMC Method and Measurement Evaluation Method Zheng Wen and Jue Wang	23 The Impact of Harness Impedance on Hall Thruster Discharge Oscillations Luis R. Piñero	592 POSTER: Nanomaterials and Metamaterials in Electric Propulsion: Advanced Projects at Plasma Sources and Application Centre Igor Levchenko, Michael Keidar, Shuyun Xu, Kateryna Bazaka
15:20	395 Theoretical and Experimental Investigation of Low-Erosion Hall Effect Thruster Configurations Vittorio Giannetti, Andrea Leporini, Tommaso Andreussi, Manuel Saravia, Angela Rossodivita, Mariano Andreucci		453 Prediction of the Thruster Performance in Hall Thruster using Neural Network Hirotaka Fuchigami, Yusuke Egawa, Naoji Yamamoto, Taichi Morita, Heidei Nakashima				558 Rarefied Propellant Flow Analysis and Measurement for Electric Propulsion Yoshinori Nakayama		
Tuesday									
Coffee Break									
15:40									

IEPC 2017 - Complete Technical Program with Session Information - PRELIMINARY

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
	Hall Thrusters - 5 (Hiroki Watanabe, Vivien Croes) Conference A	Cathode Physics - 5 (Yushi Hamada, Stephen B. Gabriel) Conference B	Hall Thruster Modeling - 5 (Holak Kim, Stéphanie Mazouffre) Conference C	Overviews of Flight and Other Programs - 5 (Yusuke Egawa, Konstantin Matyash) Conference D	Micropropulsion - 5 (William Ling, Alexander Reissner) Conference 4	Ion Thrusters - 3 (Haruki Takegahara, Elaine Petro) Conference 6	Pulsed Plasma Thrusters- 2 (Tetsushi Yoshikawa, Philippe Lamotte) Conference 7	Low Power Hall Thrusters - 1 (Dan Lev, Stefan Weis) Conference 8
16:00	409 Inner Front Pole Erosion in the 12.5 kW HERMES Hall Thruster Over a Range of Operating Conditions James E. Polk, Robert B. Lobba, Arthur Barnault, Vernon Chaplin, Alejandro Lopez-Ortega, Ioannis G. Mikellides	496 Direct Kinetic Simulation of Ion Acoustic Turbulence in Cathode Plume Kentaro Hara and Kenichi Kubota	429 Hybrid-PIC Simulation of Hall Thruster with Internally-Mounted Cathode Kenichi Kubota, Shinatora Cho, Hiroki Watanabe, Ikoh Funaki	396 LEO to GEO (and Beyond) Transfers using High Power Solar Electric Propulsion (HP-SEP) Christopher S. Loghry	24 Performance Mapping and Qualification of the IFM Nano Thruster FM for in Orbit Demonstration Alexander Reissner, Bernhard Seifert, Nembo Buldrini, Florin Plesescu, Thomas Hörbe, David Jelem	457 Performance Enhancement of Microwave Discharge Ion Thruster μ TD Yoshitaka Tani, Kazutaka Nishiyama, Daki Koda, Hitoshi Kunitaka	484 Modifications and Experimental Analysis towards an Update of the Pulsed Plasma Thruster PETRUS Christoph Montag, Georg Herdrich	275 The Next Generation mini-Newton μ HEMPT as Potential Main Thruster for Small Satellites Max Vaupel, Franz Georg Hey, Alexander Seif, Karlheinz Eckert, Claus Brammieri, Martin Tajmar, Dennis Weise, Ulrich Johan
16:20	426 Pole-piece Interactions with the Plasma in a Magnetic-layer-type Hall Thruster Hiroki Watanabe, Shinatora Cho, Kenichi Kubota	487 COMSOL Modelling of Hollow Cathodes Stephen B. Gabriel	411 Fluid Modeling of Instabilities and Transport in ExB Plasma Discharges Andrei Smolyakov, Oleksandr Koshkarov, Oleksandr Chappurin, Maxim Unsky, Yevgeny Raitses, Igor D. Kaganovich	400 New Avenues for Research and Development of Electric Propulsion Thrusters at SSL Ian Johnson, Ewan Kay, Ty Lee, Negar Feher	13 Preparing the Series Production of the IFM Nano Thruster Alexander Reissner, Bernhard Seifert, Nembo Buldrini, Florin Plesescu, Thomas Hörbe	466 Development of a Micro ECR Ion Thruster for Space Propulsion Ming-Hsueh Shen, Hui-Kuan Fong, Yei-Chin Chao, Sunny W. Y. Tam, Yueh-Heng Li	491 Preliminary Experimental Results of Surface Arc Thruster Kazuhiro Toyoda, Hiroaki Murakami, Masahisa Sakurai, Mengyu Cho	353 Progress in Lifetime Test of HEMPT Electric Propulsion System Alexey Lazurenko, Angelo Genovese, Heiko Staber, Ralf Heidemann, Stefan Weis, Peter Holtmann
16:40	443 Oscillatory Discharge Behavior in Hall Thrusters: Relationship between the Discharge Current, Electric Field, and Microturbulence Sedina Tsikata, Anne Héron, Cyrille Honoré	70 Ignition Erosion Mechanism of Heatless Hollow Cathode Zhengli Ning, Haiguang Zhang, Lei Ouyang, Daren Yu	507 The Impact of Magnetic Field Coupling Between Channels in a Nested Hall Thruster Sarah E. Cusson, Scott J. Hall, Richard R. Hofer, Benjamin A. Jorns, Alec D. Gallimore	412 Development Status of 5 kW Class Anode-Layer Type Hall Thruster: RAUIN04 Yushi Hamada, Rei Kawashima, Kimiya Komurasaki	224 Scalable Tank Design for the Passively Fed Ionic Liquid Electro Spray Thruster David Krejci, Paulo Heredia, Paulo Lozano	473 3D Particle-in-Cell Simulations of Electric Propulsion Ion Beam Neutralization Daoru Han and Nikolaos A. Gatsos	536 Solid Fuel Vacuum Arc Thruster - New Concepts for Space Propulsion Marvin Kuehl, Marina Kuehn-Kauffeldt, Lars Seipp, Jochen Schein	372 Magnetically Shielded HT100 Experimental Campaign Cosimo Ducci, Tammazo Misari, Stefan Gregucci, Daniela Pedrini
17:00	20 Pressure Dependence of High Frequency Oscillations in a Laboratory Hall Thruster Taylor Matlock and Rostislav Spektor		508 Development of 1D, Time-dependent, Multi-Fluid Model for Hall Thruster Discharge Plasma Akira Kawasaki and Kentaro Hara	415 Development Status of the PPS*5000 Hall Thruster Unit Oliver Duchemin, Julien Rabin, Lahib Balika, Mathieu Diome, Jean-Marie Lonchard, Xavier Cavellan	476 Near-field Beam Diagnostics for Radio Frequency Ion Thrusters RIT Nina S. Mühlich, Kristof Holste, Peter J. Klar	459 Plasma Simulation for Vacuum Arc Thrusters Based on MHD and PIC Song Bai, Kan Xie, Yanggang Liu, Zhiwen Wu, Zhongpu Ningfei Wang	375 Characterization of a Miniature Hall Effect Thruster and Development and Testing of a Corresponding In-situ Thrust Balance C. Drobny, Oliver Neunig, Martin Tajmar	
17:20	527 Effects of Azimuthal Non-uniformity on the Hall Thruster Discharge Rei Kawashima, Junhui Bai, Kimiya Komurasaki, Hiroyuki Kozumi		495 Radial-azimuthal Particle-in-Cell Simulation of a Hall Effect Thruster Kentaro Hara and Shinatora Cho	417 Development of a Xenon Flow Controller for the PPS*5000 Hall Thruster Unit Mathieu Diome, Julien Rabin, Olivier Duchemin, Lahib Balika, Jean-Marie Lonchard, Xavier Cavellan	501 Power Optimized RIT-JX Systems for Small Satellites and Scientific Probes Hans Leiter, Christian Altmann, Jens Simon, Kristof Holste		38 Development of a Long-Life Low-Power Hall Thruster Pavel Saevets, Denis Semenenko, Riccardo Albertoni, Guillaume Scremin	
17:40				327 Development Status of a 5 kW Multi-mode High Specific Impulse Hall Thruster HEP-140MF Mao Wei, Hu Yanlin, Shan Shihua, Shen Yan, Chen Jun, Wei Yanming	516 Prototyping and Optimization of a Miniature Microwave Ion Thruster Mohammed Aulf, SangChieh Hsieh, Michael M. Micci, Sven G. Bilén			

IEPC 2017 - Complete Technical Program with Session Information - PRELIMINARY

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
	Wednesday							
12:00	Lunch							
13:40	ERPS Meeting							
14:00								
14:20								
14:40								
	Advanced Concepts - 1 (Benjamin A. Jorns, Masafumi Edamoto) Conference 8	Mission Analysis - 1 (J. Steve Snyder, Burak Karadag) Conference B	EP Auxiliary Elements - 1 (Dieter Zube, Junko Yamasaki) Conference 6	Overviews of Flight and Other Programs - 7 (Kimiya Komurasaki, Yusuke Oka) Conference D	EP Simulation and Modeling - 1 (Kentaro Hara, Akaira Iwakawa) Conference C	Diagnostics and Measurements - 4 (Yvegeny Raitzes, Julien Jarrige) Conference 7	Micropropulsion - 6 (Kurt Terhune, Andrea Lucca Fabris) Conference 4	Low Power Hall Thrusters - 3 (Stefan Weis, Jun Asakawa) Conference A
15:00	252 Ion Acceleration in a Quid Confinement Thruster Andrea Lucca Fabris and Aaron Knoll	474 Estimating Space Environment Effects During All-electric Telecom Satellite Missions Jean-Charles Mateo-Vélez, Denis Packan, Nicolas Bérend, Didier Laaro, Thierry Nuns, Christophe Ingumbert, Laurent Artola, Guillaume Hubert, Thibaut Dubois, Jean-	53 Design and Development of an Electric Propulsion Deployable Arm for AIRBUS DEFENCE AND SPACE EUROSTAR E3000 COMACT Satellite Xavier Sembely, Mathias Warzecki, P. Doubré, B. Delour, P. Cau, F. Rochard	522 Electric Propulsion Activities in Brazil Paolo Gessini, Lui T. C. Haid, Gabriela C. Pessa, José L. Ferreira	306 On the Validation of Direct Numerical Monte Carlo Method for Low Reynolds Number Micro-Nozzle Resisto-Jets Timothy D. Holman and Michael F. Osborn	30 Time-resolved Electron Beam Fluorescence for Measuring Neutral Particles in Electric Propulsion Plasmas Justin Little and Anna Sheppard	285 Analyzing the Effects of Magnetic Nanoparticles and Magnetic Surface Stress on Ionic Liquid Ferrofluid Electrospray Kurt J. Terhune and Lyon B. King	190 Low Power Cylindrical Hall Thruster with Magnetic Field Tailoring Hobak Kim, Seunghun Lee, Kyounghe Doh, Youbong Lim, Wonho Choe
15:20	273 High Precision Attitude Control System Based on the Emission of Electromagnetic Waves Stefanos Fasoulas, Georg Herdrich, Tobias Schatekis	475 Performance Evaluation of an EO Constellation Equipped with the HT200 Hall Effect Thruster Harshraj Rajji, Stefan Gregucci, Pierpaolo Pergola, Mariano Andreucci	255 Elimination of Feed System Envelope by Integration of Feed System Components Inside a Composite Overwrapped Propellant Tank Michael W. Mosher, Duard Bennett, Eric Stelrecht	27 Six Decades of Thrust - The Airbus Safran Launchers Radiofrequency Ion Thrusters and Systems Family Hans Leiter, Christian Altmann, Christian Arnold, Dagmar Lauer, Constanze Syring, Jan-Patrick Porst	361 Advances in the Kinetic Simulation of Microwave Absorption in an ECR Thruster Paul-Quentin Elias	29 Laser-Induced Fluorescence Measurement of the Anomalous Collision Frequency in a 9-kW Magnetically-Shielded Hall Thruster Christopher J. Durot, Benjamin A. Jorns, Ethan T. Dale, Alec D. Gallimore	51 Development and Characterization of Indium Field Emission Propulsion Thruster Denghui Guo, Xiaoming Kang, Xinyu Liu, Wansheng Zhao	247 Recent Development of the CAK200 Low Power Hall Thruster Dan Lev, Daniel Katz Franco, Leonid Appel
15:40	377 Development and Experimental Validation of a Hall Effect Thruster RAM-EP concept Tommaso Andreucci, Gianluca Cifali, Vittorio Giannetti, Antonio Piragino, Angela Rossodivita, Mariano Andreucci	531 Mid to High Power Solar Electric Propulsion Impact on Human Mars Mission Architecture C. Russell Joyner II, R. Joseph Cassidy, Timothy Kokan, Daniel J. Leveck, Roger M. Myers, Frederick Widman	256 The Use of Modular Valve Assemblies in Flexible Propulsion Feed System Design and Assembly Michael W. Mosher, Richard Banks, Zoe Rabinowitz, Eric Stelrecht	218 NEXT-C Flight Ion System Development Status Jerry Jackson, May Allen, Ron Spores, Roger M. Myers, Thomas Hertel	321 Simulation Research on Two-stream Model of the Pulsed Plasma Thruster Cheng Xiaoyan, Liu Xiangping, Oihao Huang, Zhiwen Wu, Kan Xie, Ningfei Wang	544 Spontaneous Raman Scattering Spectroscopy of a Resistojet Plume in a Vacuum Environment Alfredo D. Tuesta, Brian T. Fisher, Logan T. Williams, Michael F. Osborn	274 HEMPT Downscaling, Way Forward to the First EM for CubeSat Applications Franz Georg Hey, Max Vaupel, Maximilian Schramm, Alexander Seik, Karlheinz Eckert, Claus Brämmer, Martin Tajner, Dennis Weise, Ulrich Johann	
16:00	316 High-Energy Density Electromechanical Thruster Based on Stabilized Liner Compression of Plasma Peter J. Turchi	213 VENUS - A Novel Technological Mission Using Electric Propulsion Jacob Herscovitz	278 A Low Power Proportional Flow Control Valve for Electric Propulsion Systems Duard Bennett, Michael Mosher, Eric Stelrecht	384 TURKSAT6A Communication Satellite Electric Propulsion Subsystem Development Status Banu Çiçek Aydın, Demet Uğur, İsmail Sedar Güle, Yusuf Yurttaş, Okesil Çetinkur, Andri Tsybulnyk, Sergii Neugodnina	313 An Innovative Model for the Plume Simulation of Electric Thrusters Yong Cao			
16:20	289 Extraction of Droplets in Ultrasonic Electric Propulsion System Analyzed by Ultra-high Speed Imaging Weiguo He, Xiaoming Kang, Denghui Guo, Xinyu Liu, Wansheng Zhao	553 Enhancement of the PVT method for Xenon Gauging of Electric Propulsion by the use of an EMA Method Christophe R. Koppet, Peter Rathman, Rafael Borrajo, Alain Demaré	95 Flight Test Performance Evaluation of the LH7-100 Hall Electric Propulsion System on Si-17 Satellite Li-Cheng Tian, Cheng Ben Zhao, Tian-Ping Zhang, Zuo Gu, Zhongxi Ning, Guo, Jun Guo, Bao-Ping Zhang, Xiang-Yu Hu, Bin Cheng					

IEPC 2017 - Complete Technical Program with Session Information - PRELIMINARY

	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>	<u>Track 7</u>	<u>Track 8</u>
	Thursday							
	Lunch							
12:00								
	Advanced Concepts - 3 (Daniel Bock, José Gonzalez del Amo) Conference 8	Advanced Concepts - 4 (Denis Packan, Yuichiro Nogawa) Conference B	EP Simulation and Modeling - 2 (Paul-Quentin Elias, Kunning Xu) Conference C	EP Auxiliary Elements - 2 (William Shae, Yuya Oshio) Conference 6	Test Facility Development - 1 (Garri Popov, Rostislav Spektor) Conference 4	Empty	Pulsed Plasma Thrusters - 4 (Kurt A. Polzin, Hirokazu Tahara) Conference 7	Low Power Hall Thrusters - 4 (Lou Grimsd, Olivier Duchemin) Conference A
13:40	227 Electromagnetic Propulsion Using Nonionized Dipole Gases Jeffrey Contri and Michael M. Micci	445 Study on Acceleration Processes of an Inductive Plasma Accelerator by Three-axis Magnetic Field Measurements Hokuto Sekine, Kazuya Yaginuma, Toshihiro Matsuguma, Hiroyuki Koizumi, Kimiya Komurasaki	565 Numerical Study of Power Deposition, Transport, and Acceleration Phenomena in Helicon Plasma Thrusters Mirka Magistro, Franko I. Bosi, Giacomo Gallina, Marco Manente, Paolo de Calro, Fabio Trezzolani, Daniele Pavarin, Davide	418 Progress on the Development of an Iodine-fed Hall Effect Thruster Fabrizio Paganucci, Daniela Pedrini, Luca Bernazzani, Alessio Ceccarini, Manuel Saravia	117 QinetiQ Electric Propulsion Test Facilities Stephen Clark		428 A Novel Pulsed Plasma Thruster Design Based on Special Capillary Cavity Structure Yanan Wang, Weidong Ding, Le Cheng, Jiaqi Yan, Zhichuang Li, Saikang Shen	436 Ion Current Density Profile of an Erosion Free Low Power Hall Thruster Burak Karadag, Shinatora Cho, Ikkoh Funaki
14:00	234 Electrostatic Thruster with Swirl Acceleration Characteristics Akihiro Sasoh, Katsuke Mizutani, Hayato Kasuga, Daisuke Ichihara, Akira Iwakawa, Takuya Yamazaki, Tatsuya Kimura, Kohei Kojima	452 Parametric Numerical Analysis in Plasma Behaviors in a Magnetic Nozzle for a Laser Fusion Rocket Masafumi Edamoto, Naoya Saito, Taichi Morita, Naoki Yamamoto, Satoshi Miura, Yutaro Tadani, Tomihiko Kojima, Hideki Nakashima	58 Study on the Influence of the Magnetic Field Topology on the Power Deposition in a Helicon Plasma Source Mirko Magistro, Franko I. Bosi, Giacomo Gallina, Marco Manente, Paolo de Calro, Fabio Trezzolani, Daniele Pavarin, Davide	11 The Iodine Satellite (ISat) Propellant Feed System - Design and Demonstration Kurt A. Polzin, Joao F. Seixal, Stephanie Mauro, Adam O. Burt, Armando Martinez, Steven R. Peoples	477 Commissioning of Aerospace Test Facilities for PPS5000 Qualification Programme Damiano Pagano, Leonardo Sestini, Elsa Bonelli, Simone Scarszini, Gianfranco Merceni, Fabrizio Scorteci, Giovanni Coduti, Olivier Duchemin		433 Preliminary Study on Discharge Characteristics in a Capillary Discharge Based Pulsed Plasma Thruster for Small Satellites Le Cheng, Weidong Ding, Yanan Wang, Kaiyang Qian, Jiaqi Yan, Zhichuang Li, Yue Li	534 Design and Initial Operation of a Small Low-Cost Hall Thruster Matthew Baird, Nagul Simmons, Kristina M. Lemmer
14:20	249 Improvement of Propulsion Performance by Gas Injection and External Magnetic Field in Electroless Plasma Thrusters Kazuki Takase, Kazunori Takahashi, Yoshinori Takao		108 Numerical Calculation of Electrothermal Pulsed Plasma Thrusters by One-Dimensional Flowfield Model Fujita, Tobias Haase, Keita Kaneko, Kohei Ono, Naoki Morikawa, Kousuke Enomoto, Hirokazu Tahara, Akyoko Takaki, Takashi Wakizono	202 Innovative Xenon Regulation for Electric Propulsion Yoann Fendler, Simon Carpentier, Pascal Barberier, François Martin, Eric Guilbaud, Claude Boniface	483 Performance of Aerospace Lifetest Facilities and Diagnostic Tools for the HEWPT Qualification Programme Filippo Moneti, Elsa Bonelli, Francesco Pulcinelli, Fabrizio Laurencio		140 Progress in Fundamental Pulsed Plasma Thruster Research William Yeong Liang Ling, Zhe Zhang, Habin Tang	535 Performance Characterization of a Small Low-Cost Hall Thruster Matthew Baird, Nagul Simmons, Joel Thompson, Kristina M. Lemmer
14:40	250 Vacuum Facility Effects on Quad Confinement Thruster Testing Andrea Lucca Fabris and Aaron Knoll		324 Numerical Analysis of the Dependence of the Thrust Performance on the Configuration in a Miniature Microwave Discharge Thruster Koichi Ushio, Tomoki Koyama, Bunsuke Ueno, Taichi Morita, Naoki Yamamoto, Hideki Nakashima	521 Design, Analysis, and Manufacture of Composite Overwrapped Xenon Propellant Tank Mert Akin, Banu Çiçek Aydın, Suat Öntaş, Muzaffer Çetin, Yusuf Yurttaş	16 National Space Simulation Facility Concept Design Walter A. Rodriguez and John Dankanich			
15:00	549 Inertial Electrostatic Confinement Plasma Devices - Potential Thruster Technology for very Accurate Attitude Control Systems Michael Winter and Helmut Koch				414 Commissioning of the Aerospace's Vacuum Facilities with Sifran's Hall Effect Thruster Giovanni Coduti, Séphane Zurbach, Vanessa Vial, Olivier Duchemin			
15:20								
15:40	The End							