

PUBLICATIONS DEPUIS LA PROMOTION DR2

JOURNAUX A COMITE DE LECTURE

- 1** *Perturbations induced by electrostatic probe in the discharge of Hall thrusters*
L. Grimaud, A. Pétin, J. Vaudolon, S. Mazouffre
Rev. Sci. Instrum. **87**, 043506 (2016).
- 2** *Electric propulsion for satellites and spacecraft: established technologies and novel approaches*
S. Mazouffre
Plasma Sources Sci. Technol. [Topical Review] **25**, 033002 (2016).
- 3** *An advanced electric propulsion diagnostic (AEPD) platform for in-situ characterization of electric propulsion thrusters and ion beam sources*
C. Bundesmann, C. Eichhorn, F. Scholze, D. Spemann, H. Neumann, D. Pagano, S. Scaranzin, F. Scortecci, H. J. Leiter, S. Gauter, R. Wiese, H. Kersten, K. Holste, P. Köhler, P. J. Klar, S. Mazouffre, R. Blott, A. Bulit, K. Dannenmayer
Eur. Phys. J. D **70**, 212 (2016).
- 4** *Nonlinear ion dynamics in Hall thruster plasma source by ion transit-time instability*
Y. Lim, W. Choe, S. Mazouffre, J. S. Park, H. Kim, J. Seon, L. Garrigues
Plasma Sources Sci. Technol. **26**, 03LT01 (2017).
- 5** *Ion behavior in low-power magnetically shielded and unshielded Hall thrusters*
L. Grimaud, S. Mazouffre
Plasma Sources Sci. Technol. **26**, 055020 (2017).
- 6** *The 2017 Plasma Roadmap: Low temperature plasma science and technology
Aerospace applications: propulsion and flow control*
S. Mazouffre, E. Moreau
J. Phys. D: Appl. Phys. **50**, 323001 pp. 28-29 (2017).
- 7** *Conducting wall Hall thrusters in magnetic shielding and standard configurations*
L. Grimaud, S. Mazouffre
J. Appl. Phys. **122**, 033305 (2017).
- 8** *Detection of ground state rovibrationally excited molecular hydrogen via synchrotron radiation*
S. Béchu, S. Aleiferis, J. Bentounes, L. Gavilan, V. Shakatov, A. Bès, P. Svarnas, S. Mazouffre, N. de Oliveira, R. Engeln and J. L. Lemaire
Appl. Phys. Lett. **111**, 074103 (2017).
- 9** *Examination of a 5 A-class cathode with a LaB₆ flat disk emitter in the 2 A–20 A current range*
R. Joussot, L. Grimaud, S. Mazouffre
Vacuum **146**, pp. 52-62 (2017).

- 10** *A new ion-ion plasma thruster with an annular geometry*
S. Mazouffre, D. Renaud
Eur. Phys. J. D **71**, 298 (2017).
- 11** *Non-Maxwellian electron energy probability functions in the plume of a SPT-100 Hall thruster*
G. Giono, J. T. Gudmundsson, N. Ivchenko, S. Mazouffre, K. Dannenmayer, D. Loubère, L. Popelier, M. Merino, G. Olentšenko
Plasma Sources Sci. Technol. **27**, 015006 (2018).
- 12** *Space micropropulsion systems for Cubesats and small satellites: from proximate targets to furthestmost frontiers*
I. Levchenko, K. Bazaka, Y. Ding, Y. Raitses, S. Mazouffre, T. Henning, P. J. Klar, S. Shinohara, J. Schein, L. Garrigues, M. Kim, D. Lev, F. Taccogna, R. W. Boswell, C. Charles, H. Koizumi, S. Yan, C. Scharlemann, M. Keidar, S. Xu
Appl. Phys. Rev. **5**, 011104 (2018).
- 13** *Characteristics and performances of a 100W Hall thruster for microspacecraft*
S. Mazouffre, L. Grimaud
IEEE Trans. Plasma Sci. **46**, pp. 330-337 (2018).
- 14** *Anode position influence on discharge modes of a LaB₆ cathode in diode configuration*
G-C. Potrivitu, R. Jousset S. Mazouffre
Vacuum **151**, pp. 122-132 (2018).
- 15** *A compact new incoherent Thomson scattering diagnostic for low-temperature plasma studies*
B. Vincent, S. Tsikata, S. Mazouffre, T. Minea, J. Fils
Plasma Sources Sci. Technol. **27**, 055002 (2018).
- 16** *Electron energy distribution function in a low-power Hall thruster discharge and near-field plume*
M. Tichý, A. Pétin, P. Kudrna, M. Horký, S. Mazouffre
Phys. Plasmas **25**, 061205 (2018).
- 17** *Performance comparison between standard and magnetically shielded 200 W Hall thrusters with BN-SiO₂ and graphite channel walls*
L. Grimaud, S. Mazouffre
Vacuum **155**, 514-523 (2018).
- 18** *ID-HALL, a new double stage Hall thruster design. I. Principle and hybrid model of IDHALL*
L. Dubois, F. Gaboriau, L. Liard, D. Harribey, C. Henaux, L. Garrigues, G.J.H. Hagelaar, S. Mazouffre, C. Boniface, J.P. Boeuf
Phys. Plasmas **25**, 093503 (2018).
- 19** *Prospects and physical mechanisms for photonic space propulsion*
I. Levchenko, K. Bazaka, S. Mazouffre, S. Xu
Nature Photonics **12**, 649–657 (2018).

- 20** *Mars colonization: Beyond getting there*
I. Levchenko, S. Xu, S. Mazouffre, M. Keidar, K. Bazaka
Global Challenges **2**, 1800062 (2018).
- 21** *Rotating spoke instabilities in a wall-less Hall thruster: Simulations*
K. Matyash, R. Schneider, S. Mazouffre, S. Tsikata, L. Grimaud
Plasma Sources Sci. Technol. **28**, 044002 (2019).
- 22** *Operation of a low-power Hall thruster: Comparison between magnetically unshielded and shielded configuration*
L. Garrigues, S. Santhosh, L. Grimaud, S. Mazouffre
Plasma Sources Sci. Technol. **28**, 034003 (2019).
- 23** *Space Exploration – Mars Colonization: Beyond Getting There*
I. Levchenko, S. Xu, S. Mazouffre, M. Keidar, K. Bazaka
Global Challenges 3, Cover picture, 1970011 (2019).
- 24** *Rotating spoke instabilities in a wall-less Hall thruster: Experiments*
S. Mazouffre, L. Grimaud, S. Tsikata, K. Matyash, R. Schneider
Plasma Sources Sci. Technol. **28**, 054002 (2019).
- 25** *Anode geometry influence on LaB₆ cathode discharge characteristics*
G-C. Potrivitu, S. Mazouffre, L. Grimaud, R. Jussot
Phys. Plasmas **26**, 113506 (2019).
- 26** *Perspectives, frontiers and new horizons for plasma-based space electric propulsion*
I. Levchenko, S. Xu, S. Mazouffre, D. Lev, D. Pedrini, D. Goebel, L. Garrigues, F. Taccogna and K. Bazaka
Phys. Plasmas **27**, 020601 (2020).
- 27** *Incoherent Thomson Scattering measurements of electron properties in a conventional and magnetically-shielded Hall thruster*
B. Vincent, S. Tsikata, S. Mazouffre
Plasma Sources Sci. Technol. **29** 035015 (2020).
- 28** *Collisionless electron cooling in a plasma thruster plume: experimental validation of a kinetic model*
M. Merino, P. Fajardo, G. Giono, J. T. Gudmundsson, N. Ivchenko, S. Mazouffre, D. Loubère, K. Dannenmayer
Plasma Sources Sci. Technol. **29**, 035029 (2020).
- 29** *Far-field plume characterization of a 100 W-class Hall thruster*
T. Hallouin, S. Mazouffre
AeroSpace **7**, 58 (2020).
- 30** *Electron properties of an emissive cathode: analysis with incoherent Thomson scattering, fluid simulations and Langmuir probe measurements*
B. Vincent, S. Tsikata, G.-C. Potrivitu, L. Garrigues, G. Sary, S. Mazouffre
J. Phys. D: Appl. Phys. **53**, 415202 (2020).

- 31** *Direct experimental comparison of krypton and xenon discharge properties in the magnetic nozzle of a helicon plasma source*
A. E. Vinci, S. Mazouffre
Phys. Plasmas **28**, 033504 (2021).
- 32** *Optimization of a Faraday cup collimator for electric propulsion device beam study: Case of a Hall thruster*
V. Hugonnaud, S. Mazouffre,
Appl. Sciences **11**, 2419 (2021).
- 33** *Faraday cup sizing for electric propulsion ion beam study: Case of a Field-Emission Electric Propulsion thruster*
V. Hugonnaud, S. Mazouffre, D. Krejci
Rev. Sci. Instrum. **92**, 084502 (2021).
- 34** *Discharge and plasma plume characterization of a 100 A-class LaB₆ hollow cathode*
S. Mazouffre, R. Jousot, B. Vincent, S. Tsikata
J. Appl. Phys. **130**, 173301 (2021).
- 35** *Plasma properties conditioned by the magnetic throat location in a Helicon plasma device*
A. Vinci, S. Mazouffre
J. Appl. Phys. **130**, 183301 (2021).
- 36** *Hydrogenated silicon nanoclusters with a permanent electric dipole moment for the controlled assembly of silicon-based nanostructures*
F. Jardali, B. P. Keary, T. Perrotin, F. Silva, J.-C. Vanel, Y. Bonnassieux, S. Mazouffre, A. A. Ruth, M. E. Leulmi, H. Vach
ACS Appl. Nano Mater. **4**, 11, pp. 12250–12260 (2021).
- 37** *Characterization of hollow cathode plasma turbulence using coherent Thomson scattering*
S. Tsikata, K. Hara, S. Mazouffre
J. Appl. Phys. **130**, 243304 (2021).
- 38** *Structure of the ion acceleration region in cylindrical Hall thruster plasmas*
G. Doh, H. Kim, D. Lee, S. Park, S. Mazouffre, W. Choe
J. Phys D: Appl. Phys. **55**, 225204 (2022).
- 39** *Electron thermodynamics along magnetic nozzle lines in a helicon plasma*
A. E. Vinci, Q. Delavrière–Delion, S. Mazouffre
J. Electric Propulsion **1**, 4 (2022).
- 40** *Force probes for development and testing of different electric propulsion systems*
A. Spethmann, T. Trottenberg, H. Kersten, F. G. Hey, L. Grimaud, S. Mazouffre, D. Bock, M. Tajmar
EPJ - Techniques and Instrumentation **9**, 4 (2022).
- 41** *Time-evolution of plasma parameters in the jet of a low-power vacuum arc thruster*
E. Michaux, S. Mazouffre, A. Blanchet
J. Electric Propulsion **1**, 7 (2022).

Articles soumis

- 1 *Laser-induced fluorescence spectroscopy on xenon atoms and ions in the magnetic nozzle of a Helicon plasma thruster*
A. E. Vinci, S. Mazouffre, V. Gómez, P. Fajardo, J. Navarro-Cavallé
submitted to Plasma Sources Sci. Technol. (2022).
- 2 *Ion-induced electron emission by kV-range energy indium ions: Impact of material and geometry*
V. Hugonnaud, S. Mazouffre, D. Krejci
submitted to J. Appl. Phys. (2022).
- 3 *Physics of Electric Propulsion*
B. Jorns, I. Mikellides, S. Mazouffre, H. Koizumi
submitted to J. Appl. Phys. (2022) [Special topic; Guest editorial]
- 4 *Enhanced electron heating in the magnetic nozzle of a radio-frequency plasma via electron cyclotron resonance*
A. Vinci, S. Mazouffre
submitted to Plasma Sources Sci. Technol. (2022).

CHAPITRES D'OUVRAGES SCIENTIFIQUES

- 1** *Laser-induced fluorescence spectroscopy applied to electric thrusters*
S. Mazouffre
Von Karman Institute for Fluid Dynamics, STO-AVT-VKI Lecture series 263, Electric propulsion systems, Edited by T. Magin, p. 10-1..26 (2016).
- 2** *Propulsion électrique pour les systèmes spatiaux*
S. Mazouffre
Technique de l'Ingénieur, TRP4051 (2018).
- 3** Préface de l'ouvrage *La Mécanique des Fluides en Applications : Exercices et Problèmes corrigés*
J. N. Blanchard, édition Ellipses, Ellipses, Mars 2020.
- 4** ESA SciSpace
White Paper #08: Applied Space sciences, Section 6 *Spacecraft Electric Propulsion and reentry plasmas*, pp. 27-30, Nov. 2021
https://esamultimedia.esa.int/docs/HRE/08_PhysicalSciences_Applied_Space_sciences.pdf

ARTICLES DE VULGARISATION**1** *Les plasmas froids réchauffent l'innovation*

M. Koppe (collaboration)

Le Journal du CNRS : <https://lejournald.cnrs.fr/articles/les-plasmas-froids-rechauffent-linnovation>
(Mars 2016).**2** *Propulsion ionique. La propulsion du futur ?*

J. P. Martin, S. Mazouffre

L'astronomie **130**, p. 20-25 (Nov. 2016).**3** *EmDrive. Le moteur spatial qui rend fou*

M. Valin (collaboration)

Science & Vie **1194**, p. 83-87 (Mars 2017).**4** *Une propulsion électrique pour les satellites*

R. Decourt (collaboration)

Futura Sciences (Juin 2017).

<http://www.futura-sciences.com/sciences/actualites/astronautique-satellites-electriques-solution-avenir-49907/>**5** *Ce moteur ionique étonnant carbure à l'atmosphère*

R. Decourt (collaboration)

Futura Sciences (Mars 2018).

<https://www.futura-sciences.com/sciences/actualites/propulsion-electrique-ce-moteur-ionique-etonnant-carbure-atmosphere-70447/>**6** *BlackSky, un satellite propulsé par de l'eau*

R. Decourt (collaboration)

Futura Sciences (Avril 2018).

<https://www.futura-sciences.com/sciences/actualites/observation-terre-blacksky-satellite-propulse-eau-70867/>**7** *ORACLE, un nouveau partenariat public/privé pour la propulsion électrique des petits satellites*

CNRS, communiqué de presse, 5 Mars 2019

<http://icare.cnrs.fr/wp-content/uploads/2019/03/convention-ORACLE.pdf>**8** *Orléans La Source : naissance d'un tout nouveau laboratoire de recherche spatiale*

France 3 Centre – Val de Loire, 8 Mars 2019

Yacha Hajzler

<https://france3-regions.francetvinfo.fr/centre-val-de-loire/loiret/orleans/orleans-source-naissance-nouveau-laboratoire-recherche-spatiale-1635278.html>**9** *Dans les coulisses du CNRS d'Orléans*

France 3, JT, 25 Mars 2019

Episode 2 ICARE : Conception d'une nouvelle génération de satellites

<https://france3-regions.francetvinfo.fr/centre-val-de-loire/loiret/orleans/coulisses-du-cnrs-orleans-1644272.html>

- 10** *Bientôt, l'espace sera rempli de mini-satellites... conçus à Orléans*
La République du Centre, 31 Mai 2019
https://www.larep.fr/orleans-45000/actualites/bientot-l-espace-sera-rempli-de-mini-satellites-concus-a-orleans_13571698/?fbclid=IwAR214juRiJA8fP4z--RSuWfV8PZfi8BSyhxMj6cd-vdU_9v19sQCwfg7Efc
- 11** *ORACLE, le labo qui vise l'orbite*
La République du Centre
5 Juin 2019, p. 12
- 12** *Militarisation de l'espace : « Un satellite, en lui-même, c'est une arme »*
France 3 Centre – Val de Loire, 26 Juillet 2019
Yacha Hajzler
<https://france3-regions.francetvinfo.fr/centre-val-de-loire/loiret/orleans/militarisation-espace-satellite-lui-meme-c-est-arme-1704402.html>
- 13** *Voici pourquoi les satellites seraient cruciaux si une guerre éclatait dans l'espace*
Business Insider France, 11 Septembre 2019
Chisato Goya
<https://www.businessinsider.fr/voici-pourquoi-les-satellites-seraient-cruciaux-si-une-guerre-eclatait-dans-l'espace/>
- 14** *Stéphane Mazouffre met ses rêves en orbite*
Acteurs de l'Eco, 22, p. 20
Août – Septembre 2019
- 15** *Rendre les nanosatellites plus agiles*
Collaboration avec R. Decourt
Air & Cosmos **2678** p. 18-19 (6 mars 2020).
- 16** *Un moteur orientable va booster l'exploration spatiale*
Science & Vie **1233**, p. 17 (Juin 2020).
- 17** *Comment booster la propulsion ?*
Collaboration avec Vahé Ter Minassian
Carnets de Science **10** p. 118-122 – La revue du CNRS
La Ruée vers l'Espace
- 18** *Le warp drive, ou comment s'affranchir de la vitesse de la lumière*
Collaboration avec R. Fouchard
Science & Vie, rubrique Ciel & Espace (16 Juin 2021).
- 19** *Débris spatiaux : cinq questions sur les destructions de satellites en orbite autour de la Terre*
Collaboration avec L. San
France Télévisions (17 Nov. 2021).
https://www.francetvinfo.fr/sciences/espace/debris-spatiaux-cinq-questions-sur-les-destructions-de-satellites-en-orbite-autour-de-la-terre_4848155.html

20 *VAT discharge picture*

S. Mazouffre, E. Michaux, A. Vinci

International Low Temperature Plasma Community, Newsletter 21 page 2 (March 2022).

ACTES DE CONGRÈS

- 1 *Novel architecture for an ion-ion plasma thruster*
D. Renaud, S. Mazouffre, Proceedings of the 5th Space Propulsion Conference, Rome, Italy, paper 3124800 (2016).
- 2 *Design and characterization of a 200 W low power Hall thruster in magnetic shielding and wall less configurations*
L. Grimaud, S. Mazouffre, Proceedings of the 5th Space Propulsion Conference, Rome, Italy, paper 3124890 (2016).
- 3 *Physics of a disk-shaped heated LaB₆ cathode for Hall thrusters*
R. Jousot, L. Grimaud, S. Mazouffre, Proceedings of the 5th Space Propulsion Conference, Rome, Italy, paper 3124900 (2016).
- 4 *Design and characterization of a 200W Hall thruster in magnetic shielding configuration*
L. Grimaud, J. Vaudolon, S. Mazouffre, C. Boniface Proceedings of the 52nd Joint-Propulsion Conference, Salt Lake City, Utah, AIAA paper 2016-4832.
- 5 *Incoherent Thomson scattering diagnostic development for plasma propulsion investigations*
B. Vincent, S. Tsikata, G. Potrivitu, S. Mazouffre, 18th International Symposium on Laser-Aided Plasma Diagnostics, Prague, Czech Republic, paper 16 (2017).
- 6 *Experimental and numerical investigations of a 5 A-class cathode with a LaB₆ flat disk emitter in the 2 A-20 A current range*
R. Jousot, G. Sary, L. Grimaud, L. Garrigues, S. Mazouffre, B. Laurent, C. Boniface, S. Oriol, F. Masson, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-486.
- 7 *Ion acceleration through a magnetic barrier. Toward an optimized double-stage Hall thruster concept*
L. Dubois, F. Gaboriau, L. Liard, D. Harribey, C. Henaux, J.P. Boeuf, S. Mazouffre, C. Boniface, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-215.
- 8 *Experimental determination of the plasma properties in the far-plume of a SPT-100 Hall thruster*
G. Giono, S. Mazouffre, D. Loubère, L. Popelier, C. Théroude, K. Dannenmayer, F. Marguet, J. T. Gudmundsson, N. Ivchenko, G. Olentsenko, M. Merino, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-385.
- 9 *Evaluation of various probe designs for measuring the ion current density in a Hall thruster plume*
S. Mazouffre, G. Largeau, L. Garrigues, C. Boniface, K. Dannenmayer, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-336.
- 10 *Investigation of rotating spoke instabilities in a wall-less Hall thruster. Part I: Experiments*
S. Mazouffre, L. Grimaud, S. Tsikata, K. Matyash, R. Schneider, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-248.

- 11** *Investigation of rotating spoke instabilities in a wall-less Hall thruster. Part II: Simulations*
K. Matyash, R. Schneider, S. Mazouffre, L. Grimaud, S. Tsikata, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-403.
- 12** *Model and experimental validation of spacecraft-thruster interactions for electric propulsion thruster plumes*
L. Popelier, C. Théroude, D. Loubère, k. Dannenmayer, P. Sarrailh, S. Hess, Merino, P. Fajardo, E. Ahedo, S. Mazouffre, G. Giono, J. T. Guðmundsson, N. Ivchenko, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC-2017-357.
- 13** *Application of force measuring probes for the investigation of sputtering and as diagnostic for HEMP and Hall thrusters*
A Spethmann, T. Trottenberg, H. Kersten, F. G. Hey, L. Grimaud, S. Mazouffre, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-245.
- 14** *Incoherent Thomson scattering diagnostic development for plasma propulsion investigations*
B. Vincent, S. Tsikata, G-C. Potrivitu, S. Mazouffre, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-442.
- 15** *Performance comparison between standard and magnetically shielded 200 W Hall thrusters with BN-SiO₂ and graphite channel walls*
L. Grimaud, S. Mazouffre, C. Boniface, Proceedings of the 35th International Electric Propulsion Conference, Atlanta, Georgia, IEPC paper 2017-172.
- 16** *Design of a 100 A-class LaB₆ cathode for high-power electric propulsion*
L. Garrigues, G. Sary, R. Jousot, L. Grimaud, S. Mazouffre, B. Laurent, C. Boniface, S. Oriol, F. Masson, proceedings of 6th Space Propulsion conference, Seville, Spain, paper SP-473 2018.
- 17** *Anode geometry influence on a hot laB₆ cathode in diode configuration*
G.-C. Potrivitu, L. Grimaud, R. Jousot, S. Mazouffre, proceedings of the 6th Space Propulsion conference, Seville, Spain, paper SP-353 2018.
- 18** *Simulation and optimization of a 200 W magnetically shielded Hall thruster with various discharge channel materials*
L. Grimaud, S. Santhosh, L. Garrigues, S. Mazouffre, proceedings of the 6th Space Propulsion conference, Seville, Spain, paper SP-374 2019.
- 19** *Characterization of miniature Hall thruster plume in the 50 - 200 W power range*
S. Mazouffre, T. Hallouin, M. Inchingolo, A. Gurciullo, P. Lascombes, J.-L. Maria, Proceedings of the 8th European Conference for Aeronautics and Space Sciences, Madrid, Spain, paper 214 (2019).
- 20** *Numerical modeling and incoherent Thomson scattering measurements of a 5A cathode with LaB₆ emitter*
L. Garrigues, G. Sary, B. Vincent, S. Tsikata, S. Mazouffre
Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-783.

- 21** *Thomson scattering investigations of a low-power Hall thruster in standard and magnetically-shielded configurations*
B. Vincent, S. Tsikata, S. Mazouffre, C. Boniface
Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-384.
- 22** *Far-field plume diagnostic of the 100 W-class ISCT100-v2 Hall thruster*
T. Hallouin, S. Mazouffre, M. Inchingolo, A. Gurciullo, P. Lascombes, J.-L. Maria
Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-617.
- 23** *Operation of a low power Hall thruster with a shielded magnetically configuration*
L. Garrigues, S. Santhosh, L. Grimaud, S. Mazouffre
Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-619.
- 24** *Faraday cup study on ion beam for different electric propulsion technologies*
V. Hugonnaud, D. Krejci, S. Mazouffre, T. Lejosne, Q. Koch, E. Bosh
Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-803.
- 25** *Characterization of a 100 A-class LaB₆ hollow cathode for high-power Hall thrusters*
S. Mazouffre, R. Jousot, B. Vincent, S. Tsikata, S. Oriol, F. Masson, Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-776.
- 26** *New insights into electron transport due to azimuthal drift in a Hall effect thruster*
K. Hara, Y. Yamashita, S. Tsikata, B. Vincent, S. Mazouffre, S. Cho, Proceedings of the 36th International Electric Propulsion Conference, Vienna, Austria
IEPC paper 2019-691.
- 27** *HIPATIA: A project for the development of the Helicon Plasma Thruster and its associated technologies to intermediate-high TRLs*
M. Ruiz, V. Gómez, P. Fajardo, J. Navarro, G. Dickeli, A. Vinci, S. Mazouffre, N. Hildebrand, Proceedings of the 71st International Astronautical Congress – The CyberSpace Edition, 12-14 October 2020, Paper IAC-20-C4.5.12.
- 28** *Faraday cup design for low power electric thrusters*
V. Hugonnaud, S. Mazouffre, D. Krejci, C. Scharlemann, B. Seifert, Proceedings of the Space Propulsion conference, 17-19 March 2021, paper SP2021-281
- 29** *Electron and ion properties in the beam and discharge of a Helicon plasma source for application in spacecraft propulsion*
Alfio E. Vinci, Stéphane Mazouffre, Proceedings of the Space Propulsion conference, 17-19 March 2021, paper SP2021-471
- 30** *E×B probe measurements in the plasma plume of a 100 W-class Hall thruster*
T. Hallouin, S. Mazouffre, Proceedings of the Space Propulsion conference, 17-19 March 2021, paper SP2021-270

- 31** *The HIPATIA project's initial development stages: setting the basis to bring the Helicon Plasma Thruster and its associated technologies to intermediate-high TRLs*
M. Ruiz, V. Gómez, P. Fajardo, J. Navarro, R. Albertoni, G. Dickeli, A. Vinci, S. Mazouffre, N. Hildebrand, Proceedings of the Space Propulsion conference, 17-19 March 2021, paper SP2021-421
- 32** *Evolution in time and space of ion and electron properties in the jet of a low-power Vacuum Arc Thruster*
E. Michaux, S. Mazouffre, R. Fritzsche, Proceedings of the Space Propulsion conference, 9-13 May 2022, paper SP2022-430
- 33** *Spatial and temporal evolution of ion and electron parameters in the plasma jet of a 30 W VAT*
E. Michaux, S. Mazouffre, R. Fritzsche, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-557
- 34** *Probing xenon atoms and ions velocity in the magnetic nozzle of a helicon plasma thruster*
A. E. Vinci, S. Mazouffre, M. R. Inchingolo, V. Gómez, P. Fajardo, J. Navarro-Cavallé, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-484
- 35** *Study of Faraday cup designs suiting multiple electric propulsion systems*
V. Hugonnaud, D. Krejci, S. Mazouffre, S. Zoehrer, E. Bosch Borràs, N. Wallace, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-164
- 36** *Characterization of a low-power Cylindrical Hall Thruster*
T. Perrotin, A. E. Vinci, S. Mazouffre, J. Navarro-Cavallé, P. Fajardo, E. Ahedo, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-359
- 37** *Comparison of C12A7 electrified work function and surface composition by means of XPS, UPS and thermionic diode emission measurements*
A. Gurciullo, V. Papaefthimiou, P. Lascombes, S. Mazouffre, F. Plaza, A. Post, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-291
- 38** *A LIF study on the plasma plume of a cluster of two 100 W Hall thrusters*
C. Royer, T. Hallouin, S. Mazouffre, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-378
- 39** *Results of the first Helicon Plasma Thruster (HPT) coupling test campaign within the HIPATIA project*
M. Ruiz, A. Velasco, V. Gómez, J. Navarro-Cavallé, G. Dickeli, A. Vinci, S. Mazouffre, S. Gorbachev, N. Hildebrand, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-524

- 40** *Far-field plume properties of a cluster of 100 W-class permanent magnets Hall thrusters*
T. Hallouin, A. Guglielmi, A. Gurciullo, B. Moriconi, S. Mazouffre, Proceedings of the 37th International Electric Propulsion Conference, MIT, Cambridge, MA, 19-23 June 2022, IEPC paper 2022-292
- 41** *Effect of magnetic nozzle geometry on ion and electron properties*
A. E. Vinci, S. Mazouffre, Proceedings of the 73rd International Astronautical Congress, Paris, France, 18-22 September 2022, IAC paper 22-72147