

## PUBLICATIONS

### 1 JOURNAUX A COMITE DE LECTURE

- 1 *Anomalous atomic hydrogen shock wave pattern in a supersonic plasma jet.*  
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- 13** *Modeling of the radiative emission of a plasma surrounding a space probe entering Mars atmosphere.*  
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- 92** *Perspectives, frontiers and new horizons for plasma-based space electric propulsion*  
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- 97** *Direct experimental comparison of krypton and xenon discharge properties in the magnetic nozzle of a helicon plasma source*  
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- 98** *Optimization of a Faraday cup collimator for electric propulsion device beam study: Case of a Hall thruster*  
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Alfio E. Vinci, Stéphane Mazouffre, Proceedings of the Space Propulsion conference, 17-19 March 2021, paper SP2021-471
- 130** *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.
- 131** *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.
- 132** *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.
- 133** *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.
- 134** *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.

- 135** *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.
- 136** *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.
- 137** *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 2022-104.
- 138** *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.
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- 140** *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.
- 141** *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.
- 142** *Measurements of xenon ions and atoms velocity in a Cylindrical Hall Thruster with Laser-Induced Fluorescence spectroscopy*  
T. Perrotin, S. Mazouffre, A. E. Vinci, E. Ahedo, P. Fajardo, J. Navarro-Cavallé, Proceedings of the Aerospace Europe Conference 10th EUCASS - 9th CEAS, EPFL, Lausanne, Switzerland, 9-13 July, paper 706 (2023).
- 143** *Water electrothermal thruster concept and thrust stand for experiments in parabolic flight campaigns*  
F. Perini, S. Mazouffre, Proceedings of the Aerospace Europe Conference 10th EUCASS - 9th CEAS, EPFL, Lausanne, Switzerland, 9-13 July, paper 480 (2023).
- 144** *Experimental validation of the electric sail concept*  
S. Mazouffre, U. Weller, Proceedings of the Aerospace Europe Conference 10th EUCASS - 9th CEAS, EPFL, Lausanne, Switzerland, 9-13 July, paper 581 (2023).



- 145** *Cathode spots dynamics in a high-current Vacuum Arc Thruster*  
E. Michaux, J. Julien, S. Mazouffre  
Proceedings of the Space Propulsion conference, 20 – 23 May 2024, paper SP2024-251
- 146** *Electron parameters in the plasma plume of a 5kW Hall thruster firing with xenon and krypton*  
S. Mazouffre, V. Delbosq, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-866.
- 147** *A Laser-Induced-Fluorescence study on a cluster of two 100 W Hall thrusters*  
C. Royer, S. Mazouffre, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-790.
- 148** *LIF spectroscopy study of Hall thruster discharge at ignition and warm-up*  
A. Lecervoisiere, S. Mazouffre, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-508.
- 149** *Machine learning-based Hall Thruster scaling laws*  
A. Marianacci, S. Mazouffre, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-267.
- 150** *Modulation of the cathode potential of a 100 W-class Hall thruster*  
V. Delbosq, S. Mazouffre, M. Tichy, P. Kudrna, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-282.
- 151** *Testing of a small Water Resistojet Thruster in Zero-G flight experimental campaign*  
F. Perini, S. Mazouffre, G. Largeau, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-485.
- 152** *The IPSA-ONE Low Power Gridded Ion Thruster and Testing Facility*  
K. Hecky, E. Sidommo, J. Julien, L. Moinet, S. Mazouffre, V. Robert, A. Lekic, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-863.
- 153** *Advancing Iodine Thruster Technology: Insights and Objectives of Project BOOST*  
F. Ponti et al, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-310.
- 154** *Determining ion velocity in the interconnected plume of a cluster of two ECRTs using 2D LIF*  
C. Boyé, J. Navarro-Cavallé, M. Merino Martinez, A. Lecervoisiere, S. Mazouffre, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-717.
- 155** *Characterization of the electromagnetic behavior of PIVOINE-2G vacuum chamber in the microwave regime*  
V. Mazières, C. Cailhol, C. Bouyssou, F. Gaboriau, O. Pascal, A. Cozza, G. Largeau, P. Lasgorceix, S. Mazouffre, Proceedings of the 38th International Electric Propulsion Conference, Toulouse, France, 23-28 June 2024, IEPC paper 2024-232.

## CONGRES - CONFÉRENCES

### 1 SYMPOSIUMS INTERNATIONAUX

*Time-resolved fluorescence study of the electron dynamics in an expanding argon plasma.*

Gordon Research Conference on Plasma Processing Science  
Tilton, New Hampshire, USA (9-14 Août 1998). [Affiche]

*A 2-photon LIF study on the transport of atomic hydrogen in an expanding Ar-H<sub>2</sub> plasma jet.*

1st Euroregional Workshop on Low Temperature Plasma Physics,  
Kerkrade, The Netherlands (Nov. 1998).

*A 2-photon LIF study on the expansion behaviour of a plasma beam generated from an Ar-H<sub>2</sub> mixture.*

3rd Frontiers in Low Temperature Plasma Diagnostics Conference  
Saillon, Zwitserland (15-19 Fév. 1999). [Affiche]

*Transport of neutral atomic hydrogen in a supersonic plasma jet.*

2nd International Symposium on Heat and Mass Transfer under Plasma Conditions,  
Antalya, Turkey (18-23 Avril 1999).

*A two-photon LIF study on the transport of atomic radicals in a supersonic plasma jet.*

9th International Symposium on Laser-Aided Plasma Diagnostics Symposium  
Lake Tahoe, California, USA (26 Sept. – 1er Oct 1999). [Affiche]

*The Physics of Plasma Expansion.*

2nd Euroregional Workshop on Low Temperature Plasma Physics,  
Kerkrade, The Netherlands (Déc. 1999).

*Transport of atomic radicals in expanding plasmas: a laser spectroscopy study.*

6th European Thermal Plasma Processes Conference,  
Strasbourg, France (30 Mai – 2 Juin 2000).

*Transport of particles in plasma expansion: a laser spectroscopic study.*

53rd Gaseous Electronics Conference,  
Houston, Texas, USA (24-27 Oct. 2000).

*Transport of H atoms in an expanding hydrogen plasma.*

3rd Euroregional Workshop on Low Temperature Plasma Physics  
Kerkrade, The Netherlands (Nov. 2000). [Affiche]

*Transport of H atoms and H<sub>2</sub> molecules in a weakly ionized hydrogen plasma expansion.*

2nd Euroconference: Hypersonic and Aerothermic Flows and Shocks, and Lasers  
Meudon, France (Mai 2001). [Affiche]

*Transport of H and H<sub>2</sub> in an expanding hydrogen plasma.*

4th Frontiers in Low Temperature Plasma Diagnostics Conference,  
Kerkrade, The Netherlands (25-29 Mars 2001).

*Non-equilibrium motion in a plasma shock wave: a LIF study on the velocity distribution in plasma expansions.*

10th International Symposium on Laser-Aided Plasma Diagnostics Symposium,  
Fukuoka, Japan (24-28 Sept. 2001).

*Interaction between free plasma jets and surfaces: from transport phenomena to molecule generation.*

16th Europhysics Conference on Atomic & Molecular Physics of Ionized Gases,  
Grenoble, France (14-18 Jul. 2002).

*Plasma formation during high speed flights in upper layers of the Earth's atmosphere.*

11th AIAA/AAAF Int.Conference on Space Planes and Hypersonic Systems and Technologies,  
Orléans, France (29 Sept. – 4 Oct. 2002).

*Temperature of neutral xenon atoms in a Stationary Plasma Thruster.*

28th International Electric Propulsion Conference,  
Toulouse, France (17-21 Mars 2003).

*Study of the flow dynamics of a hypersonic plasma jet.*

4ème Séminaire Franco-Polonais sur les Plasmas Thermiques dans l'Espace et en Laboratoire,  
Bourges, France (16-19 Juin 2003).

*Experimental investigation of the flow properties of rarefied hypersonic plasma jets.*

34th AIAA Plasmadynamics and Lasers Conference,  
Orlando, Florida, USA (23-26 Juin 2003).

*A LIF study on the 823.2 nm Xe transition in a magnetic field: application to Xe atom temperature measurement in a plasma thruster.*

11th International Symposium on Laser-Aided Plasma Diagnostics Symposium  
Les Houches, France (28 Sept. – 2 Oct. 2003). [Affiche]

*Hall propulsion for space mission: an overview.*

1st International Conference on Recent Advances in Space Technologies,  
Istanbul, Turkey (20-22 Nov. 2003).

*Examination of Hall thruster Xe ion flow features by means of Fabry-Pérot interferometry.*

*Lessons learned from infrared thermal imaging of a Hall thruster.*

4th International Spacecraft Propulsion Conference (ESA conference),  
Sardina, Italy (2-9 Juin 2004).

*Time-resolved analysis of Hall effect thruster radiations: New insights into heavy particle transport phenomena.*

APS meeting, 46th Annual meeting of the Division of Plasma Physics,  
Savannah, GA, USA (15-19 Nov. 2004).

*Measurements of isotopic shifts and hyperfine components of near-infrared spectral lines in xenon and krypton based on Lamb-dip saturation spectroscopy.*

6th Workshop on Frontiers in Low Temperature Plasma Diagnostics,  
Les Houches, France (17-21 Avril 2005).

European Workshop on Electric Propulsion Flight Experiences  
Villa Marigola, Lerici, Italy (1-2 Sept. 2005).

*An infrared thermography study on the thermal load experienced by a high power Hall effect thruster.*

*Parametric study on the acceleration layer in a high power Hall effect thruster by Fabry-Pérot spectroscopy.*

29th International Electric Propulsion Conference,  
Princeton University, NJ (31 Oct. – 4 Nov. 2005).

*Potential distribution in the near field of a Hall effect thruster: A laser spectroscopy study.*

18th European Conference on Atomic & Molecular Physics of Ionized Gases,  
Lecce, Italy (12-16 Jul. 2006). [Affiche]

*Expanding frontiers: Towards high power Hall effect thrusters for interplanetary journeys.*

7th International Symposium on Launcher Technologies.  
Barcelona, Spain (2-5 Avril 2007).

*Recent advances in the physics of high power hall effect thruster: Spatial and temporal characteristics of the  $Xe^+$  ion velocity distribution functions.*

34th European Physical Society Conference on Plasma Physics,  
Warsaw, Poland (2-6 Jul. 2007). [Invited Speaker]

*A laser spectroscopic study on  $Xe^+$  ion transport phenomena in a 5 kW-class Hall effect thruster.*

30th International Electric Propulsion Conference,  
Florence, Italy (17-20 Sept. 2007).

*A laser spectroscopic study on  $Xe^+$  ion transport phenomena in the  $E \times B$  discharge of a Hall effect thruster.*

PLASMA 2007 – International Conference on Research and Applications of Plasmas,  
Greifswald, Germany (16-19 Oct. 2007). [Invited Speaker]

Supplying the discharge of a Hall effect thruster with RF power: A novel approach to enhance thruster performances.

5th International Spacecraft Propulsion Conference,  
Heraklion, Crête (5-8 Mai 2008).

*Diagnostics of a discharge in crossed electric and magnetic fields for electric propulsion.*

19th Europhysics Conference on the Atomic and Molecular Physics of Ionized Gases,  
Granada, Spain (15-19 Jul. 2008). [Invited Speaker]

*Elementary scaling laws for the design of low and high power Hall effect thrusters.*  
3rd European Conference for Aerospace Sciences,  
Versailles, France, (6-9 Jul. 2009).

*Examination of the temporal characteristics of electric field in a Hall effect thruster using a photon-counting technique.*  
31st International Electric Propulsion Conference,  
Ann Arbor, Michigan (20-24 Sept. 2009).

*A time-resolved photon counting spectroscopy study on the ion velocity oscillations in a crossed field discharge.*  
International Conference on Plasma Diagnostics,  
Pont-à-Mousson, France, (12-16 Avril 2010).

*Effect of channel geometry on discharge properties and performances of a low-power Hall effect thruster.*  
Space Propulsion conference,  
San Sebastian, Spain (3-6 Mai 2010).

*Ion and atom flow in a Hall thruster discharge*  
63rd Gaseous Electronic Conference  
Paris, France (5-8 Oct 2010). [[Invited Speaker](#)]

*Lessons learned from measurements of the ion velocity distribution function in the discharge of a Hall effect thruster.*  
9th Frontiers in Low-Temperature Plasma Diagnostics,  
Zinnowitz, Germany (9-12 Mai 2011). [[Invited Speaker](#)]

*Impact of discharge chamber geometry on characteristics of a low-power Hall thruster.*  
5th International Conference on Recent Advances in Space Technologies,  
Istanbul, Turkey (9-11 Juin 2011).

*Impact of the channel width on Hall thruster discharge properties and performances.*  
32nd International Electric Propulsion Conference,  
Wiesbaden, Germany (11-16 Sept. 2011).

*High power electric propulsion for robotic exploration of our Solar system.*  
1st International Conference on Space Access,  
Paris, France (21-23 Sept. 2011).

*Performances of a variable channel width Hall thruster operating with xenon and krypton.*

3<sup>rd</sup> Space Propulsion Conference,  
Bordeaux, France (7-10 Mai 2012).

*Time evolution of the EEDF in the plasma plume of a Hall thruster*

65<sup>th</sup> Gaseous Electronic Conference  
Austin, Texas, 22 – 26 Oct. 2012

*Recent progress in understanding the physics of Hall thrusters*

31st International Conference on Phenomena in Ionized Gases  
Grenade, Spain, 14 – 19 July 2013 [[Invited Speaker](#)]

*Electric Space Propulsion*

Table ronde *Low-temperature plasmas: Our discipline in 2030* [[Invited Speaker](#)]  
31st International Conference on Phenomena in Ionized Gases  
Grenade, Spain, 14 – 19 July 2013

*Design and first test campaign results with a new flexible magnetic circuit for a Hall thruster.*

33rd International Electric Propulsion Conference,  
Washington DC, 6 – 10 Oct. 2013

*Hall thruster with external electric field.*

4th Space Propulsion Conference,  
Cologne, Germany, 19 – 22 May 2014

*Development and characterization of a wall-less Hall thruster.*

50th Joint-Propulsion Conference,  
Cleveland, Ohio, 28 – 30 July 2014

*Laser-aided diagnostics for Electric Propulsion*

Electric Propulsion Innovation & Competitiveness (EPIC)  
Brussels' Museum of Natural Sciences, Brussels, 25 – 28 Nov. 2014

*Diagnostic methods for thruster plasma plume*

21st Spacecraft Plasma Interactions Network in Europe (SPINE) meeting  
ESA Head Quarter, Paris, 19 – 21 May, 2015

*Optimization of magnetic field topology and anode geometry for a wall-less Hall thruster*

51st Joint-Propulsion Conference,  
Orlando, Florida, 27 – 29 July 2015

*Anomalous electron transport*

Workshop  
NASA – JPL, Pasadena, CA, 8 – 11 Sept. 2015 [[Invited Speaker](#)]

*Novel architecture for an ion-ion plasma thruster*

5<sup>th</sup> Space Propulsion Conference  
Rome, Italy, 2 – 6 May 2016

*Laser-induced fluorescence spectroscopy applied to electric thrusters*

Von Karman Institute for Fluid Dynamics, STO-AVT-VKI Lecture series 263, Electric propulsion systems, Brussels, 6 – 10 June 2016 [\[Invited Speaker\]](#)

*Design and characterization of a 200W Hall thruster in magnetic shielding configuration*

52<sup>nd</sup> Joint-Propulsion Conference,  
Salt Lake City, Utah, 2 – 27 July 2016

*Hall thruster technology: from classical to wall-less architecture*

International workshop on Ion Propulsion and accelerator industrial applications  
Bari, Italy, 1 – 3 March 2017 [\[Invited Speaker\]](#)

*Hall thruster configurations for nano/micro-satellite propulsion*

1<sup>st</sup> International conference on MicroPropulsion and CubeSats  
Bari, Italy, 26 – 28 June 2017 [\[Invited Speaker\]](#)

*Investigation of rotating spoke instabilities in a wall-less Hall thruster. Part I: Experiments*

35<sup>th</sup> International Electric Propulsion Conference  
Atlanta, Georgia, 8-12 Oct. 2017

*Miniature Hall thrusters for micro-spacecraft propulsion*

2<sup>nd</sup> International conference on MicroPropulsion and CubeSats  
Singapore, 6 – 3 Jan. 2018 [\[Invited Speaker\]](#)

*Microthrusters for CubeSats*

7<sup>th</sup> Interplanetary CubeSat Workshop  
Paris, France, 29-30 May 2018

*Laser-aided diagnostics applied to ion thrusters*

15<sup>th</sup> International High-Tech Plasma Processes Conference  
Toulouse, France, 2-6 July 2018 [\[Invited Speaker\]](#)

*Incoherent Thomson scattering investigations for low-power propulsion plasmas: Application to cathode and HT characterization*

3<sup>rd</sup> MicroPropulsion and CubeSats Workshop  
Washington, Chine, 31 July – 1 Aout 2018

*Characterization of a low-power Hall thruster plasma plume by means of Faraday cup and energy analyzer*

4<sup>th</sup> MicroPropulsion and CubeSats Workshop  
Pékin, Chine, 8 – 11 May 2019 [\[Invited Speaker\]](#)

*Characterization of miniature Hall thruster plume in the 50 - 200 W power range*  
8th European Conference for Aeronautics and Space Sciences  
Madrid, Spain, 1 – 4 July 2019

*Observation of time-varying atom and ion velocity distribution function in plasmas*  
PROMETEO (Plasma propulsion and nuclear fusion: innovating space transport) workshop  
University Carlos III, Madrid, Spain, 5 juil. 2019

*Characterization of a 100A-class LaB<sub>6</sub> hollow cathode for high-power Hall thrusters*  
36th International Electric Propulsion Conference  
Vienna, Austria, 15 – 20 Sept. 2019

*Interplanetary Small Satellite Conference*  
hosted by California Institute of Technology – JPL  
Pasadena, 11 – 12 May 2020  
Virtual conference – Online

*E×B probe measurements in the plasma plume of a 100 W-class Hall thruster*  
7<sup>th</sup> Space Propulsion conference  
7-19 March 2021  
Virtual edition

*PPS® Dual Hall thruster plume properties*  
Consortium for Hall Effect Orbital Propulsion Systems Final event (online)  
29<sup>th</sup> of June, 2021  
Online meeting [[Invited Speaker](#)]

*Probing the physics of ion thrusters with coherent light*  
Chair of Excellence UC3M – Santander conference  
University Carlos III of Madrid, Spain, 30<sup>th</sup> of June 2021  
Live broadcast [[Invited Speaker](#)]

*Ion energy and electron cooling in a magnetic nozzle with different expansion ratios*  
5th MicroPropulsion & CubeSats workshop  
8-10 of September 2021, France  
Virtual edition [[Organizer](#)]

*Micro electric thrusters for Cubesats*  
12<sup>th</sup> European CubeSat Symposium  
Palaiseau, France, 24-26 of November 2021, [[Invited Speaker](#)]

*Exploring the physics of electric thrusters with laser spectroscopy*  
University of Southampton, UK  
27<sup>th</sup> of April, 2022 [[Invited Speaker](#)]



*Study of Faraday cup designs suiting multiple electric propulsion systems*  
37th International Electric Propulsion Conference  
Cambridge, MA, 19-23 June 2022

*Ion transport in the magnetic nozzle of electrodeless plasma thrusters for spacecraft*  
32nd International Symposium on Rarefied Gas Dynamics (RGD32)  
Seoul, South Korea, 4 – 8 July, 2022, [\[Invited Speaker\]](#)

*Electron thermodynamics and ion transport in the magnetic nozzle of electrodeless electric thrusters*  
75<sup>th</sup> Annual Gaseous Electronics Conference  
Sendai, Japan, 3 – 7 October, 2022. [\[Invited Speaker\]](#)

*Fundamentals of Electric Propulsion - The Hall thruster technology*  
International School on Low Temperature Plasma Physics: Basics and Applications  
Master Class on EP  
Bad Honnef, Germany, 7 – 8 October 2022 [\[Invited Speaker\]](#)

*Ion velocity distribution function in the magnetized plasma of electric thrusters*  
Fundamental Plasma Physics conference  
Turino, Italy, 21-23 June 2023 [\[Invited Speaker\]](#)

*Experimental validation of the electric sail concept*  
Aerospace Europe Conference 10th EUCASS - 9th CEAS  
EPFL, Lausanne, Switzerland, 9-13 July 2023

*Electric Propulsion for spacecraft: Fundamentals and recent outcomes*  
Swiss Plasma Center  
Lausanne, Switzerland, July 14th 2023 [\[Invited Speaker\]](#)

*Fundamentals of EP*  
First European Summer School on EP, ESA, ESTEC  
The Netherlands, Oct. 10-12, 2023 [\[Invited Speaker\]](#)

*The Hall thruster technology*  
University of Giessen  
Giessen, Germany, Nov. 13th, 2023 [\[Invited Speaker\]](#)

*Electron parameters in the plasma plume of a 5 kW Hall thruster firing with xenon and krypton*  
38th International Electric Propulsion Conference  
Toulouse, France, 23-28 June 2024 [\[Chair person\]](#)

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**2 CONGRÈS ET SÉMINAIRES NATIONAUX**

*Evidence for in-flux and mixing of ambient gas in the supersonic part of an expanding plasma jet.*  
11th Plasma Physics and Radiation Technology Conference  
Lunteren, The Netherlands (Mars 1998). [Affiche]

*A LIF study on the expansion behaviour of a plasma jet generated from an Ar-H<sub>2</sub> mixture.*  
12th Plasma Physics and Radiation Technology Conference,  
Lunteren, The Netherlands (Mars 1999).

*Radical defocusing in plasma expansion.*  
*A Vacuum-UV LIF setup to study the generation of molecules with high rovibrational excitation.*  
13th Plasma Physics and Radiation Technology Conference  
Lunteren, The Netherlands (Mars 2000). [Affiche]

*Plasma physics and space exploration.*  
15th Plasma Physics and Radiation Technology Conference  
Lunteren, The Netherlands (March 2002).

3ème Journées du Réseau des Plasma Froids  
Bonascre, France (17-20 Oct. 2004).

Atelier *Utilisation des diodes laser* du RPF  
Sarcenas, France (16-18 Mars 2005)  
N. Sadeghi, S. Mazouffre (organisateurs)

4ème Journées du Réseau des Plasma Froids  
Bonascre, France (9-12 Oct. 2005).

6ème Journées du Réseau des Plasma Froids  
Bonascre, France (2-5 Oct. 2007).  
Intervenant : *Nouvelles spectroscopies laser*

10ème Congrès de la Division Plasma de la SFP  
Paris, 19-21 Mai 2008

7ème Journées du Réseau des Plasma Froids  
Bonascre, France (29 Sept. - 2 Oct. 2009).

11ème Congrès de la Division Plasma de la SFP  
Talence, 9-12 Mai 2010.

*Rôle et actions du Réseau des Plasmas Froids du CNRS*  
1ère Rencontre nationale du Réseau des Technologies du Vide  
Lille, 28 Sept. - 1 Oct. 2010.

9ème Journées du Réseau des Plasma Froids  
Toulouse, France, 24 – 27 Mai 2011.

Atelier *Fonction de distribution en énergie dans un plasma* du RPF  
Orléans, France (21-23 Nov. 2011)  
S. Mazouffre, S. Béchu (organisateur)

12ème Congrès de la Division Plasma de la SFP  
Orléans, 22-24 Mai 2012 (organisateur).

10ème Journées du Réseau des Plasma Froids  
Ecully, France, 9-11 Octobre 2012.

*Les décharges magnétisées pour la propulsion spatiale.*  
22ème Congrès général de la Société Française de Physique  
Colloque Plasmas pour l'énergie et plasmas magnétisés  
Marseille, France (1-5 juillet 2013). [\[Invité\]](#)

11ème Journées du Réseau des Plasma Froids  
La Rochelle, France, 14-17 Octobre 2013 (organisateur).

12ème Journées du Réseau des Plasma Froids  
La Rochelle, France, 20-23 Octobre 2014 (organisateur).

Atelier Réseau des Plasma Froids *Spectroscopie par diode laser*  
Col de Porte, France (22-24 Novembre 2017)  
*Measurement of atom and ion Velocity Distribution Function by LIF spectroscopy*  
N. Sadeghi, S. Mazouffre (organisateur)

Atelier Réseau des Plasma Froids *Quelle alimentation électrique pour quel plasma ?*  
Orléans, France (1-3 Avril 2019)  
*Les alimentations pour la propulsion spatiale électrique*

Journées du GDR EMILI 2021  
Palaiseau, France (25-28 Octobre 2021)

Académie des Sciences [\[invité, Prix Edmond Brun 2021\]](#)  
*Lois d'échelle en propulsion ionique*  
Paris, 7 juin 2022

Atelier IA pour les sciences de l'ingénierie, CNRS – INSIS  
En ligne, 28-29 juin 2022

Atelier GDR EMILI - Plasmas magnétisés : définition d'une source modulable  
Orléans, ICARE, 11-12 octobre 2022  
*Propulseurs Hall et propulseurs sans parois*

Séminaire laboratoire GREMI  
Orléans, GREMI, 8 juin 2023  
*Fundamentals of Electric Propulsion*

Journée de l'Innovation du CNRS

Paris Expo Porte de Versailles, 23 mai 2024

*Ambassadeur CNRS de l'Innovation ; Présentation du LabCom ORACLE*

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### 3 CONFÉRENCES GRAND-PUBLIC

*Les voyages interplanétaires de demain*

Fêtes de la Science, 16 octobre 2005, Laboratoire d'Aérodynamique

*Voyager vers Mars et au-delà. Les moteurs à plasma pour les missions interplanétaires de demain*

Fêtes de la Science, 15 octobre 2006, Université d'Orléans

*La propulsion spatiale à plasma*

Muséum des Sciences Naturelles d'Orléans, 28 novembre 2006

*La propulsion spatiale électrique : Tour d'horizon et perspectives*

Observatoire des Sciences de l'Univers de la région Centre, Orléans

14 janvier 2014

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