

Lina HADID

Nationalities: France, Lebanese
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Age: 34
Personel pages:
[Laboratoire de Physique des Plasmas](#)
[Research Gate](#), [ORCID](#), [HAL](#)

Professional experience and education

2020 – present **Chargée de recherche au CNRS**, Laboratoire de Physique des Plasmas, École Polytechnique, FR.
2019 – 2020 **Post-doctorate**, European Space Agency (ESA/ESTEC), Noordwijk, NL.
2017 – 2019 **Post-doctorate**, Swedish institute of Space Physics (IRFU), Uppsala, SE.
2013 – 2016 **Ph.D., Astrophysics**, Université Paris-Saclay, FR.
2011 – 2013 **M.Sc. in Physical-Chemistry** (Excellence scholarship)
University of Paris-Saclay (FR), Università degli studi di Genova (Italy) and University of Adam Mickiewicz, Poznan, (Poland).
2008-2011 **B.Sc. in Fundamental Physics** (with honours), Faculty of Sciences, Lebanese University, Lebanon

Scientific interests

Space plasma physics (solar wind and planetary magnetospheres: Mercury, Venus, Earth, Mars, Jupiter, Saturn,...).
Space exploration, space mission design and space instrumentation.
Data analysis techniques and signal processing.
Public outreach and communication activities.

Teaching experience

- **2021 - present:** 10h Master 2 course "Introduction to plasma physics", Sorbonne Université.
- **2024:** Invited mentor at the [PLASMA Science SUMMER SCHOOL](#)
- **2022:** Invited mentor at the [Joint ICTP-IAEA College on Plasma Physics for Fusion Applications](#)
- **2013 – 2016 :** Courses of Math & Physics (Bachelor and Master level, 64h/year), Paris-Saclay University
- **2013 – 2014 :** Leading school research projects in astrophysics: [Les Saventuriers](#), Picpus elementary school, FR

Students

- **Ph.D.**
 - **2023 – 2026** Xue Wang, co-supervision with F. Sahraoui
- **Intern students**
 - **2024:** Titouan Marechal (Engineering school, ENSTA, Bretagne) with D. Delcourt
Nicolas Halley (Bachelor program of the École Polytechnique).
 - **2023:** Salomé Mosiashvili (Bachelor program of the École Polytechnique).
 - **2023 – 2024:** Khalil Ben Ghali and Arthur Paradis (Master 1, [Parcours d'Approfondissement "Science et Défis du Spatial"](#) of the École Polytechnique).
 - **2022 – 2023:** Sarah Al Humaikani and Alexis Launois (Master 1, [Parcours d'Approfondissement "Science et Défis du Spatial"](#) of the École Polytechnique).
 - **2021 – 2022:** Pierre Fulco (Master 1). Co-supervision with D. Fontaine.
Nicolas Tufel, Raphaël Dehont et Léopold Maurice, (M1, [Parcours d'Approfondissement "Science et Défis du Spatial"](#) of the École Polytechnique), co-supervision with F. Sahraoui.
 - **2018:** – Supervisor: Khaled Al Moulla, Bachelor's project at Uppsala University. [URN:diva-354775](#).

Space missions responsibility

Instrumentation:

- **2024 - present:** PI of the ion mass spectrometer (MSA) onboard the BepiColombo ESA/JAXA mission.
Lead-Col of MPPE consortium onboard BepiColombo
- **2022 – present:** PI of the M-MSA instrument proposed for the ESA M7 mission M-MATISSE to Mars down selected for phase A (2023-2026)
- **2024 - present :** Lead Col of MPPE consortium onboard BepiColombo ESA/JAXA mission
- **2022 - present :** Col of MSA onboard the MMX/JAXA mission to Mars
- **2022 - present :** Col of the RPW experiment on the ESA/JUICE mission

- **2022 - present** : Col of the RPW experiment on the ESA/Solar Orbiter mission
- **2020 - 2024** : Col of MSA onboard BepiColombo ESA/JAXA mission

Coordinator of working groups:

- **2022 - present**: [Hermian Environment Working Group](#) (with A. Milillo and S. Aizawa), BepiColombo ESA/JAXA.
- **2020 - present**: [Cruise Science study group](#) (with B. Sanchez-Cano), BepiColombo ESA/JAXA
- **2021 – 2022** : “Venus flyby working group”, mission: Solar Orbiter ESA/NASA.

Member of working groups

- **2020 - present**: Solar Orbiter ESA/NASA, “In-situ Science Working Group”.
- **2019 - present**: BepiColombo/ESA-JAXA, “[Young Scientists Study Group \(YSSG\)](#)”

Institutional responsibilities and managements

National services:

- **2022 - 2024**: Coordinator of INSU’s CNRS National Service of Observation (SNO), BepiColombo-Magnéto
- **2023 January**: HCÉRES jury member, evaluation of OSUC - Observatoire des sciences de l'univers en région Centre-Val de Loire. [Report](#).
- **2022 - present**: Member of the Scientific Council of SHM (CNES Heliophysics Division)
- **2019- 2024**: Member of the Scientific Council of the [National Sun-Earth Program \(PNST\)](#) of the Astronomy-Astrophysics division of INSU/CNRS.

Member of international teams:

- **2024**: International Space Science Institute (ISSI), “[Evolution of Turbulence in the Expanding Solar Wind](#)”.
- **2022, 2023**: ISSI team, “[Towards a Unifying Model for Magnetic Depressions in Space Plasmas](#)”.
- **2019**: ISSI team, “[A New View of Ring-Planet Interactions From Cassini’s Grand Finale](#)”.
- **2018 - présent**: Membre du programme international [LIA-MAGNETO](#) (Plasma processes around Planetary Magnetospheres), France – Argentine.

Workshops SOC/LOC and (co-)convener and chair in international conferences:

- **International**: [EGU2024a](#), [EGU2024b](#), [EGU2024c](#), [EGU2023a](#), [EGU2023b](#), [EGU2023c](#), [AGU2022](#), [EPSC 2022a](#), [EPSC2022b](#), [EGU 2022](#), [AGU2021a](#), [AGU 2021b](#), [EPSC 2021](#).
- **National**: [PNST 2024](#), [PNST2022](#), [Atelier SF2A \(Société Française d’Astrophysique et d’Astronomie\)](#), [2022](#)
- **Workshops**: HEWG/BepiColombo, 2024, Paris
[Heliophysics In Europe Workshop](#), 2023, ESA/ESTEC
[Outer planet moon - magnetosphere interaction workshop](#), 2020, ESA/ESTEC

Editorial and peer-reviewed journals:

- **2024**: NASA panel, invited reviewer “Solar Orbiter Guest Investigators program”.
NASA panel, invited reviewer “HGIO HELIO 4”.
- **2024**: Guest Editor, [Planetary Space Weather](#).
- **2020-2023**: Guest Editor, *Planetary and Space Science*, *Frontiers in Astronomy and Space Sciences*
- **2021**: NASA panel invited reviewer, “Discovery Data Analysis”
- **2021-2022**: Editor of a special issue, *Frontiers in Astronomy and Space Sciences*
- **2018 - present**: Reviewer for several international journals.

In LPP:

- **2020-2024**: Elected member of the laboratory council
- **2020-2023**: Member of the “com” task force in LPP

Research and workshop grants

2023: PI of [ISEE International Workshop](#), Japan, University of Nagoya.

2023 - 2025: Co-PI of [ISSI proposal](#) with L. Sorriso-Valvo (KTH, Sweden).

2022-2025: Co-PI of the [ECOS-SUD](#) proposal with N. Andrès (UBA-CONICET). Bilateral cooperation France - Argentina

Fellowships and scholarships

2019: ESA Research Fellowship in Space Science (80 000 €),

2018: ESA, Magnetosphere of the Outer Planets, Boulder/US, (1 000 €) et du

Royal Swedish Academy of Sciences, Cassini Science Symposium, Boulder/US (2 000 €)
Erasmus Mundus Excellence scholarship from the European Commission, (2011-2013), 42 000€.

Prize and Distinctions

2023: ESA (European Space Agency) Award in recognition for your outstanding contribution to the JUICE Mission.

2022: ESA (European Space Agency) Award in recognition for your outstanding contribution to the Cluster Mission.

2019: [Vincenzo Ferraro Award](#) dedicated for "Young researchers" in space plasmas physics.

2018: *NASA Group Achievement Award*: for exceptional performance in achieving groundbreaking Radio and Plasma Wave Science in the Cassini mission's Ring Grazing and the Grand Finale orbits.

Press releases and interviews:

• Press Releases (a selection)

2024 (corresponding author published in *Nature Communications Physics*):

ESA: [https://www.esa.int/Science_Exploration/Space_Science/BepiColombo](https://www.esa.int/Science_Exploration/Space_Science/BepiColombo_Mercury_s_magnetic_landscape_mapped_in_30_minutes)

[Mercury's magnetic landscape mapped in 30 minutes](https://www.esa.int/Science_Exploration/Space_Science/BepiColombo_Mercury_s_magnetic_landscape_mapped_in_30_minutes)

JAXA: <https://www.isas.jaxa.jp/en/topics/003844.html>

INSU/CNRS: <https://www.insu.cnrs.fr/fr/cnrsinfo/un-nouveau-paysage-magnetospherique-revele-par-bepicolombio>

Sorbonne Université: <https://sciences.sorbonne-universite.fr/actualites/un-nouveau-paysage-magnetospherique-revele-par-bepicolombo/mio>

École Polytechnique, Département de Physique: <https://www.polytechnique.edu/actualites/la-magnetosphere-de-mercure-commence-etre-devoilee>

Spacedaily:

https://www.spacedaily.com/reports/Mercurys_magnetic_field_explored_by_BepiColombo_flyby_999.html

2024 (corresponding author published in *Nature Astronomy*):

INSU/CNRS: <https://www.insu.cnrs.fr/fr/cnrsinfo/venus-perd-de-loxygene-et-du-carbone-dans-lespace>

École Polytechnique: <https://www.polytechnique.edu/en/news/bepicolombo-space-mission-witnesses-oxygen-and-carbon-escaping-venus>

Europlanet: <https://www.europlanet-society.org/bepicolombo-spies-escaping-oxygen-and-carbon-in-unexplored-region-of-venuss-magnetosphere/>

Twitter/ESA: https://twitter.com/CNRS_INSU/status/1780249717667930177

Phys.org: <https://phys.org/news/2024-04-bepicolombo-oxygen-carbon-unexplored-region.html>

Space.com: <https://www.space.com/bepicolombo-carbon-oxygen-venus-space-mission>

Spacedaily.com: [https://www.spacedaily.com/reports/](https://www.spacedaily.com/reports/BepiColombo_mission_detects_escaping_gases_in_Venuss_magnetosphere_999.html)

[BepiColombo_mission_detects_escaping_gases_in_Venuss_magnetosphere_999.html](https://www.spacedaily.com/reports/BepiColombo_mission_detects_escaping_gases_in_Venuss_magnetosphere_999.html)

Max-Planck Institute (MPS): <https://www.mpg.de/21822626/0412-aero-venus-carbon-ions-during-flyby-151060-x>

2023:

Polytechnique Insights, [Mission BepiColombo: en route vers Mercure](#)

2022:

Polytechnique Insights, [Quel est l'impact du vent solaire sur la Terre ?](#)

2020 (contributed work published in *GRL*):

[Imperial College](#), [LPP](#), [ESA](#), [Forbes](#), [EarthSky](#), [Science&News](#), [LPP-2](#), [Space.com](#)

2018 (corresponding author published in *Phy. Rev. Let.*):

INSU/CNRS: <https://www.insu.cnrs.fr/fr/cnrsinfo/turbulence-plasma-dans-la-magnetogaine-terrestre>

ESA: <https://sci.esa.int/web/cluster/-/59947-cluster-measures-turbulence-in-earth-s-magnetic-environment>

IRF: <https://www.irf.se/sv/news/2018/01/31/irf-forskare-mater-turbulens-i-den-magnetiska-miljon-runt-jorden/>

LPP: <https://www.lpp.polytechnique.fr/Turbulence-plasma-dans-la-magnetogaine-terrestre-les-fluctuations-de-densite>

2018 (contributed work published in *Science*):

NASA/JPL: <https://www.jpl.nasa.gov/news/groundbreaking-science-emerges-from-ultra-close-orbits-of-saturn>
IRF: <https://www.irf.se/sv/news/2018/10/05/nya-forskningsresultat-av-gasjattens-saturnus-atmosfar-publiceras-i-science/>

2017 (contributed work published in *Science*):

https://www.spacedaily.com/reports/Electrical_and_Chemical_Coupling_Between_Saturn_and_Its_Ring_999.html
<https://www.astronomy.com/science/shadows-and-rain-from-saturns-rings-alter-the-planets-ionosphere/>
<https://phys.org/news/2017-12-cassini-dead-era-saturn-science.html#jCp>
<https://www.ibtimes.co.uk/cassini-spotted-this-weird-shadow-effect-saturns-icy-rings-before-plummeting-its-death-1651102>

• Interviews, videos and Radio

2023: [Campus France](#) .

2022: Radio France – *La Méthode Scientifique*, WeMartians – *Spiralling Down to Mercury*.

2021: [Univeristé Paris-Saclay](#) , [Journée Rencontres Métiers](#) , [ESA Space Rocks](#) , et [ESA live podcast](#).

2020: [Fête de la science "virtuelle" du LPP](#) .

2019: [Remise du prix "Vincenzo-Ferraro"](#)

Outreach and communication activities (a selection)

2024: Invited speaker at Mons University, Belgium:

[Université de Mons, Belgique](#) and [YouTube talk](#)

2023: Invited speaker in the event "Rencontre du Ciel et de l'espace"

[Association Francaise d'Astronomie](#), [Ciel & Espace](#)

2022: Invited speaker at the French Astronomical Society:

[Société Astronomique de France](#)

2021: Invited jury member in school programs:

["The Schools Challenge" – Lycée Seine St Denis](#)

["For Girls in Science" – Fondation l'Oréal](#) .

2020: École Polytechnique: "Cassini-Huygens: une mission spectaculaire à Saturne",
"Du Liban à Saturne, un voyage de 12 années"

2018: Organizer of the "BepiColombo Launch to Mercury" event Uppsala

2017: Organizer of the "[Cassini Grand Finale](#)", Uppsala

Bibliography (Google Scholar, ORCID, HAL) – 58 peer-reviewed articles

2024

1. **L. Z. Hadid**, D. Delcourt, Y. Harada, M. Rojo et al. Mercury's ion plasma environment after BepiColombo's third flyby. *Nature Communications Physics*. <https://doi.org/10.1038/s42005-024-01766-8>
2. **L. Z. Hadid**, D. Delcourt, Y. Saito, *et al.* BepiColombo observations of cold oxygen and carbon ions in the flank of the induced magnetosphere of Venus. *Nature Astronomy*, 8, 716–724 (2024). <https://doi.org/10.1038/s41550-024-02247-2>
3. Delcourt, D., **Hadid, L. Z.**, & Aizawa, S. (2024). On the response of protons to dynamical reconfigurations of Mercury's magnetosphere. *Geophysical Research Letters*, 51, e2024GL110351. <https://doi.org/10.1029/2024GL110351>
4. Y. Harada, Y. Saito, **L. Z. Hadid**, S. Aizawa et al. (2024). Deep entry of low-energy ions into Mercury's magnetosphere: BepiColombo Mio's third flyby observations. *Journal of Geophysical Research: Space Physics*, 129, e2024JA032751. <https://doi.org/10.1029/2024JA032751>

5. Fränz, M., Rojo, M., Cornet, T., **L. Z. Hadid**, Saito, Y., André, N., et al. (2024). Spacecraft outgassing observed by the BepiColombo ion spectrometers. *Journal of Geophysical Research: Space Physics*, 129, e2023JA032044. <https://doi.org/10.1029/2023JA032044>
6. M. Rojo, N. André, S. Aizawa, J.-A. Sauvaud, Y. Saito, Y. Harada, A. Fedorov, E. Penou, A. Barthe, M. Persson, S. Yokota, C. Mazelle, **L. Z. Hadid**, et al. Structure and dynamics of the Hermean magnetosphere revealed by electron observations from the Mercury electron analyzer after the first three Mercury flybys of BepiColombo. *A&A*. <https://doi.org/10.1051/0004-6361/202449450>

2023

7. S. Aizawa, [...], **L. Z. Hadid** et al. (2023). Direct evidence of substorm-related impulsive injections of electrons at Mercury. *Nature Communication*, 4019 (2023). <https://doi.org/10.1038/s41467-023-39565-4>

2022

8. **L. Z. Hadid** et al. (2022). Ambipolar electrostatic field in dusty plasma. *Journal of Plasma Physics*. DOI:10.1017/S0022377822000186
9. M. Persson, S. Aizawa, N. André, S. Barabash, Y. Saito, Y. Harada, D. Heyner, S. Orsini, A. Fedorov, C. Mazelle, Y. Futaana, **L. Z. Hadid** et al. (2022). BepiColombo's scenic tour at Venus reveals a large stagnation region. *Nature Communication*. DOI: 10.1038/s41467-022-35061-3
10. Harada, Y., Aizawa, S., Saito, Y., André, N., Persson, M., Delcourt, D., **L. Z. Hadid**, et al. (2022). BepiColombo Mio observations of low-energy ions during the first Mercury flyby: Initial results. *Geophysical Research Letters*, 49, e2022GL100279. DOI: 10.1029/2022GL100279
11. T. Alberti, Y. Narita, **L. Z. Hadid** et al. (2022). Tracking of magnetic helicity evolution in the inner heliosphere. *A&A*. DOI: 10.1051/0004-6361/202244314
12. N. Andrés, F. Sahraoui, S. Huang, **L. Z. Hadid** and S. Galtier (2022). The incompressible energy cascade rate in anisotropic solar wind turbulence. *A&A*. DOI:10.1051/0004-6361/202142994
13. V. David, S. Galtier, F. Sahraoui, and **L. Z. Hadid**. Energy Transfer, Discontinuities, and Heating in the Inner Heliosphere Measured with a Weak and Local Formulation of the Politano–Pouquet Law (2022). *ApJ*. DOI: 10.3847/1538-4357/ac524b
14. A. P. Dimmock, Y. V. Khotyaintsev, A. Lalti, E. Yordanova, N. J. T. Edberg, K. Steinvall, D. B. Graham, **L. Z. Hadid** et al. (2022). Analysis of multiscale structures at the quasi-perpendicular Venus bow shock. *A&A*. DOI:10.1051/0004-6361/202140954
15. D. Telloni, G. P. Zank, L. Sorriso-Valvo, [...], **L. Z. Hadid** et al. (2022). Linking Small-scale Solar Wind Properties with Large-scale Coronal Source Regions through Joint Parker Solar Probe–Metis/Solar Orbiter Observations. *ApJ*. DOI:10.3847/1538-4357/ac8103
16. T. Alberti, A. Milillo, D. Heyner, **L. Z. Hadid** et al. The “Singular” Behavior of the Solar Wind Scaling Features during Parker Solar Probe–BepiColombo Radial Alignment (2022). *ApJ*. DOI:10.3847/1538-4357/ac478d
17. A. L. E. Werner, F. Leblanc, J.-Y. Chaufray, R. Modolo, S. Aizawa, **L. Z. Hadid** and C. Baskevitch (2022). Modeling the Impact of a Strong X-Class Solar Flare on the Planetary Ion Composition in Mercury's Magnetosphere. *GRL*. DOI:10.1029/2021GL096614
18. S. Rodriguez, [...], **L. Z. Hadid** et al. (2022). Science goals and new mission concepts for future exploration of Titan's atmosphere, geology and habitability: titan Polar scout/orbitEr and in situ lake lander and DrONE explorer (POSEIDON). *Experimental Astronomy*. DOI:https://doi.org/10.1007/s10686-021-09815-8
19. O. Mousis et al. (2022). Moonraker: Enceladus Multiple Flyby Mission. *Planet. Sci. J.* 3 268. DOI:10.3847/PSJ/ac9c03

2021

20. **L. Z. Hadid** et al. BepiColombo's cruise phase: unique opportunity for synergistic observations (2021). *Frontiers in Astronomy and Space Sciences*. DOI:10.3389/fspas.2021.718024

21. **L. Z. Hadid et al.** Solar Orbiter's first Venus flyby: observations from the Radio and Plasma Wave instrument. (2021). *Astronomy and Astrophysics*. [DOI:10.1051/0004-6361/202140934](https://doi.org/10.1051/0004-6361/202140934)
22. **L. Z. Hadid et O. Witasse (2021).** Parker Solar Probe. *Encyclopedia of Astrobiology*. [DOI:10.1007/978-3-642-27833-4_5557-1](https://doi.org/10.1007/978-3-642-27833-4_5557-1)
23. N. Andrés, F. Sahraoui, **L. Z. Hadid et al.** The evolution of compressible solar wind turbulence in the inner heliosphere: PSP, THEMIS and MAVEN observations (2021). *The Astrophysical Journal*. [10.3847/1538-4357/ac0af5](https://doi.org/10.3847/1538-4357/ac0af5)
24. M. Maksimović, J. Soucek, T. Chust, [...], **L. Z. Hadid et al.** (2021). First observations and performance of the RPW instrument on board the Solar Orbiter mission. *Astronomy & Astrophysics*. [DOI: 10.1051/0004-6361/202141271](https://doi.org/10.1051/0004-6361/202141271)
25. T. Chust, M. Kretzschmar, D. B. Graham, O. Le Contel, A. Retino, A. Alexandrova, M. Berthomier, **L. Z. Hadid et al.** (2021). Observations of whistler mode waves by Solar Orbiter's RPW Low Frequency Receiver (LFR): In-flight performance and first results. *Astronomy & Astrophysics*. [DOI:10.1051/0004-6361/202140932](https://doi.org/10.1051/0004-6361/202140932)
26. R. C. Allen, I. Cernuda, D. Pacheco, L. Berger, Z. G. Xu, J. L. Freiherr von Forstner, J. Rodríguez-Pacheco, [...], **L. Z. Hadid et al.** (2021). Energetic ions in the Venusian system: Insights from the first Solar Orbiter flyby. *Astronomy & Astrophysics*. [DOI:10.1051/0004-6361/202140803](https://doi.org/10.1051/0004-6361/202140803)
27. M. Volwerk, T. Horbury, L. D. Woodham, S. D. Bale, C. S. Wedlund, D. Schmid, R. C. Allen, V. Angelini, W. Baumjohann, L. Berger, N. J. T. Edberg, V. Evans, **L. Z. Hadid et al.** (2021). Solar Orbiter's first Venus flyby. *Astronomy & Astrophysics*. [DOI:10.1051/0004-6361/202140910](https://doi.org/10.1051/0004-6361/202140910)
28. A. H. Sulaiman, N. Achilleos, C. Bertucci, A. J. Coates, M. K. Dougherty, **L. Z. Hadid et al.** (2021). Enceladus and Titan: emerging worlds of the Solar System. *Experimental Astronomy*. [DOI:10.1007/s10686-021-09810-z](https://doi.org/10.1007/s10686-021-09810-z)
29. A. Chatain, J.-E. Wahlund, O. Shebanits, **L. Z. Hadid et al.** (2021). Re-Analysis of the Cassini RPWS/LP Data in Titan's Ionosphere: 1. Detection of Several Electron Populations. *JGR*. [DOI:10.1029/2020JA028412](https://doi.org/10.1029/2020JA028412)
30. A. Chatain, J.-E. Wahlund, O. Shebanits, **L. Z. Hadid et al.** (2021). Re-analysis of the Cassini RPWS/LP data in Titan's ionosphere. Part II: statistics on 57 flybys. *JGR*. [DOI:10.1029/2020JA028413](https://doi.org/10.1029/2020JA028413)
31. M.K.G. Holmberg, F. Cipriani, T. Nilsson, S. Hess, H.L.F. Huybrighs, **L. Z. Hadid et al.** (2021). Cassini-plasma interaction simulations revealing the Cassini ion wake characteristics: Implications for in-situ data analyses and ion temperature estimates. *JGR*. [DOI:10.1029/2020JA029026](https://doi.org/10.1029/2020JA029026)
32. T. Karlsson, D. Heyner, M. Volwerk, M. Morooka, F. Plaschke, C. Goetz and **L. Z. Hadid (2021).** Magnetic Holes in the Solar Wind and Magnetosheath Near Mercury. *JGR*. [DOI:10.1029/2020JA028961](https://doi.org/10.1029/2020JA028961)
33. H-W. Hsu, A. Sulaiman, H. Cao [...], **L. Z. Hadid et al.** (2021). Ice Giants -The Return of the Rings. *Bulletin of the AAS*. [DOI:10.3847/25c2cfef.b28bf609](https://doi.org/10.3847/25c2cfef.b28bf609)
34. E. K. J. Kilpua, S. Good, M. Ala-Lahti, A. Osmane, D. Fontaine, **L. Z. Hadid et al.** (2021). Statistical Analysis of Magnetic Field Fluctuations in Coronal Mass Ejection-Driven Sheath Regions. *Frontiers in Astronomy and Space Sciences*. [DOI:10.3389/fspas.2020.610278](https://doi.org/10.3389/fspas.2020.610278)
35. S. Huang, F. Sahraoui, N. Andrés, **L. Z. Hadid et al.** (2021). The Ion Transition Range of Solar Wind Turbulence in the Inner Heliosphere: Parker Solar Probe Observations. *ApJL*. [DOI:10.3847/2041-8213/abdaaf](https://doi.org/10.3847/2041-8213/abdaaf)

2020

36. O. Shebanits, **L. Z. Hadid et al.** (2020). Saturn's near-equatorial ionospheric conductivities from in situ measurements. *Science Scientific Reports*. [DOI:10.1038/s41598-020-64787-7](https://doi.org/10.1038/s41598-020-64787-7)
37. F. Sahraoui, **L. Z. Hadid** and S. Huang. Magnetohydrodynamic and kinetic scale turbulence in the near-Earth space plasmas: a (short) biased review (2020). *Review of Modern Plasma Physics*, 4. [DOI:10.1007/s41614-020-0040-2](https://doi.org/10.1007/s41614-020-0040-2)
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Selection of invited and highlight talks in national and international conferences:

2024

1. Journées scientifiques d'URSI-France, ONDES AU SERVICE DES PLASMAS, PLASMAS AU SERVICE DES ONDES. *Observations ondes et particules de BepiColombo pendant sa phase de croisière.*
2. American Geophysical Union, Washington DC, Fall meeting 2024: "*Observations of heavy ions in the magnetospheres of Venus and Mercury by BepiColombo Mio's spacecraft*"

2023

3. Société d'Astronomie et d'Astrophysique (SF2A). *Solar wind - planetary magnetospheres interactions: Recent BepiColombo observations.*
4. Solar Wind 16 - Highlight talk. *Solar wind planetary magnetospheres interactions: a tour through the solar system.*
5. Joint NUST-NCP International College on Space & Astrophysical Plasmas. *Mercury's ion plasma environment as seen by MSA onboard BepiColombo Mio.*
6. *American Geophysical Union, San Francisco. Estimation of the turbulence energy cascade rate using global and local approaches: theory, spacecraft observations and numerical simulations.*

2022

7. Société Française de Physique (SFP). *Turbulence in the solar wind and the planetary magnetospheres.*
8. Turbulent Dissipation in Space Plasmas Workshop, Royal Society Workshop, Nottingham. *Estimation of the incompressible and compressible energy cascade rates in the inner heliosphere.*
9. *American Geophysical Union, Chicago. Compressible turbulence in the planetary magnetosheaths and the solar wind: spectral properties and estimation of the turbulent cascade rate.*

2021

10. ISEE/ISAS Symposium on Inner Heliosphere Studies (online). *Multi-spacecraft coordinated observations during the cruise phase of BepiColombo: planning and downselection of events.*
11. Whole Heliosphere and Planetary Interactions Workshop (online). *Solar Orbiter's first Venus flyby: Overview of RPW, MAG, and EPD in-situ observations.*
12. *Journée scientifique du Département de la physique de l'IP Paris. Solar wind and planetary magnetospheres coupling: microphysical and macrophysical processes.*

2020:

13. JPP Frontiers of Plasma Physics Colloquium (online). *Turbulent energy cascade rate in the Earth's*

magnetosheath and the solar wind using in-situ spacecraft data.

2019:

14. The Asia Oceania Geosciences Society (AOGS). *"The Ionosphere of Saturn Using the RPWS/LP measurements during the Cassini Grand Finale."*

2018:

15. American Geophysical Union AGU Fall meeting. *"Compressible MHD turbulence in the Earth's magnetosheath: estimation of the energy cascade rate using in-situ spacecraft data."*
16. The 5th Cluster-THEMIS workshop. *"Compressible MHD turbulence in the Earth's magnetosheath: estimation of the energy cascade rate using in-situ spacecraft data."*

2017:

17. European Geosciences Union (EGU). *"Compressible MHD turbulence in the Earth's magnetosheath: estimation of the energy cascade rate using in-situ spacecraft data."*

Selection of invited seminars

2024:

1. University of Minnesota (online): *"Mercury's plasma environment from BepiColombo's third flyby"*
2. University of Buenos Aires, Argentina: *"Mercury's ion plasma environment as seen by MSA onboard BepiColombo Mio"*

2022:

3. University of Leicester, United Kingdom (online): *"Solar wind and planetary magnetospheres coupling: microphysical and macrophysical processes"*

2021:

4. Journée scientifique du Département de la physique de l'IP Paris: *"Solar wind and planetary magnetospheres coupling: microphysical and macrophysical processes"*

2020:

5. Princeton University (online): *"Turbulent energy cascade rate in the Earth's magnetosheath and the solar wind using in-situ spacecraft data."*
6. Journal of Plasma Physics Frontiers of Plasma Physics Colloquium (online): *"Turbulent energy cascade rate in the Earth's magnetosheath and the solar wind using in-situ spacecraft data."*
7. IRAP, Toulouse: *"Saturn's ionosphere using the RPWS/LP during the Cassini Grand Finale"*

2017:

8. Centre for mathematical Plasma-Astrophysics, KU Leuven, Leuven (Belgium). *"Heating rate in compressible turbulence: MHD theory versus in-situ spacecraft observations."*

2016:

9. Space and atmospheric laboratory, Imperial College, London (United Kingdom): *"In-situ observations of compressible turbulence in the solar wind and the planetary magnetosheaths."*