Johan MAZOYER

Intérêts de recherche : Instrumentation Optique, Imagerie Directe et Coronographie, Observation et Caractérisation de Systèmes Extrasolaires, Disques de Débris

1 EXPÉRIENCES PROFESSIONNELLES

Chargé de recherche CNRS – **LIRA/Observatoire de Paris - PSL** (France) **Depuis 2020**

Carl Sagan Fellow – **NASA Jet Propulsion Laboratory** (Pasadena, CA) **2018 - 2019**

Post-doctorant – **Johns Hopkins University** (Baltimore, MD) **2016 - 2018**

Post-doctorant – **Space Telescope Science Institute** (Baltimore, MD) **2014 - 2016**

Doctorant – **LIRA/Observatoire de Paris - PSL** (France) **2011 - 2014**

2 FORMATION

HDR – **Observatoire de Paris - PSL** Paris, France
Astronomie et Astrophysique **Mars 2022**

Doctorat – **Université Paris Cité** Paris, France
Astronomie et Astrophysique **Septembre 2014**
Sujet : Haut contraste pour l'imagerie directe d'exoplanètes et de disques (P. Baudoz & G. Rousset)

Master 2 – **Université de Toulouse** Toulouse, France
Astrophysique, Science de l'Espace, Planétologie **Septembre 2011**
Stage : Influence de l'atmosphère martienne sur les limites de détection de MSL/Chemcam (O. Gasnault & R. Wiens)

Diplôme d'ingénieur – **ISAE Supaero** Toulouse, France
Systèmes Spatiaux et Techniques d'Imageries Spatiales **Septembre 2011**

Diplôme d'ingénieur – **Ecole polytechnique** Palaiseau, France
Systèmes Embarqués (électronique et informatique) **Septembre 2011**

3 BOURSES & PRIX

Programme de Collaboration Franco-Chilienne EcosSud avec *Universidad de Chile* – 3 ans **2020**

NASA Group Award : LBTI Hosts Survey Science Team **2020**

Carl Sagan Fellowship (NASA Hubble Fellowship Program) – 3 ans **2018**

Couverture du journal **Astronomy & Astrophysics** (Volume 564) **2014**

Bourse doctorale du CNES – 3 ans **2011**

4 DIFFUSION DES SCIENCES

Podcast Science

J'anime chaque semaine PodcastScience.fm, **émission scientifique hebdomadaire de radio** (podcast) d'une heure et demie à 3h. Le podcast produit des émissions sur tous les domaines scientifiques et je réalise tous les contenus relatifs à la physique et à l'astrophysique.

Conférences grand public
CERN (Genève) et Palais de la découverte (Paris)

5 ENCADREMENTS

Vito Squicciarini (Postdoc, LIRA) : co-encadrement avec A.-M. Lagrange **Depuis 2022**
Yann Gutierrez (PhD, LIRA) : co-encadrement avec L. Mugnier, ONERA **Depuis 2022**
Iva Laginja (Postdoc, LIRA) : CNES post-doctoral Fellow **Depuis 2022**
Sophia Stasevic (PhD, LIRA) co-encadrement avec A.-M. Lagrange and J. Milli **Depuis 2021**

6 ENSEIGNEMENT

Cours de Master (Observatoire de Paris) :
- Instrumentation for Astronomy
- Detection of Exoplanets (collab. Anne-Marie Lagrange)

7 PRISES DE RESPONSABILITÉS POUR LA COMMUNAUTÉ

Organisation de conférences, ateliers et séminaires

- Organisateur et SOC : **National Capital Area Disks** (Baltimore, MD, Oct. 2018). Site internet
- Organisateur et SOC : **Optimal Optical Coronagraphs (Leiden, NL, Sep. 2017)**. Site internet
- Séminaire **"Exoplanet Star and Planet Formation" (ESPF)** au STScI (2016-2018)
- SOC : **High Contrast Imaging from Space (Baltimore, MD, US, Nov 2016)**. Site internet
- Organisateur : **La très haute dynamique (Paris, Fr, Oct. 2012)**

Autres investissements

- Responsable de l'équipe exoplanètes du LIRA 2025 -
- Participation au **Telescope Allocation Committee** d'Hubble 2024
- Comité d'experts du thème transverse exoplanètes de l'INSU **(CET exoplanètes)** 2023 - 2024
- **Roman :** Représentant adjoint du CNES au Community Participation Program (CPP) Team 2023 -
- **SPHERE+ :** Responsable du groupe de travail Focal Plane Wavefront Sensor 2022 -
- Comité Scientifique de l'action Spécifique Haute résolution Angulaire de l'INSU **(ASHRA)** 2021 -
- **Habitable Exoplanet Observatory (HabEx)** : Contributeur scientifique 2019
- **Large UV Optical Infrared Surveyor (LUVOIR)** : Contributeur scientifique 2019
- **Peer-review** pour le *AJ*, *A&A*, *MNRAS*, *PASP* et *Journal of Astronomical Telescopes, Instruments, and Systems.*

LISTE DE PUBLICATIONS

PRINCIPAUX ARTICLES

1. Laginja, I. ; Baudoz, P. ; **Mazoyer, J.** et al. (**2025**), *Extended Linearity in the High-Order Wavefront Sensor for the Roman Coronagraph*, accepted for publication in A&A, arXiv link
2. Squicciarini, V. ; **Mazoyer, J.** ; Lagrange, A. -M. et al. (**2025**), *The COBREX archival survey: Improved constraints on the occurrence rate of wide-orbit substellar companions: I. A uniform re-analysis of 400 stars from the GPIES survey*, Astronomy and Astrophysics, 693, A54, DOI link, arXiv link, 2 citations
3. Gutierrez, Y. ; **Mazoyer, J.** ; Mugnier, L. M. et al. (**2024**), *Image-based wavefront correction using model-free reinforcement learning*, Optics Express, 32, 31247, DOI link, arXiv link
4. Galicher, R. ; Potier, A. ; **Mazoyer, J.** et al. (**2024**), *Increasing the raw contrast of VLT/SPHERE with the dark hole technique. III. Broadband reference differential imaging of HR4796 using a four-quadrant phase mask*, Astronomy and Astrophysics, 686, A54, DOI link, arXiv link, 1 citation
5. Galicher, R. & **Mazoyer, J.** (**2024**), *Imaging exoplanets with coronagraphic instruments*, Comptes Rendus Physique, 24, 133, DOI link, arXiv link, 16 citations
6. Stasevic, S. ; Milli, J. ; **Mazoyer, J.** et al. (**2023**), *An inner warp discovered in the disk around HD 110058 using VLT/SPHERE and HST/STIS*, Astronomy and Astrophysics, 678, A8, DOI link, arXiv link, 7 citations
7. Potier, A. ; **Mazoyer, J.** ; Wahhaj, Z. et al. (**2022**), *Increasing the raw contrast of VLT/SPHERE with the dark hole technique. II. On-sky wavefront correction and coherent differential imaging*, Astronomy and Astrophysics, 665, A136, DOI link, arXiv link, 18 citations
8. Chen, C. ; **Mazoyer, J.** ; Poteet, C. A. et al. (**2020**), *Multiband GPI Imaging of the HR 4796A Debris Disk*, The Astrophysical Journal, 898, 55, DOI link, arXiv link, 36 citations
9. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2018**), *Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. II. Optimization for Future Missions*, The Astronomical Journal, 155, 8, DOI link, arXiv link, 22 citations
10. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2018**), *Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. I. A New Adaptive Interaction Matrix Algorithm*, The Astronomical Journal, 155, 7, DOI link, arXiv link, 18 citations
11. Fogarty, K. ; Pueyo, L. ; **Mazoyer, J.** et al. (**2017**), *Polynomial Apodizers for Centrally Obscured Vortex Coronagraphs*, The Astronomical Journal, 154, 240, DOI link, arXiv link, 10 citations
12. **Mazoyer, J.** ; Pueyo, L. ; Norman, C. et al. (**2016**), *Active compensation of aperture discontinuities for WFIRST-AFTA: analytical and numerical comparison of propagation methods and preliminary results with a WFIRST-AFTA-like pupil*, Journal of Astronomical Telescopes, Instruments, and Systems, 2, 011008, DOI link, arXiv link, 9 citations
13. **Mazoyer, J.** ; Boccaletti, A. ; Choquet, É. et al. (**2016**), *A Symmetric Inner Cavity in the HD 141569A Circumstellar Disk*, The Astrophysical Journal, 818, 150, DOI link, arXiv link, 13 citations
14. **Mazoyer, J.** ; Boccaletti, A. ; Augereau, J. -C. et al. (**2014**), *Is the HD 15115 inner disk really asymmetrical?*, Astronomy and Astrophysics, 569, A29, DOI link, arXiv link, 35 citations
15. **Mazoyer, J.** ; Baudoz, P. ; Galicher, R. et al. (**2014**), *High-contrast imaging in polychromatic light with the self-coherent camera*, Astronomy and Astrophysics, 564, L1, DOI link, arXiv link, 36 citations
16. **Mazoyer, J.** ; Baudoz, P. ; Galicher, R. et al. (**2013**), *Estimation and correction of wavefront aberrations using the self-coherent camera: laboratory results*, Astronomy and Astrophysics, 557, A9, DOI link, arXiv link, 38 citations

AUTRES ARTICLES

1. Lagrange, A.-M. ; Wilkinson, C. ; Mâlin, M. et al. (**2025**), *Evidence for a sub-jovian planet in the young TWA7 disk* , accepted for publication in Nature arXiv link
2. Hom, J. ; Esposito, T. M. ; Crotts, K. A. et al. (**2025**), *The Disks In Scorpius-Centaurus Survey (DISCS) I: Four Newly-Resolved Debris Disks in Polarized Intensity Light*, accepted for publication in A&A arXiv link
3. Desgrange, C. ; Milli, J. ; Chauvin, G. et al. (**2025**), *Dust populations from 30 to 1,000 au in HD 120326 debris disk:. A panchromatic view with VLT/SPHERE, ALMA, and HST /STIS*, accepted for publication in A&A arXiv link
4. Chomez, A. ; Delorme, P. ; Lagrange, A. -M. et al. (**2025**), *The SPHERE infrared survey for exoplanets (SHINE): IV. Complete observations, data reduction and analysis, detection performances, and final results*, Astronomy and Astrophysics, 697, A99, DOI link, arXiv link, 1 citation
5. Ray, S. ; Sallum, S. ; Hinkley, S. et al. (**2025**), *The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. III. Aperture Masking Interferometric Observations of the Star HIP 65426 at 3.8 μm*, The Astrophysical Journal, 983, L25, DOI link, arXiv link, 4 citations
6. Laginja, I. ; Carrión-González, Ó. ; Laugier, R. et al. (**2025**), *Advancing European high-contrast imaging R&D towards the Habitable Worlds Observatory*, Astrophysics and Space Science, 370, 29, DOI link, arXiv link
7. Wilkinson, C. ; Charnay, B. ; Mazevet, S. et al. (**2024**), *Breaking degeneracies in exoplanetary parameters through self-consistent atmosphere–interior modelling*, Astronomy and Astrophysics, 692, A113, DOI link, arXiv link, 1 citation
8. Lewis, B. L. ; Fitzgerald, M. P. ; Esposito, T. M. et al. (**2024**), *Gemini Planet Imager Observations of a Resolved Low-inclination Debris Disk around HD 156623*, The Astronomical Journal, 168, 142, DOI link, arXiv link, 1 citation
9. Goulas, C. ; Galicher, R. ; Vidal, F. et al. (**2024**), *Numerical simulations for the SAXO+ upgrade: Performance analysis of the adaptive optics system*, Astronomy and Astrophysics, 689, A199, DOI link, arXiv link, 2 citations
10. Petrus, S. ; Whiteford, N. ; Patapis, P. et al. (**2024**), *The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. V. Do Self-consistent Atmospheric Models Represent JWST Spectra? A Showcase with VHS 1256–1257 b*, The Astrophysical Journal, 966, L11, DOI link, arXiv link, 20 citations
11. Hom, J. ; Patience, J. ; Chen, C. H. et al. (**2024**), *A uniform analysis of debris discs with the Gemini Planet Imager II: constraints on dust density distribution using empirically informed scattering phase functions*, Monthly Notices of the Royal Astronomical Society, 528, 6959, DOI link, arXiv link, 5 citations
12. Sallum, S. ; Ray, S. ; Kammerer, J. et al. (**2024**), *The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. IV. NIRISS Aperture Masking Interferometry Performance and Lessons Learned*, The Astrophysical Journal, 963, L2, DOI link, arXiv link, 5 citations
13. Worthen, K. ; Chen, C. H. ; Brittain, S. D. et al. (**2024**), *Vertical Structure of Gas and Dust in Four Debris Disks*, The Astrophysical Journal, 962, 166, DOI link, arXiv link, 1 citation
14. Crotts, K. A. ; Matthews, B. C. ; Duchêne, G. et al. (**2024**), *A Uniform Analysis of Debris Disks with the Gemini Planet Imager. I. An Empirical Search for Perturbations from Planetary Companions in Polarized Light Images*, The Astrophysical Journal, 961, 245, DOI link, arXiv link, 9 citations
15. Vaughan, S. R. ; Gebhard, T. D. ; Bott, K. et al. (**2023**), *Chasing rainbows and ocean glints: Inner working angle constraints for the Habitable Worlds Observatory*, Monthly Notices of the Royal Astronomical Society, 524, 5477, DOI link, arXiv link, 22 citations
16. Carter, A. L. ; Hinkley, S. ; Kammerer, J. et al. (**2023**), *The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems I: High-contrast Imaging of the Exoplanet HIP 65426 b from 2 to 16 μm*, The Astrophysical Journal, 951, L20, DOI link, arXiv link, 77 citations
17. Miles, B. E. ; Biller, B. A. ; Patapis, P. et al. (**2023**), *The JWST Early-release Science Program for Direct Observations of Exoplanetary Systems II: A 1 to 20 μm Spectrum of the Planetary-mass Companion VHS 1256-1257 b*, The Astrophysical Journal, 946, L6, DOI link, arXiv link, 115 citations
18. Hinkley, S. ; Carter, A. L. ; Ray, S. et al. (**2022**), *The JWST Early Release Science Program for the Direct Imaging and Spectroscopy of Exoplanetary Systems*, Publications of the Astronomical Society of the Pacific, 134, 095003, DOI link, arXiv link, 47 citations

19. Crotts, K. A. ; Draper, Z. H. ; Matthews, B. C. et al. (**2022**), *A Multiwavelength Study of the Highly Asymmetrical Debris Disk around HD 111520*, The Astrophysical Journal, 932, 23, DOI link, arXiv link, 8 citations
20. Betti, S. K. ; Follette, K. ; Jorquera, S. et al. (**2022**), *Detection of Near-infrared Water Ice at the Surface of the (Pre)Transitional Disk of AB Aur: Informing Icy Grain Abundance, Composition, and Size*, The Astronomical Journal, 163, 145, DOI link, arXiv link, 15 citations
21. Singh, G. ; Bhowmik, T. ; Boccaletti, A. et al. (**2021**), *Revealing asymmetrical dust distribution in the inner regions of HD 141569*, Astronomy and Astrophysics, 653, A79, DOI link, arXiv link, 11 citations
22. Crotts, K. A. ; Matthews, B. C. ; Esposito, T. M. et al. (**2021**), *A Deep Polarimetric Study of the Asymmetrical Debris Disk HD 106906*, The Astrophysical Journal, 915, 58, DOI link, arXiv link, 16 citations
23. Arriaga, P. ; Fitzgerald, M. P. ; Duchêne, G. et al. (**2020**), *Multiband Polarimetric Imaging of HR 4796A with the Gemini Planet Imager*, The Astronomical Journal, 160, 79, DOI link, arXiv link, 30 citations
24. Esposito, T. M. ; Kalas, P. ; Fitzgerald, M. P. et al. (**2020**), *Debris Disk Results from the Gemini Planet Imager Exoplanet Survey's Polarimetric Imaging Campaign*, The Astronomical Journal, 160, 24, DOI link, arXiv link, 96 citations
25. Duchêne, G. ; Rice, M. ; Hom, J. et al. (**2020**), *The Gemini Planet Imager View of the HD 32297 Debris Disk*, The Astronomical Journal, 159, 251, DOI link, arXiv link, 23 citations
26. Ertel, S. ; Defrère, D. ; Hinz, P. et al. (**2020**), *The HOSTS Survey for Exozodiacal Dust: Observational Results from the Complete Survey*, The Astronomical Journal, 159, 177, DOI link, arXiv link, 108 citations
27. Bruzzone, J. S. ; Metchev, S. ; Duchêne, G. et al. (**2020**), *Imaging the 44 au Kuiper Belt Analog Debris Ring around HD 141569A with GPI Polarimetry*, The Astronomical Journal, 159, 53, DOI link, arXiv link, 11 citations
28. Hom, J. ; Patience, J. ; Esposito, T. M. et al. (**2020**), *First Resolved Scattered-light Images of Four Debris Disks in Scorpius-Centaurus with the Gemini Planet Imager*, The Astronomical Journal, 159, 31, DOI link, arXiv link, 13 citations
29. Bhowmik, T. ; Boccaletti, A. ; Thébault, P. et al. (**2019**), *Spatially resolved spectroscopy of the debris disk HD 32297. Further evidence of small dust grains*, Astronomy and Astrophysics, 630, A85, DOI link, arXiv link, 30 citations
30. Ren, B. ; Choquet, É. ; Perrin, M. D. et al. (**2019**), *An Exo-Kuiper Belt with an Extended Halo around HD 191089 in Scattered Light*, The Astrophysical Journal, 882, 64, DOI link, arXiv link, 40 citations
31. Stark, C. C. ; Belikov, R. ; Bolcar, M. R. et al. (**2019**), *ExoEarth yield landscape for future direct imaging space telescopes*, Journal of Astronomical Telescopes, Instruments, and Systems, 5, 024009, DOI link, arXiv link, 67 citations
32. Engler, N. ; Boccaletti, A. ; Schmid, H. M. et al. (**2019**), *Investigating the presence of two belts in the HD 15115 system*, Astronomy and Astrophysics, 622, A192, DOI link, arXiv link, 31 citations
33. Esposito, T. M. ; Duchêne, G. ; Kalas, P. et al. (**2018**), *Direct Imaging of the HD 35841 Debris Disk: A Polarized Dust Ring from Gemini Planet Imager and an Outer Halo from HST/STIS*, The Astronomical Journal, 156, 47, DOI link, arXiv link, 34 citations
34. Leboulleux, L. ; Sauvage, J. -F. ; Pueyo, L. A. et al. (**2018**), *Pair-based Analytical model for Segmented Telescopes Imaging from Space for sensitivity analysis*, Journal of Astronomical Telescopes, Instruments, and Systems, 4, 035002, DOI link, arXiv link, 20 citations
35. Poteet, C. A. ; Chen, C. H. ; Hines, D. C. et al. (**2018**), *Space-based Coronagraphic Imaging Polarimetry of the TW Hydrae Disk: Shedding New Light on Self-shadowing Effects*, The Astrophysical Journal, 860, 115, DOI link, arXiv link, 12 citations
36. Jensen-Clem, R. ; Mawet, D. ; Gomez Gonzalez, C. A. et al. (**2018**), *A New Standard for Assessing the Performance of High Contrast Imaging Systems*, The Astronomical Journal, 155, 19, DOI link, arXiv link, 33 citations
37. Perrot, C. ; Boccaletti, A. ; Pantin, E. et al. (**2016**), *Discovery of concentric broken rings at sub-arcsec separations in the HD 141569A gas-rich, debris disk with VLT/SPHERE*, Astronomy and Astrophysics, 590, L7, DOI link, arXiv link, 42 citations
38. Delorme, J. R. ; Galicher, R. ; Baudoz, P. et al. (**2016**), *Focal plane wavefront sensor achromatization: The multireference self-coherent camera*, Astronomy and Astrophysics, 588, A136, DOI link, arXiv link, 18 citations
39. Choquet, É. ; Perrin, M. D. ; Chen, C. H. et al. (**2016**), *First Images of Debris Disks around TWA 7, TWA 25, HD 35650, and HD 377*, The Astrophysical Journal, 817, L2, DOI link, arXiv link, 78 citations

40. Debes, J. H. ; Ygouf, M. ; Choquet, E. et al. (**2016**), *Wide-Field Infrared Survey Telescope-Astrophysics Focused Telescope Assets coronagraphic operations: lessons learned from the Hubble Space Telescope and the James Webb Space Telescope*, Journal of Astronomical Telescopes, Instruments, and Systems, 2, 011010, DOI link, arXiv link, 11 citations
41. Wiens, R. C. ; Maurice, S. ; Lasue, J. et al. (**2013**), *Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mars Science Laboratory rover*, Spectrochimica Acta - Part B: Atomic Spectroscopy, 82, 1, DOI link, 160 citations
42. Cousin, A. ; Forni, O. ; Maurice, S. et al. (**2011**), *Laser induced breakdown spectroscopy library for the Martian environment*, Spectrochimica Acta - Part B: Atomic Spectroscopy, 66, 805, DOI link, 52 citations

PRINCIPAUX ACTES DE CONFERENCES

1. Gutierrez, Y. ; **Mazoyer, J.** ; Herscovici-Schiller, O. et al. (**2024**), *A deep reinforcement learning approach to wavefront control for exoplanet imaging*, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave, 13092, 130926H, DOI link, arXiv link
2. **Mazoyer, J.** ; Goulas, C. ; Vidal, F. et al. (**2024**), *Upgrading SPHERE with the second stage AO system SAXO+: non-common path aberrations estimation and correction*, Ground-based and Airborne Instrumentation for Astronomy X, 13096, 130969D, DOI link
3. Fogarty, K. ; Mawet, D. ; **Mazoyer, J.** et al. (**2020**), *Towards high throughput and low-order aberration robustness for vortex coronagraphs with central obstructions*, Space Telescopes and Instrumentation 2020: Optical, Infrared, and Millimeter Wave, 11443, 114433Y, DOI link, 1 citation
4. **Mazoyer, J.** ; Arriaga, P. ; Hom, J. et al. (**2020**), *DiskFM: A forward modeling tool for disk analysis with coronagraphic instruments*, Ground-based and Airborne Instrumentation for Astronomy VIII, 11447, 1144759, DOI link, arXiv link, 8 citations
5. Fogarty, K. ; **Mazoyer, J.** ; St. Laurent, K. et al. (**2018**), *Optimal deformable mirror and pupil apodization combinations for apodized pupil Lyot coronagraphs with obstructed pupils*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106981J, DOI link, 2 citations
6. Ruane, G. ; Riggs, A. ; **Mazoyer, J.** et al. (**2018**), *Review of high-contrast imaging systems for current and future ground- and space-based telescopes I: coronagraph design methods and optical performance metrics*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106982S, DOI link, arXiv link, 14 citations
7. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2017**), *Capabilities of ACAD-OSM, an active method for the correction of aperture discontinuities*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10400, 104000G, DOI link, arXiv link, 2 citations
8. **Mazoyer, J.** & Pueyo, L. (**2017**), *Fundamental limits to high-contrast wavefront control*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10400, 1040014, DOI link, arXiv link, 2 citations
9. Leboulleux, L. ; N'Diaye, M. ; **Mazoyer, J.** et al. (**2017**), *Comparison of wavefront control algorithms and first results on the high-contrast imager for complex aperture telescopes (hicat) testbed*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10562, 105622Z, DOI link
10. Fogarty, K. ; Pueyo, L. ; **Mazoyer, J.** et al. (**2017**), *Tip/tilt optimizations for polynomial apodized vortex coronagraphs on obscured telescope pupils*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10400, 104000T, DOI link, 2 citations
11. **Mazoyer, J.** ; Pueyo, L. ; N'Diaye, M. et al. (**2016**), *Correcting for the effects of pupil discontinuities with the ACAD method*, Space Telescopes and Instrumentation 2016: Optical, Infrared, and Millimeter Wave, 9904, 99044T, DOI link, arXiv link, 2 citations
12. **Mazoyer, J.** ; Pueyo, L. ; Norman, C. et al. (**2015**), *Active compensation of aperture discontinuities for WFIRST- AFTA: analytical and numerical comparison of propagation methods and preliminary results with an AFTA like pupil*, Nancy Grace Roman Space Telescope Technical Reports, 1505
13. **Mazoyer, J.** ; Pueyo, L. ; Norman, C. et al. (**2015**), *Active correction of aperture discontinuities (ACAD) for space telescope pupils: a parametic analysis*, Techniques and Instrumentation for Detection of Exoplanets VII, 9605, 96050M, DOI link, arXiv link, 10 citations
14. N'Diaye, M. ; **Mazoyer, J.** ; Choquet, É. et al. (**2015**), *High-contrast imager for complex aperture telescopes (HiCAT): 3. first lab results with wavefront control*, Techniques and Instrumentation for Detection of Exoplanets VII, 9605, 96050I, DOI link, arXiv link, 21 citations

15. **Mazoyer, J.** ; Galicher, R. ; Baudoz, P. et al. (**2014**), *Deformable mirror interferometric analysis for the direct imagery of exoplanets*, Adaptive Optics Systems IV, 9148, 914846, DOI link, arXiv link, 3 citations
16. **Mazoyer, J.** ; Baudoz, P. ; Galicher, R. et al. (**2013**), *Direct detection of exoplanets in polychromatic light with a Self-coherent camera*, Proceedings of the Third AO4ELT Conference, 97, DOI link
17. Baudoz, P. ; **Mazoyer, J.** ; Galicher, R. (**2013**), *Laboratory tests of planet signal extraction in high contrast images*, Proceedings of the Third AO4ELT Conference, 109, DOI link, 2 citations
18. **Mazoyer, J.** ; Galicher, R. ; Baudoz, P. et al. (**2013**), *Speckle correction in polychromatic light with the self-coherent camera for the direct detection of exoplanets*, Techniques and Instrumentation for Detection of Exoplanets VI, 8864, 88640N, DOI link, arXiv link, 1 citation
19. Galicher, R. ; **Mazoyer, J.** ; Baudoz, P. et al. (**2013**), *High-contrast imaging with a self-coherent camera*, Techniques and Instrumentation for Detection of Exoplanets VI, 8864, 88640M, DOI link
20. Baudoz, P. ; **Mazoyer, J.** ; Mas, M. et al. (**2012**), *Dark hole and planet detection: laboratory results using the self-coherent camera*, Ground-based and Airborne Instrumentation for Astronomy IV, 8446, 84468C, DOI link, 11 citations
21. Mas, M. ; Baudoz, P. ; **Mazoyer, J.** et al. (**2012**), *Experimental results on wavefront correction using the self-coherent camera*, Ground-based and Airborne Instrumentation for Astronomy IV, 8446, 844689, DOI link, 5 citations
22. **Mazoyer, J.** ; Baudoz, P. ; Mas, M. et al. (**2012**), *Experimental parametric study of the self-coherent camera*, Space Telescopes and Instrumentation 2012: Optical, Infrared, and Millimeter Wave, 8442, 844250, DOI link, arXiv link, 2 citations
23. Gasnault, O. ; **Mazoyer, J.** ; Cousin, A. et al. (**2012**), *Deciphering Sample and Atmospheric Oxygen Contents with ChemCam on Mars*, 43rd Annual Lunar and Planetary Science Conference, 2888, 1 citation

AUTRES ACTES DE CONFERENCES

1. Stadler, E. ; Schreiber, L. ; Cortecchia, F. et al. (**2024**), *Upgrading SPHERE with the second-stage adaptive optics system SAXO+: conceptual design of the opto-mechanical module*, Adaptive Optics Systems IX, 13097, 130976S, DOI link
2. Goulas, C. ; Galicher, R. ; Vidal, F. et al. (**2024**), *Upgrading SPHERE with the second stage AO system SAXO+: exploration of the parameter space with end-to-end numerical simulations*, Adaptive Optics Systems IX, 13097, 1309769, DOI link
3. Cantalloube, F. ; Christiaens, V. ; Cantero, C. et al. (**2024**), *Exoplanet imaging data challenge, phase II: comparison of algorithms in terms of characterization capabilities*, Adaptive Optics Systems IX, 13097, 1309713, DOI link, arXiv link
4. Potier, A. ; Riggs, A. J. E. ; Ruane, G. et al. (**2024**), *Revisiting the Borde-Traub focal plane wavefront estimation technique for exoplanet direct imaging*, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave, 13092, 130926E, DOI link
5. Savransky, D. ; Bailey, V. P. ; Wolff, S. G. et al. (**2024**), *The Nancy Grace Roman Space Telescope coronagraph community participation program*, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave, 13092, 130921I, DOI link
6. Millar-Blanchaer, M. A. ; Wang, J. ; Bogat, E. et al. (**2024**), *The Roman coronagraph community participation program: data reduction and simulations*, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave, 13092, 1309256, DOI link
7. Fowler, J. ; Haffert, S. Y. ; van Kooten, M. A. M. et al. (**2023**), *Visible extreme adaptive optics on extremely large telescopes: towards detecting oxygen in Proxima Centauri b and analogs*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 12680, 126801U, DOI link, arXiv link, 3 citations
8. Desai, N. ; König, L. ; Por, E. et al. (**2023**), *Integrated photonic-based coronagraphic systems for future space telescopes*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 12680, 126801S, DOI link, arXiv link, 1 citation
9. Béchet, C. ; Tallon, M. ; Thiébaut, E. et al. (**2023**), *Inverse problem approach for SPHERE+ adaptive optics control*, Adaptive Optics for Extremely Large Telescopes (AO4ELT7), 47, DOI link
10. Stadler, E. ; Diolaiti, E. ; Schreiber, L. et al. (**2023**), *Status report of the SAXO+ opto-mechanical design concept*, Adaptive Optics for Extremely Large Telescopes (AO4ELT7), 127, DOI link

11. Goulas, C. ; Vidal, F. ; Galicher, R. et al. (**2023**), *SAXO+ upgrade : second stage AO system end-to-end numerical simulations*, Adaptive Optics for Extremely Large Telescopes (AO4ELT7), 32, DOI link
12. Cantalloube, F. ; Christiaens, V. ; Cantero, C. et al. (**2022**), *Exoplanet imaging data challenge, phase II: characterization of exoplanet signals in high-contrast images*, Adaptive Optics Systems VIII, 12185, 1218505, DOI link, arXiv link, 1 citation
13. Boccaletti, A. ; Chauvin, G. ; Wildi, F. et al. (**2022**), *Upgrading the high contrast imaging facility SPHERE: science drivers and instrument choices*, Ground-based and Airborne Instrumentation for Astronomy IX, 12184, 121841S, DOI link, arXiv link, 3 citations
14. Potier, A. ; Wahhaj, Z. ; Galicher, R. et al. (**2022**), *Improving VLT/SPHERE without additional hardware: comparing quasi-static correction strategies*, Adaptive Optics Systems VIII, 12185, 1218568, DOI link, arXiv link
15. N'Diaye, M. ; Fogarty, K. ; Soummer, R. et al. (**2018**), *Apodized Pupil Lyot coronagraphs with arbitrary aperture telescopes: novel designs using hybrid focal plane masks*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106986A, DOI link, arXiv link, 2 citations
16. Soummer, R. ; Brady, G. R. ; Brooks, K. et al. (**2018**), *High-contrast imager for complex aperture telescopes (HiCAT): 5. first results with segmented-aperture coronagraph and wavefront control*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106981O, DOI link, arXiv link, 8 citations
17. Snik, F. ; Absil, O. ; Baudoz, P. et al. (**2018**), *Review of high-contrast imaging systems for current and future ground-based and space-based telescopes III: technology opportunities and pathways*, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation III, 10706, 107062L, DOI link, arXiv link, 4 citations
18. St. Laurent, K. ; Fogarty, K. ; Zimmerman, N. T. et al. (**2018**), *Apodized pupil Lyot coronagraphs designs for future segmented space telescopes*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106982W, DOI link, arXiv link, 4 citations
19. Jovanovic, N. ; Absil, O. ; Baudoz, P. et al. (**2018**), *Review of high-contrast imaging systems for current and future ground-based and space-based telescopes: Part II. Common path wavefront sensing/control and coherent differential imaging*, Adaptive Optics Systems VI, 10703, 107031U, DOI link, arXiv link, 16 citations
20. Leboulleux, L. ; Pueyo, L. ; Sauvage, J. -F. et al. (**2018**), *Sensitivity analysis for high-contrast imaging with segmented space telescopes*, Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, 10698, 106986H, DOI link, 3 citations
21. Egron, S. ; Soummer, R. ; Lajoie, C. -P. et al. (**2017**), *James Webb Space Telescope optical simulation testbed IV: linear control alignment of the primary segmented mirror*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10398, 1039811, DOI link
22. Pueyo, L. ; Zimmerman, N. ; Bolcar, M. et al. (**2017**), *The LUVOIR architecture "A" coronagraph instrument*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 10398, 103980F, DOI link, 10 citations
23. Leboulleux, L. ; N'Diaye, M. ; Riggs, A. J. E. et al. (**2016**), *High-contrast imager for Complex Aperture Telescopes (HiCAT). 4. Status and wavefront control development*, Space Telescopes and Instrumentation 2016: Optical, Infrared, and Millimeter Wave, 9904, 99043C, DOI link, 8 citations
24. Debes, J. H. ; Ygouf, M. ; Choquet, E. et al. (**2015**), *WFIRST-AFTA Coronagraphic Operations: Lessons Learned from the Hubble Space Telescope and the James Webb Space Telescope*, Nancy Grace Roman Space Telescope Technical Reports, 1504
25. Galicher, R. ; Baudoz, P. ; Delorme, J. R. et al. (**2014**), *High contrast imaging on the THD bench: progress and upgrades*, Space Telescopes and Instrumentation 2014: Optical, Infrared, and Millimeter Wave, 9143, 91435A, DOI link, 4 citations
26. Delorme, J. R. ; Galicher, R. ; Baudoz, P. et al. (**2014**), *High-contrast imaging in wide spectral band with a self-coherent camera and achromatic coronagraphs*, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation, 9151, 91515Q, DOI link, 1 citation
27. Galicher, R. ; Delorme, J. R. ; Baudoz, P. et al. (**2013**), *Focal Plane Wavefront Sensing with a self-coherent camera*, Proceedings of the Third AO4ELT Conference, 123, DOI link

PAPIERS BLANCS (SELECTION)

- Boccaletti, A. et al. (**2020**), *SPHERE+: Imaging young Jupiters down to the snowline*, arXiv e-prints, arXiv:2003.05714
- Gaudi, B. S. et al. (**2020**), *The Habitable Exoplanet Observatory (HabEx) Mission Concept Study Final Report*, arXiv e-prints, arXiv:2001.06683
- The LUVOIR Team (**2019**), *The LUVOIR Mission Concept Study Final Report*, arXiv e-prints, arXiv:1912.06219
- **Mazoyer, J.** et al. (**2019**), *High-Contrast Testbeds for Future Space-Based Direct Imaging Exoplanet Missions*, Bulletin of the American Astronomical Society, 51, 101, arXiv:1907.09508

THESES

- Mazoyer, J. (2024) Optique active pour l'imagerie d'exoplanètes et de disques de débris. Thèse d'habilitation. Observatoire de Paris - PSL, HAL link - Defense Youtube link
- Mazoyer, J. (2014) Haut contraste pour l'imagerie directe d'exoplanètes et de disques : de la self-coherent camera à l'analyse de données NICI. Thèse de doctorat. Université Paris Diderot - Paris 7, DOI link