

Johan MAZOYER

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

1 EXPÉRIENCES PROFESSIONNELLES

| | |
|--|-------------|
| Chargé de recherche CNRS – LESIA/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 – LESIA/Observatoire de Paris - PSL (France) | 2011 - 2014 |

2 FORMATION

| | |
|--|-------------------------------------|
| HDR – Observatoire de Paris - PSL <i>Astronomie et Astrophysique</i> | Paris, France Mars 2022 |
| Doctorat – Université Paris Diderot <i>Astronomie et Astrophysique</i> <i>Sujet : Haut contraste pour l'imagerie directe d'exoplanètes et de disques (P. Baudoz & G. Rousset)</i> | Paris, France Septembre 2014 |
| Master 2 – Université Paul Sabatier <i>Astrophysique, Science de l'Espace, Planétologie</i> <i>Stage : Influence de l'atmosphère martienne sur les limites de détection de MSL/Chemcam (O. Gasnault & R. Wiens)</i> | Toulouse, France Septembre 2011 |
| Diplôme d'ingénieur – ISAE Supaero <i>Systèmes Spatiaux et Techniques d'Imageries Spatiales</i> | Toulouse, France Septembre 2011 |
| Diplôme d'ingénieur – Ecole polytechnique <i>Systèmes Embarqués (électronique et informatique)</i> | Palaiseau, France Septembre 2011 |

3 BOURSES & PRIX

| | |
|--|------|
| Programme de Collaboration Franco-Chilienne Ecosud avec <i>Universidad de Chile</i> – 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, LESIA) : co-encadrement avec A.-M. Lagrange | Depuis 2022 |
| Yann Gutierrez (PhD, LESIA) : co-encadrement avec L. Mugnier, ONERA | Depuis 2022 |
| Iva Luginja (Postdoc, LESIA) : CNES post-doctoral Fellow | Depuis 2022 |
| Sophia Stasevic (PhD, LESIA) 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

- Séminaire “**Haute Résolution Angulaire pour l’Astrophysique**” (**HRAA**) au LESIA (2020-)
- 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 haut-contraste du LESIA 2023 -
- Comité d’experts du thème transverse exoplanètes de l’INSU (**CET exoplanètes**) 2023 -
- **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
- Participation au **Telescope Allocation Committee** d’Hubble 2016
- Membre de l’IAU 2019 -
- **Peer-review** pour le *AJ*, *A&A*, *MNRAS*, *PASP* et *Journal of Astronomical Telescopes, Instruments, and Systems*.

LISTE DE PUBLICATIONS

PRINCIPAUX ARTICLES

1. Gutierrez, Y. ; **Mazoyer, J.** ; Mugnier, L. M. et al. *Focal-plane-based wavefront correction using model-free Reinforcement Learning* (**accepted in Optics Express**)
2. 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
3. Galicher, R. & **Mazoyer, J.** (2024), *Imaging exoplanets with coronagraphic instruments*, Comptes Rendus Physique, 24, 133, [DOI link](#), [arXiv link](#), 3 citations
4. 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](#), 3 citations
5. Galicher, R. & **Mazoyer, J.** (2023), *Imaging exoplanets with coronagraphic instruments*, Comptes Rendus Physique, Online first, pp. 1-45. [DOI link](#), [arXiv link](#), 5 citations
6. 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](#), 10 citations
7. 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](#), 35 citations
8. **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
9. **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
10. 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
11. **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
12. **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
13. **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](#), 34 citations
14. **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](#), 32 citations
15. **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](#), 33 citations

AUTRES ARTICLES

1. 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](#), 5 citations
2. 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](#), 3 citations
3. 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](#), 2 citations
4. 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
5. 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](#), 3 citations
6. 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](#), 3 citations
7. 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](#), 43 citations
8. 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](#), 69 citations
9. 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](#), 39 citations
10. 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](#), 4 citations
11. 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](#), 12 citations
12. 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](#), 10 citations
13. 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](#), 14 citations
14. 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](#), 28 citations
15. 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](#), 80 citations
16. 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](#), 20 citations
17. 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](#), 86 citations
18. 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](#), 9 citations
19. 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](#), 11 citations

20. 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](#), 25 citations
21. 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](#), 38 citations
22. 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](#), 52 citations
23. 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](#), 28 citations
24. 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](#), 32 citations
25. 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](#), 18 citations
26. 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
27. 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](#), 31 citations
28. 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](#), 41 citations
29. 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](#), 16 citations
30. 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](#), 72 citations
31. 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
32. 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](#), 231 citations
33. 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](#), 75 citations

PRINCIPAUX ACTES DE CONFÉRENCES

1. 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
2. **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](#), 6 citations
3. 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
4. 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](#), 13 citations

5. **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
6. **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
7. 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](#)
8. 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
9. **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
10. **Mazoyer, J.** ; Pueyo, L. ; Norman, C. et al. (2015), *Active correction of aperture discontinuities (ACAD) for space telescope pupils: a parametric analysis*, Techniques and Instrumentation for Detection of Exoplanets VII, 9605, 96050M, [DOI link](#), [arXiv link](#), 10 citations
11. 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](#), 18 citations
12. **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](#), 1 citation
13. **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](#)
14. 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
15. **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
16. 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](#)
17. 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
18. 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](#), 4 citations
19. **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
20. 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. 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](#), 1 citation
2. 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
3. Béchet, C. ; Tallon, M. ; Thiébaud, E. et al. (2023), *Inverse problem approach for SPHERE+ adaptive optics control*, Adaptive Optics for Extremely Large Telescopes (AO4ELT7), 47, [DOI link](#)
4. 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](#)
5. 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](#)
6. Goulas, C. ; Vidal, F. ; Galicher, R. et al. (2023), *SAXO+ upgrade : second stage AO system end-to-end numerical simulations* (AO4ELT7 conference proceedings), Adaptive Optics for Extremely Large Telescopes 7th Edition, [DOI link](#), [arXiv link](#)
7. 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
8. 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](#), 1 citation
9. 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](#)
10. Lopez, R. ; Fitzgerald, M. ; Duchene, G. et al. (2022), *The Peculiar Warp of HD 110058's Debris Disk*, American Astronomical Society Meeting #240, 240, 421.01
11. 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
12. 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](#), 7 citations
13. 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](#), 3 citations
14. 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](#), 3 citations
15. 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](#), 15 citations
16. 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
17. 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](#)
18. 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

19. 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](#), 7 citations
20. 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](#), 3 citations
21. 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
22. 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](#)