

# Johan MAZOYER

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

## 1 EXPÉRIENCES PROFESSIONNELLES

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Chargé de recherche CNRS – <b>LESIA/Observatoire de Paris - PSL</b> (France)	Depuis 2020
Carl Sagan Fellow – <b>NASA Jet Propulsion Laboratory</b> (Pasadena, CA)	2018 - 2019
Post-doctorant – <b>Johns Hopkins University</b> (Baltimore, MD)	2016 - 2018
Post-doctorant – <b>Space Telescope Science Institute</b> (Baltimore, MD)	2014 - 2016
Doctorant – <b>LESIA/Observatoire de Paris - PSL</b> (France)	2011 - 2014

## 2 FORMATION

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<b>HDR – Observatoire de Paris - PSL</b> <i>Astronomie et Astrophysique</i>	Paris, France Mars 2022
<b>Doctorat – Université Paris Diderot</b> <i>Astronomie et Astrophysique</i> <i>Sujet : Haut contraste pour l'imagerie directe d'exoplanètes et de disques (P. Baudoz &amp; G. Rousset)</i>	Paris, France Septembre 2014
<b>Master 2 – Université Paul Sabatier</b> <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 &amp; R. Wiens)</i>	Toulouse, France Septembre 2011
<b>Diplôme d'ingénieur – ISAE Supaero</b> <i>Systèmes Spatiaux et Techniques d'Imageries Spatiales</i>	Toulouse, France Septembre 2011
<b>Diplôme d'ingénieur – Ecole polytechnique</b> <i>Systèmes Embarqués (électronique et informatique)</i>	Palaiseau, France Septembre 2011

## 3 BOURSES & PRIX

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Programme de Collaboration Franco-Chilienne <b>Ecosud</b> avec <i>Universidad de Chile</i> – 3 ans	2020
<b>NASA Group Award</b> : LBTI Hosts Survey Science Team	2020
<b>Carl Sagan Fellowship</b> ( <b>NASA Hubble Fellowship Program</b> ) – 3 ans	2018
Couverture du journal <b>Astronomy &amp; Astrophysics</b> ( <b>Volume 564</b> )	2014
Bourse doctorale du CNES – 3 ans	2011

## 4 DIFFUSION DES SCIENCES

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### 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

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

## 6 ENSEIGNEMENT

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Cours de Master (Observatoire de Paris) :

- Instrumentation for Astronomy
- Detection of Exoplanets (collab. Anne-Marie Lagrange)

## 7 PRISES DE RESPONSABILITÉS POUR LA COMMUNAUTÉ

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### 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

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- Galicher, R. ; Potier, A. ; **Mazoyer, J.** et al. *Increasing the raw contrast of VLT/SPHERE with the dark hole technique. III. Broadband reference differential imaging of HR 4796 using a four quadrant phase mask (accepted in A & A)*
- 1. 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
- 2. Galicher, R. & **Mazoyer, J.** (2023), *Imaging exoplanets with coronagraphic instruments*, *Comptes Rendus. Physique*, Online first, pp. 1-45. [DOI link](#), [arXiv link](#), 5 citations
- 3. 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](#), 7 citations
- 4. 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](#), 34 citations
- 5. **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
- 6. **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
- 7. 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
- 8. **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
- 9. **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
- 10. **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](#), 33 citations
- 11. **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
- 12. **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

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1. 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](#), 1 citation
2. 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](#), 1 citation
3. 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](#)
4. 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](#), 2 citations
5. 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](#), 2 citations

6. 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  $\mu\text{m}$* , The Astrophysical Journal, 951, L20, [DOI link](#), [arXiv link](#), 36 citations
7. 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  $\mu\text{m}$  Spectrum of the Planetary-mass Companion VHS 1256-1257 b*, The Astrophysical Journal, 946, L6, [DOI link](#), [arXiv link](#), 60 citations
8. 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](#), 35 citations
9. 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
10. 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
11. 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
12. 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
13. 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](#), 27 citations
14. 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](#), 76 citations
15. 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](#), 19 citations
16. 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](#), 78 citations
17. 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
18. 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
19. 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
20. 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](#), 37 citations
21. 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](#), 47 citations
22. 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](#), 27 citations
23. 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](#), 30 citations
24. Lebouilleux, 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
25. 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

26. 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](#), 29 citations
27. 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
28. 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
29. 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](#), 71 citations
30. 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
31. 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, 82, 1, [DOI link](#), 231 citations
32. Cousin, A. ; Forni, O. ; Maurice, S. et al. (2011), *Laser induced breakdown spectroscopy library for the Martian environment*, Spectrochimica Acta, 66, 805, [DOI link](#), 75 citations

## PRINCIPAUX ACTES DE CONFERENCES

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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](#), 12 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](#), 1 citation
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

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1. 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](#)
2. 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](#)
3. 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](#)
4. 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
5. 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
6. 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](#)
7. Lopez, R. ; Fitzgerald, M. ; Duchene, G. et al. (2022), *The Peculiar Warp of HD 110058's Debris Disk*, American Astronomical Society Meeting #240, 54, 421.01
8. 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
9. 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](#), 6 citations

10. 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
11. 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](#), 2 citations
12. 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
13. 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
14. 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](#)
15. 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
16. 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](#), 6 citations
17. 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
18. 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
19. 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](#)