

Johan MAZOYER

French citizen, born on December 14th 1986, Paris, France.

Direct imaging and characterization of exoplanets and debris disks, planetary formation, optical instrumentation, active correction for coronagraphy

1 RESEARCH POSITIONS

Carl Sagan Postdoctoral Fellow – Jet Propulsion Laboratory Pasadena, CA
High contrast imaging on the Decadal Survey Testbed **Nov. 2018 - Present**

Postdoctoral Researcher – Johns Hopkins University Baltimore, MD
Gemini planet imager collaboration: debris disk analysis **Nov. 2016 - Oct. 2018**

Postdoctoral Researcher – Space Telescope Science Institute Baltimore, MD
Active correction for coronagraphy **Nov. 2014 - Oct. 2016**

CNES Graduate Student Fellow – LESIA/Paris Observatory Paris, Fr
Advisors: Pierre Baudoz & Gérard Rousset **Oct. 2011 - Sep. 2014**

Visiting Research Student – Los Alamos National Laboratory Los Alamos, NM
MSL/ChemCam Collaboration (Roger Wiens) **Summer 2011**

Visiting Research Student – IRAP Toulouse, Fr
MSL/ChemCam Collaboration (Olivier Gasnault & Sylvestre Maurice) **Spring 2011**

2 EDUCATION

PhD in Astronomy & Astrophysics – Université Paris Diderot 2014
High-contrast direct imaging of exoplanets and circumstellar disks: from the SCC to NICI

Master in Astronomy & Astrophysics – Observatoire Midi-Pyrénées 2011

Master in Space engineering & Imaging techniques – ISAE Supaero 2011

Bachelor in Physics & Computer Engineering – Ecole polytechnique 2010

3 GRANTS & AWARDS

Carl Sagan Fellowship (NASA Hubble Fellowship Program) - \$300K/3 yrs **2018**

Outstanding Presentation Award (CNES fellow symposium JC²) **2013**

CNES Doctoral Research Fellowship (French space agency) - \$66K/3 yrs **2011**

Ecole Polytechnique Scholarship - \$48K/4 yrs **2007**

4 POPULAR SCIENCE

Podcast Science

I am running **PodcastScience.fm**, a general science program, airing every Wednesdays, in french. This podcast (one to three hours, depending on the subjects) is listened by 10'000 to 20'000 listeners. Podcast Science received the Golden blog award for best scientific blog in 2012.



Kidi'Science

Writer for this popular science blog for children

Public conferences

CERN (Geneva) et Palais de la découverte (Paris)

5 TEACHING & MENTORING

Université Paris Diderot – Paris 7

Teaching assistant

2013 - 2014

Université Paris Descartes – Paris 5

Teaching assistant

2011 - 2012

La Main à la Pâte – Académie de Perpignan

2007 - 2008

- I taught science during 8 months (30h/week) in primary schools in underprivileged neighborhoods. **La Main à la pâte** was founded by Nobel Prize winner G. Charpak, astronomer P. Léna and physicist Y. Quéré, all members of the French Academy of Sciences, to improve the quality of science and technology teaching in primary and middle school.

PhD supervising

- **Lucie Leboulleux**, in co-direction between STScI & ONERA, France (Leboulleux, N'Diaye, Mazoyer et al. 2017 SPIE ; Leboulleux et al. 2018 ; Leboulleux et al. 2018 SPIE).
- **Kevin Fogarty**, PhD at JHU and 1 year postdoc at STScI (Fogarty, Pueyo, Mazoyer et al, 2018 AJ ; Fogarty, Mazoyer et al, 2018 SPIE ; Fogarty, Pueyo, Mazoyer et al, 2017 SPIE). Now Caltech Prize Postdoctoral Fellowship in Experimental Physics or Astrophysics.
- **Sylvain Egron**, in co-direction between STScI & ONERA, France (Egron et al. 2017 SPIE)

6 OBSERVATION PROPOSALS

GEMINI/GPI

- GS-2015B-LP-6 “Characterizing Dusty Debris in Exoplanetary Systems” (PI: Christine Chen)

VLT/SPHERE

- P 098.C-0686 “Resolving multiple belts and sub-structures in inner regions of highly inclined debris disk” (PI: Anthony Boccaletti)
- P 096.C-0640 “Exploring the inner cavities of two very inclined debris disks” (PI: Anthony Boccaletti)
- P 095.C-0381 “Investigating the inner part of a transitional disk” (PI: Anthony Boccaletti)

JWST / MIRI, NIRC*am*, NIRSPEC & NIRISS

- Programme Early release Science (ERS) “High Contrast Imaging of Exoplanets and Exoplanetary Systems with JWST” (PI : Sasha Hinkley)

7 SERVICE TO THE COMMUNITY

Conference and Workshop Organizer

- SOC and LOC: **National Capital Area Disks** workshop (Baltimore, MD, 2018) - [website](#)
- Proposed and SOC: **Optimal Optical Coronagraphs** workshop (Leiden, NL, 2017) - [website](#)
- SOC: **High Contrast Imaging from Space** workshop (Baltimore, MD, 2016) - [website](#)
- LOC: **La très haute dynamique** workshop (Paris, FR, 2012)

Other Services

- Member of the **WFIRST Science Investigation Team (SIT)** for disk science since 2017.
- **Hubble Telescope Allocation Committee** panel support (2016).
- NASA Exoplanet Exploration Program Analysis Group (ExoPAG) member of the **Study Analysis Groups (SAGs) #19** (Theory and Rigorous Contrast Metrics) since 2016 (see Jensen-Clem et al. 2018).
- Organization of the “**Exoplanet Star and Planet Formation**” (ESPF) seminar at STScI each week (2016-2018) - [website](#)
- Development of the **Paris THD optical testbed website** in August 2014.
- **Served as referee** for publications in the *AJ*, *A&A*, *MNRAS*, *PASP* and *JATIS*.



8 SPORT

Fencing (15 years of practice) & **Running** (trails, half-marathons, marathon)

PUBLICATIONS & PRESENTATIONS

1 REFEREED PUBLICATIONS IN FIRST AUTHOR

7. **Mazoyer, J.**, Pueyo, L., N'Diaye, M., Fogarty, K., Zimmerman, N., Soummer, R., Shaklan, S. and Norman, C., “Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. II. Optimization for Future Missions,” *The Astronomical Journal* 155, 8, 19 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018AJ....155....8M>
6. **Mazoyer, J.**, Pueyo, L., N'Diaye, M., Fogarty, K., Zimmerman, N., Leboulleux, L., St. Laurent, K. E., Soummer, R., Shaklan, S. and Norman, C., “Active Correction of Aperture Discontinuities-Optimized Stroke Minimization. I. A New Adaptive Interaction Matrix Algorithm,” *The Astronomical Journal* 155, 7, 13 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018AJ....155....7M>
5. **Mazoyer, J.**, Boccaletti, A., Choquet, É., Perrin, M. D., Pueyo, L., Augereau, J.-C., Lagrange, A.-M., Debes, J. and Wolff, S. G., “A Symmetric Inner Cavity in the HD 141569A Circumstellar Disk,” *The Astrophysical Journal* 818(2), 150, 8 pages (2016).
Link: <http://adsabs.harvard.edu/abs/2016ApJ...818..150M>
4. **Mazoyer, J.**, Pueyo, L., Norman, C., N'Diaye, M., van der Marel, R. P. and Soummer, R., “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, 8 pp (2016).
Link: <http://adsabs.harvard.edu/abs/2016JATIS...2a1008M>
3. **Mazoyer, J.**, Boccaletti, A., Augereau, J.-C., Lagrange, A.-M., Galicher, R. and Baudoz, P., “Is the HD 15115 inner disk really asymmetrical?,” *Astronomy and Astrophysics* 569, A29, 9 pages (2014).
Link: <http://adsabs.harvard.edu/abs/2014A%26A...569A..29M>
2. **Mazoyer, J.**, Baudoz, P., Galicher, R. and Rousset, G., “High-contrast imaging in polychromatic light with the self-coherent camera,” *Astronomy and Astrophysics* 564, L1, 4 pages (2014).
Made the front cover of *Astronomy & Astrophysics* in April 2014
Link: <http://adsabs.harvard.edu/abs/2014A%26A...564L...1M>
1. **Mazoyer, J.**, Baudoz, P., Galicher, R., Mas, M. and Rousset, G., “Estimation and correction of wavefront aberrations using the self-coherent camera: laboratory results,” *Astronomy and Astrophysics* 557, 9, 13 pages (2013).
Link: <http://adsabs.harvard.edu/abs/2013A%26A...557A...9M>

2 OTHER REFEREED PUBLICATIONS

11. Leboulleux, L., Sauvage, J.-F., Pueyo, L., Fusco, T., Soummer, R., **Mazoyer, J.**, Sivaramakrishnan, A., N'Diaye, M. and Fauvarque, O., “Pair-based Analytical model for Segmented Telescopes Imaging from Space (PASTIS) for sensitivity analysis,” *Journal of Astronomical Telescopes, Instruments, and Systems*, 4(3), 035002, 14 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018JATIS...4c5002L>
10. Esposito et al. “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, 2, 16 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018AJ....156...47E>
9. Poteet, C. A., Chen, C. H., Hines, D. C., Perrin, M. D., Debes, J. H., Pueyo, L., Schneider, G., **Mazoyer, J.**, and Kolokolova, L. “Space-Based Coronagraphic Imaging Polarimetry of the TW Hydrae Disk: Shedding New Light on Self-Shadowing Effects,” *The Astronomical Journal* 860, 115, 14 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018ApJ...860..115P>
8. Jensen-Clem, R., Mawet, D., Gomez Gonzalez, C. A., Absil, O., Belikov, R., Currie, T., Kenworthy, M. A., Marois, C., **Mazoyer, J.**, Ruane, G., Tanner, A. and Cantalloube, F., “A New Standard for Assessing the Performance of High Contrast Imaging Systems,” *The Astronomical Journal* 155, 19, 8 pages (2018).
Link: <http://adsabs.harvard.edu/abs/2018AJ....155...19J>
7. Fogarty, K., Pueyo, L., **Mazoyer, J.** and N'Diaye, M., “Polynomial Apodizers for Centrally Obscured Vortex Coronagraphs,” *The Astronomical Journal* 154, 240, 18 pages (2017).
Link: <http://adsabs.harvard.edu/abs/2017AJ....154..240F>
6. Perrot, C., Boccaletti, A., Pantin, E., Augereau, J.-C., Lagrange, A.-M., Galicher, R., Maire, A.-L., **Mazoyer, J.**, Milli, J., Rousset, G., Gratton, R., Bonnefoy, M., Brandner, W., Buenzli, E., Langlois, M., Lannier, J., Mesa, D., Peretti, S., Salter, G., et al., “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, 9 pages (2016).
Link: <http://adsabs.harvard.edu/abs/2016A%26A...590L...7P>
5. Delorme, J. R., Galicher, R., Baudoz, P., Rousset, G., **Mazoyer, J.** and Dupuis, O., “Focal plane wavefront sensor achromatization: The multireference self-coherent camera,” *Astronomy and Astrophysics* 588, A136, 14 pages (2016).
Link: <http://adsabs.harvard.edu/abs/2016A%26A...588A.136D>
4. Debes, J. H., Ygouf, M., Choquet, E., Hines, D. C., Perrin, M. D., Golimowski, D. A., Lajoie, C.-P., **Mazoyer, J.**, Pueyo, L., Soummer, R. and van der Marel, R., “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(1), 011010, 14 pages (2016).

Link: <http://adsabs.harvard.edu/abs/2016JATIS...2a1010D>

3. Choquet, É., Perrin, M. D., Chen, C. H., Soummer, R., Pueyo, L., Hagan, J. B., Gofas-Salas, E., Rajan, A., Golimowski, D. A., Hines, D. C., Schneider, G., **Mazoyer, J.**, Augereau, J.-C., Debes, J., Stark, C. C., Wolff, S., N’Diaye, M. and Hsiao, K., “First Images of Debris Disks around TWA 7, TWA 25, HD 35650, and HD 377,” *The Astrophysical Journal Letters* 817, L2, 6 pages (2016).

Link: <http://adsabs.harvard.edu/abs/2016ApJ...817L...2C>

2. Wiens, R. C., Maurice, S., Lasue, J., Forni, O., Anderson, R. B., Clegg, S., Bender, S., Blaney, D., Barraclough, B. L., Cousin, A., Deflores, L., Delapp, D., Dyar, M. D., Fabre, C., Gasnault, O., Lanza, N., **Mazoyer, J.**, Melikechi, N., Meslin, P.-Y., et al., “Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mar. Science Laboratory rover,” *Spectrochimica Acta Part B: Atomic Spectroscopy* 82, 1–27, 27 pages (2013).

Link: <http://adsabs.harvard.edu/abs/2013AcSpe..82....1W>

1. Cousin, A., Forni, O., Maurice, S., Gasnault, O., Fabre, C., Sautter, V., Wiens, R. C. and **Mazoyer, J.**, “Laser induced breakdown spectroscopy library for the Martian environment,” *Spectrochimica Acta* 66, 805–814, 10 pages (2011).

Link: <http://adsabs.harvard.edu/abs/2011AcSpe..66..805C>

3 SPIE PROCEEDINGS IN FIRST AUTHOR

7. **Mazoyer, J.** and Pueyo, L., “Fundamental limits to high-contrast wavefront control,” *Proceedings of the SPIE* 10400, 1040014, 18 pages (2017).

Liens : <http://adsabs.harvard.edu/abs/2017SPIE10400E..14M>

6. **Mazoyer, J.**, Pueyo, L., N’Diaye, M., Fogarty, K., Leboulleux, L., Egron, S. and Norman, C., “Capabilities of ACAD-OSM, an active method for the correction of aperture discontinuities,” *Proceedings of the SPIE* 10400, 104000G, 13 pages (2017).

Liens : <http://adsabs.harvard.edu/abs/2017SPIE10400E..14M>

5. **Mazoyer, J.**, Pueyo, L., N’Diaye, M., Mawet, D., Soummer, R. and Norman, C., “Correcting for the effects of pupil discontinuities with the ACAD method,” *Proceedings of the SPIE* 9904, 99044T, 12 pages (2016).

Link: <http://adsabs.harvard.edu/abs/2016SPIE.9904E..4TM>

4. **Mazoyer, J.**, Pueyo, L., Norman, C., N’Diaye, M., Mawet, D., Soummer, R., Perrin, M., Choquet, É. and Carlotti, A., “Active correction of aperture discontinuities (ACAD) for space telescope pupils: a parametric analysis,” *Proceedings of the SPIE* 9605, 96050M, 13 pages (2015).

Link: <http://adsabs.harvard.edu/abs/2015SPIE.9605E..0MM>

3. **Mazoyer, J.**, Galicher, R., Baudoz, P., Lanzoni, P., Zamkotsian, F. and Rousset, G., “Deformable mirror interferometric analysis for the direct imagery of exoplanets,” Proceedings of the SPIE 9148, 914846, 11 pages (2014).
Link: <http://adsabs.harvard.edu/abs/2014SPIE.9148E..46M>
2. **Mazoyer, J.**, Galicher, R., Baudoz, P. and Rousset, G., “Speckle correction in polychromatic light with the self-coherent camera for the direct detection of exoplanets,” Proceedings of the SPIE 8864, 88640N, 9 pages (2013).
Link: <http://adsabs.harvard.edu/abs/2013SPIE.8864E..0NM>
1. **Mazoyer, J.**, Baudoz, P., Mas, M., Rousset, G. and Galicher, R., “Experimental parametric study of the self-coherent camera,” Proceedings of the SPIE 8442, 844250, 10 pages (2012).
Link: <http://adsabs.harvard.edu/abs/2012SPIE.8442E..50M>

4 OTHER SPIE PROCEEDINGS

19. Fogarty, K., **Mazoyer, J.**, Laurent, K. S., Soummer, R., N’Diaye, M., Stark, C. and Pueyo, L., “Optimal deformable mirror and pupil apodization combinations for apodized pupil Lyot coronagraphs with obstructed pupils,” Proceedings of the SPIE 10698, 106981J, 19 pages (2018).
18. Ruane, G., Riggs, A., **Mazoyer, J.**, Por, E. H., N’Diaye, M., Huby, E., Baudoz, P., Galicher, R., Douglas, E., Knight, J., Carlomagno, B., Fogarty, K., Pueyo, L., Zimmerman, N., Absil, O., Beaulieu, M., Cady, E., Carlotti, A., Doelman, D., et al., “Review of high-contrast imaging systems for current and future ground- and space-based telescopes I: coronagraph design methods and optical performance metrics,” Proceedings of the SPIE 10698, 106982S, 20 pages (2018).
17. Jovanovic, N., Absil, O., Baudoz, P., Beaulieu, M., Bottom, M., Cady, E., Carlomagno, B., Carlotti, A., Doelman, D., Fogarty, K., Galicher, R., Guyon, O., Haffert, S., Huby, E., Jewell, J., Keller, C., Kenworthy, M. A., Knight, J., Kühn, J., Kelsey, M., **Mazoyer, J.**, et al., “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,” Proceedings of the SPIE 10703, 107031U, 19 pages (2018).
16. Laurent, K. S., Fogarty, K., Zimmerman, N. T., N’Diaye, M., Stark, C. C., **Mazoyer, J.**, Sivaramakrishnan, A., Pueyo, L., Shaklan, S., Vanderbei, R. and Soummer, R., “Apodized pupil Lyot coronagraphs designs for future segmented space telescopes,” Proceedings of the SPIE 10698, 106982W, 18 pages (2018).
15. Leboulleux, L., Pueyo, L., Sauvage, J.-F., Fusco, T., **Mazoyer, J.**, Sivaramakrishnan, A., N’Diaye, M. and Soummer, R., “Sensitivity analysis for high-contrast imaging with segmented space telescopes,” Proceedings of the SPIE 10698, 106986H, 16 pages (2018).

14. N'Diaye, M., Fogarty, K., Soummer, R., Carlotti, A., Dohlen, K., **Mazoyer, J.**, Pueyo, L., Laurent, K. S. and Zimmerman, N., "Apodized Pupil Lyot coronagraphs with arbitrary aperture telescopes: novel designs using hybrid focal plane masks," Proceedings of the SPIE 10698, 106986A, 11 pages (**2018**).
13. Snik, F., Absil, O., Baudoz, P., Beaulieu, M., Bendek, E., Cady, E., Carlomagno, B., Carlotti, A., Cvetojevic, N., Doelman, D., Fogarty, K., Galicher, R., Guyon, O., Haffert, S., Huby, E., Jewell, J., Jovanovic, N., Keller, C., Kenworthy, M. A., Knight, J., Kuhn, J., **Mazoyer, J.** et al., "Review of high-contrast imaging systems for current and future ground-based and space-based telescopes III: technology opportunities and pathways," Proceedings of the SPIE 10706, 107062L, 16 pages (**2018**).
12. Soummer, R., Brady, G. R., Brooks, K., Comeau, T., Choquet, É., Dillon, T., Egron, S., Gontrum, R., Hagopian, J., Laginja, I., Leboulleux, L., Perrin, M. D., Petrone, P., Pueyo, L., **Mazoyer, J.**, N'Diaye, M., Riggs, A. J. E., Shiri, R., Sivaramakrishnan, A., et al., "High-contrast imager for complex aperture telescopes (HiCAT): 5. first results with segmented-aperture coronagraph and wavefront control," Proceedings of the SPIE 10698, 106981O, 16 pages (**2018**).
11. Pueyo, L., Zimmerman, N., Bolcar, M., Groff, T., Stark, C., Ruane, G., Jewell, J., Soummer, R., St. Laurent, K., Wang, J., Redding, D., **Mazoyer, J.**, Fogarty, K., Juanola-Parramon, R., Domagal-Goldman, S., Roberge, A., Guyon, O. and Mandell, A., "The LUVOIR architecture 'A' coronagraph instrument," Proceedings of the SPIE 0398, 103980F, 20 pages (**2017**).
10. Fogarty, K., Pueyo, L., **Mazoyer, J.** and N'Diaye, M., "Polynomial apodized vortex coronagraphs for obscured telescope pupils," Proceedings of the SPIE 10400, 104000T, International Society for Optics and Photonics, 17 pages (**2017**).
9. Egron, S., Soummer, R., Lajoie, C.-P., Bonnefois, A., Long, J., Michau, V., Choquet, E., Ferrari, M., Leboulleux, L., Levecq, O., **Mazoyer, J.**, N'Diaye, M., Perrin, M., Petrone, P., Pueyo, L. and Sivaramakrishnan, A., "James Webb Space Telescope optical simulation testbed IV: linear control alignment of the primary segmented mirror," Proceedings of the SPIE 0398, 1039811, 9 pages (**2017**).
8. Leboulleux, L., N'Diaye, M., **Mazoyer, J.**, Pueyo, L., Perrin, M., Egron, S., Choquet, E., Sauvage, J.-F., Fusco, T. and Soummer, R., "Comparison of wavefront control algorithms and first results on the high-contrast imager for complex aperture telescopes (hicat) testbed," Proceedings of the SPIE 10562, 105622Z, International Conference on Space Optics (**2017**).
7. Leboulleux, L., N'Diaye, M., Riggs, A. J. E., Egron, S., **Mazoyer, J.**, Pueyo, L., Choquet, E., Perrin, M. D., Kasdin, J., Sauvage, J.-F., Fusco, T. and Soummer, R., "High-contrast imager for Complex Aperture Telescopes (HiCAT). 4. Status and wavefront control development," Proceedings of the SPIE 9904, 99043C, 13 pages (**2016**).
6. N'Diaye, M., **Mazoyer, J.**, Choquet, É., Pueyo, L., Perrin, M. D., Egron, S., Leboulleux, L., Levecq, O., Carlotti, A., Long, C. A., Lajoie, R. and Soummer, R., "High-contrast

- imager for complex aperture telescopes (HiCAT): 3. first lab results with wavefront control,” Proceedings of the SPIE 9605, 96050I, 12 pages (2015).
5. Galicher, R., Baudoz, P., Delorme, J. R., **Mazoyer, J.**, Rousset, G., Firminy, J., Boussaha, F., N’Diaye, M., Dohlen, K. and Caillat, A., “High contrast imaging on the THD bench: progress and upgrades,” Proceedings of the SPIE 9143, 91435A, 11 pages (2014).
 4. Delorme, J. R., Galicher, R., Baudoz, P., Rousset, G., **Mazoyer, J.**, N’Diaye, M., Dohlen, K. and Caillat, A., “High-contrast imaging in wide spectral band with a self-coherent camera and achromatic coronagraphs,” Proceedings of the SPIE 9151, 91515Q, 12 pages (2014).
 3. Galicher, R., **Mazoyer, J.**, Baudoz, P. and Rousset, G., “High-contrast imaging with a self-coherent camera,” Proceedings of the SPIE 8864, 88640M, 11 pages (2013).
 2. Mas, M., Baudoz, P., **Mazoyer, J.**, Galicher, R. and Rousset, G., “Experimental results on wavefront correction using the self-coherent camera,” Proceedings of the SPIE 8446, 844689, 12 pages (2012).
 1. Baudoz, P., **Mazoyer, J.**, Mas, M., Galicher, R. and Rousset, G., “Dark hole and planet detection: laboratory results using the self-coherent camera,” Proceedings of the SPIE 8446, 84468C, 11 pages (2012).

5 OTHER PROCEEDINGS

4. **Mazoyer, J.**, Baudoz, P., Galicher, R. and Rousset, G., “Direct detection of exoplanets in polychromatic light with a Self-coherent camera,” Proceedings of the Third AO4ELT Conference, 97, 8 pages (2013).
3. Galicher, R., Delorme, J. R., Baudoz, P. and **Mazoyer, J.**, “Focal Plane Wavefront Sensing with a self-coherent camera,” Proceedings of the Third AO4ELT Conference, 123, 7 pages (2013).
2. Baudoz, P., **Mazoyer, J.** and Galicher, R., “Laboratory tests of planet signal extraction in high contrast images,” Proceedings of the Third AO4ELT Conference, 109, 8 pages (2013).
1. Gasnault, O., **Mazoyer, J.**, Cousin, A., Meslin, P.-Y., Lasue, J., Lacour, J.-L., Ollila, A., Berger, G., Forni, O., Maurice, S., Wiens, R.-C., Clegg, S. and Blank, J., “Deciphering Sample and Atmospheric Oxygen Contents with ChemCam on Mar.,” 43rd Lunar and Planetary Science Conference 43, 2888, 2 pages (2012).

6 PHD THESIS – Université Paris Diderot

- **Mazoyer, J.**, “Haut contraste pour l’imagerie directe d’exoplanètes et de disques: de la self-coherent camera à l’analyse de données NICI,” Thesis manuscript (219 pages), **defended in Sept 2014.**

Link: <http://adsabs.harvard.edu/abs/2014PhDT.....497M>

7 PRESENTATIONS

7.1 INVITED PRESENTATION

6. “High contrast imaging: from active correction to observation of circumstellar debris disks”, IPAG, Grenoble, FR **Mar. 2018**
5. “High contrast imaging: active correction of aperture discontinuities”, Carnegie DTM Astronomy Seminar, Washington, DC, USA **Feb. 2018**
4. “High contrast imaging: active correction of aperture discontinuities”, STScI/JHU CoolSci Talk Series, Baltimore, MD, USA **Feb. 2017**
3. “High contrast imaging: from active correction to observation of circumstellar debris disks”, IRAP seminar, Toulouse FR **Mar. 2017**
2. “Correction of aperture discontinuities for the direct imaging of exoplanets and circumstellar disks”, CRAL séminar, Lyon, FR **Sep. 2016**
1. “Active Correction of Aperture Discontinuities (ACAD) for Space Telescope Pupils: A parametrical analysis”, Vortex coronagraph workshop 2, Caltech, Pasadena, CA, US **Jul. 2016**

7.2 WORKSHOPS AND CONFERENCES

16. “Current Limitations and Perspectives for Direct Imaging Instrumentation for Future Space-Based Telescopes”, Sagan/Michelson Fellows Symposium, Pasadena, CA, US **Nov. 2018**
15. “High-Contrast Imaging of the HR 4796 Debris Disk with the Gemini Planet Imager”, NCAD7 Workshop, Baltimore, MD, US **Sep. 2018**
14. “Forward modeling techniques for spectra retrieval of circumstellar debris disks”, AAS conference, Washington, DC, US **Jan. 2018**
13. “Beam shaping coronagraphs”, OOC workshop, Leiden, NL **Sep. 2017**
12. “The HiCAT testbed”, OOC workshop, Leiden, NL **Sep. 2017**

11. “Capabilities of ACAD-OSM, an active method for the correction of aperture discontinuities”, SPIE Conference, San Diego, CA, US **Aug. 2017**
10. “Fundamental limits to high-contrast wavefront control”, SPIE Conference, San Diego, CA, US **Aug. 2017**
9. “A new active method to correct for the effects of complex apertures on coronagraph performance”, AAS conference, Grapewine, TX **Jan. 2017**
8. “Correcting for aperture discontinuities with deformable mirrors for futur space telescopes”, High Contrast Imaging in Space workshop, STScI, Baltimore, MD **Nov. 2016**
7. “Deep inside circumstellar disks investigating the NICI archive”, NCAD 6 conference, Carnegie DTM, Washington DC, US **Jul. 2016**
6. “Active correction of aperture discontinuities (ACAD) for space telescope pupils: a parametric analysis”. SPIE Conference, Techniques and Instrumentation for Detection of Exoplanets VII. San Diego, CA, US. **Aug. 2015.**
5. “THD bench : description and latest results”. Coronagraphs and Wavefront Control Workshop. Leiden, Netherlands, **Oct. 2014.**
4. “Direct detection of exoplanets in polychromatic light with a Self-coherent camera”. SPIE Conference, Techniques and Instrumentation for Detection of Exoplanets VI. San Diego, CA, US. **Aug. 2013.**
3. “Deformable mirror analysis for direct imagery of exoplanets”. Journées recherche et industrie de l’optique adaptative 6. Villetaneuse, France. **Jul. 2013.**
2. “Self-Coherent Camera : principe”, Workshop “Très haute Dynamique”. Meudon, France. **Sept. 2012.**
1. “La Self-Coherent Camera : estimation de front d’onde en plan focal pour la détection d’exoplanètes en imagerie directe”. Journées recherche et industrie de l’optique adaptative 5. Marseille, France. **Jul. 2012.**

7.3 SEMINARS

13. NASA’s Goddard Space Flight Center seminar, MD, US. “A new active method to correct for the effects of complex apertures on coronagraph performance” **Jan. 2017**
12. ESO TMT seminar, Santiago, CL. “A new active method to correct for the effects of complex apertures on coronagraph performance” **Nov. 2016**
11. Séminaire de l’OCA, Nice, FR. “Correction of aperture discontinuities for the direct imaging of exoplanets and circumstellar disks” **Aug. 2016**

10. Space Telescope Science Institute post-doc Jamboree, MD, US. “Deep inside circumstellar disks: high-contrast instrumental techniques and archival data analysis” **Feb. 2016**.
9. Wine & Cheese seminar, Johns Hopkins University, MD, US. “Deep inside circumstellar disks: high-contrast instrumental techniques and archival data analysis” **Apr. 2015**.
8. LOOM Seminar, LAM, Marseille, France. “Deep inside circumstellar disks: high contrast instrumental techniques and data analysis using NICI”. **Mar. 2015**.
7. STScI science coffee seminar, Baltimore, MD, US. “Deep inside circumstellar disks with the GEMINI/NICI coronagraphic instrument” **Jan. 2015**.
6. Astrium optical group seminar, Toulouse, France. “Self Coherent Camera and THD bench” **Oct. 2013**.
5. Séminaire Haute Résolution angulaire, LESIA, Obs. de Paris, France. “The self-coherent camera: speckle nulling in polychromatic light for the direct detection of exoplanets” **Oct. 2013**.
4. CNES optical group seminar, Toulouse, France. “Self Coherent Camera and THD bench” **Oct. 2013**.
3. Journées des jeunes chercheurs du CNES (JC2), Toulouse, France. “La Self-Coherent Camera : imagerie directe par coronagraphie pour la détection et l’analyse spectrale d’exoplanètes”.
Awarded best presentation, Oct. 2013.
2. Journées des thèses du LESIA, Obs de Paris, France. Deux présentations, en **Mar. 2012** et **Apr. 2013**.
1. Conférence “Elbereth” des doctorants en astronomie et astrophysique d’Île-de-France, IAP, Paris, France. Three présentations en **Dec. 2011, 2012 et 2013**.

7.4 PUBLIC PRESENTATIONS

- “Extremely Large Telescopes : des cathédrales pour l’astronomie”. CERN, Suisse **Aug. 2014**.
- “Des œufs dans l’espace”. Palais de la découverte, Paris, France **May 2016**.
- “Excréments dans l’espace”. Palais de la découverte, Paris, France **May 2017**.