Johan MAZOYER

Research Interests: Optical Instrumentation, Direct Imaging & Coronagraphy, Observation & Characterization of Extrasolar Systems, Debris Disks

1 RESEARCH POSITIONS

CNRS Scientist – **LESIA/Paris Observatory** (France) **Since 2020**

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

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

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

Graduate Student – **LESIA/Paris Observatory** (France) **2011 - 2014**

2 EDUCATION

PhD – Astronomy & Astrophysics – **Université Paris Diderot** (France) **2014**
Thesis Advisors: P. Baudoz & G. Rousset
Thesis: High-Contrast Direct Imaging Of Exoplanets And Circumstellar Disks

Master – Astrophysics – **Université Paul Sabatier** (Toulouse, France) **2011**
Master Thesis Advisors: O. Gasnault & R. Wiens
Thesis: Influence of Mars atmosphere on the ChemCam abundance detection limits

Master – Space Engineering – **ISAE Supaero** (Toulouse, France) **2011**

Bachelor – Computer Science – **Ecole polytechnique** (Paris, France) **2010**

3 GRANTS & AWARDS

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

Cover of **Astronomy & Astrophysics** Journal (Volume 564) **2014**

Outstanding Presentation Award (CNES fellow symposium JC^2) **2013**

CNES Doctoral Research Fellowship (French space agency) – 3 yrs **2011**

Ecole Polytechnique Scholarship – 4 yrs **2007**

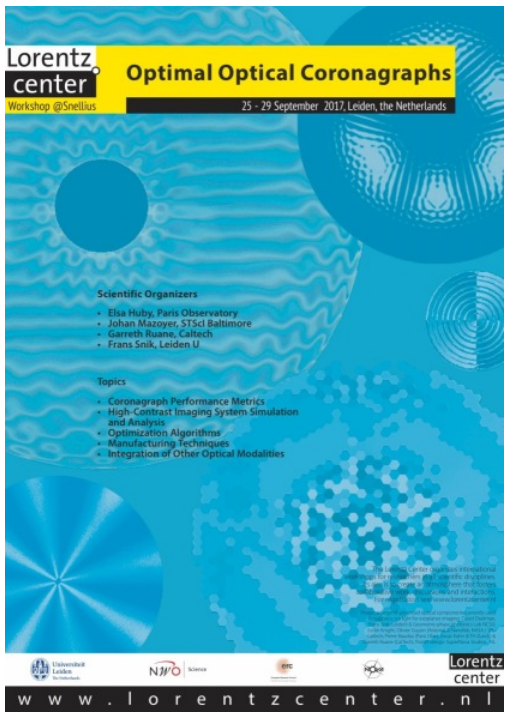
4 OUTREACH

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

Kidi'Science: Contributor for this children science blog.

Public talks: CERN & Palais de la découverte (Paris)

5 PROFESSIONAL ACTIVITIES & SERVICE



Conference and Workshop Organizer:

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

Other Services:

- **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.
- IAU member since 2019
- **Referee** for publications in the *AJ*, *A&A*, *MNRAS*, *PASP* and *JATIS*.

6 TEACHING & MENTORING

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.

Teaching assistant:

Université Paris Diderot – Paris 7	Electronics	**2013 - 2014**
Université Paris Descartes – Paris 5	Fluid dynamics	**2011 - 2012**

La Main à la Pâte: **2007 - 2008**

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

PUBLICATION LIST

1 MAJOR REFEREED PUBLICATIONS

1. **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, 28 citations
2. **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, 26 citations
3. **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, 27 citations

2 OTHER REFEREED PUBLICATIONS

1. 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, 125 citations
2. Cousin, A. ; Forni, O. ; Maurice, S. et al. (**2011**), *Laser induced breakdown spectroscopy library for the Martian environment*, Spectrochimica Acta, 66, 805, DOI Link, 44 citations

3 PHD THESIS

- **Mazoyer, J.** (**2014**), *High-Contrast Direct Imaging of Exoplanets and Circumstellar Disks: From the Self-Coherent Camera to NICI Data Analysis*, Ph.D. Thesis, DOI Link, 2 citations

4 MAJOR CONFERENCE PROCEEDINGS

1. **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, 9 citations
2. 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, 7 citations
3. **Mazoyer, J.** ; Boccaletti, A. ; Augereau, J. -C. et al. (**2014**), *Is the HD 15115 circumstellar disk really asymmetrical?*, Thirty years of Beta Pic and Debris Disks Studies, 47
4. **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, 1 citation

5. **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
6. 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, 1 citation
7. **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, 1 citation
8. 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
9. 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, 10 citations
10. 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
11. **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, 2 citations
12. Gasnault, O. ; **Mazoyer, J.** ; Cousin, A. et al. (**2012**), *Deciphering Sample and Atmospheric Oxygen Contents with ChemCam on Mars*, Lunar and Planetary Science Conference, 2888, 1 citation

5 OTHER CONFERENCE PROCEEDINGS

1. 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, 1 citation
2. 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
3. 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