ExoPlanet News
An Electronic Newsletter

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1 Editorial

Welcome to Edition 170 of the ExoPlanet News!

As usual, we bring you abstracts of scientific papers, job ads, conference announcements, and an overview of exoplanet-related articles on astro-ph. Thanks a lot to all of you who contributed to this issue of the newsletter!

For the next month we look forward to your paper abstracts, job ads or meeting announcements. Also, special announcements are welcome. As always, we would also be happy to receive feedback concerning the newsletter. The Latex template (v2.0) for submitting contributions, as well as all previous editions of ExoPlanet News, can be found on the ExoPlanet News webpage (`http://nccr-planets.ch/exoplanetnews/`).

The next issue will appear on September 12, 2023.

Thanks again for your support, and best regards from the editorial team,

Jeanne Davoult
Eleonora Alei
Haiyang Wang
Daniel Angerhausen
Timm-Emanuel Riesen

2 Abstracts of refereed papers

Tentative co-orbital submillimeter emission within the Lagrangian region L_5 of the protoplanet PDS 70 b

O. Balsalobre-Ruza[1]*, I. de Gregorio-Monsalvo*[2]*, J. Lillo-Box*[1]*, N. Huélamo*[1]*, Á. Ribas*[3]*, M. Benisty*[4,5]*, J. Bae*[6]*, S. Facchini*[7] *& R.ñTeague*[8]

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[7] Dipartimento di Fisica, Università degli Studi di Milano, Via Celoria 16, I-20133 Milano, Italy
[8] Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, USA

Astronomy & Astrophysics, published (2023A&A...675A.172B)

Context: High-spatial resolution Atacama Large Millimeter/submillimeter Array (ALMA) data have revealed a plethora of substructures in protoplanetary disks. Some of those features are thought to trace the formation of embedded planets. One example is the gas and dust that accumulated in the co-orbital Lagrangian regions L_4/L_5, which were tentatively detected in recent years and might be the pristine material for the formation of Trojan bodies.
Aims: This work is part of the TROY project, whose ultimate goal is to find robust evidence of exotrojan bodies and study their implications in the exoplanet field. Here, we focus on the early stages of the formation of these bodies by inspecting the iconic system PDS 70, the only confirmed planetary system in formation.
Methods: We reanalyzed archival high-angular resolution Band 7 ALMA observations from PDS 70 by doing an independent imaging process to look for emission in the Lagrangian regions of the two detected gas giant protoplanets, PDS 70 b and c. We then projected the orbital paths and visually inspected emission features at the regions around the L_4/L_5 locations as defined by $\pm$ 60° in azimuth from the planet position.
Results: We found emission at a $\sim$4-σ level ($\sim$6-σ when correcting from a cleaning effect) at the position of the L_5 region of PDS 70 b. This emission corresponds to a dust mass in a range of $0.03-2\,\mathrm{M}_{Moon}$, which potentially accumulated in this gravitational well.
Conclusions: The tentative detection of the co-orbital dust trap that we report requires additional observations to be confirmed. We predict that we could detect the co-orbital motion of PDS 70 b and the dust presumably associated with L_5 by observing again with the same sensitivity and angular resolution as early as February 2026.

Download/Website: `https://www.aanda.org/articles/aa/pdf/2023/07/aa46493-23.pdf`
Contact: `obalsalobre@cab.inta-csic.es`

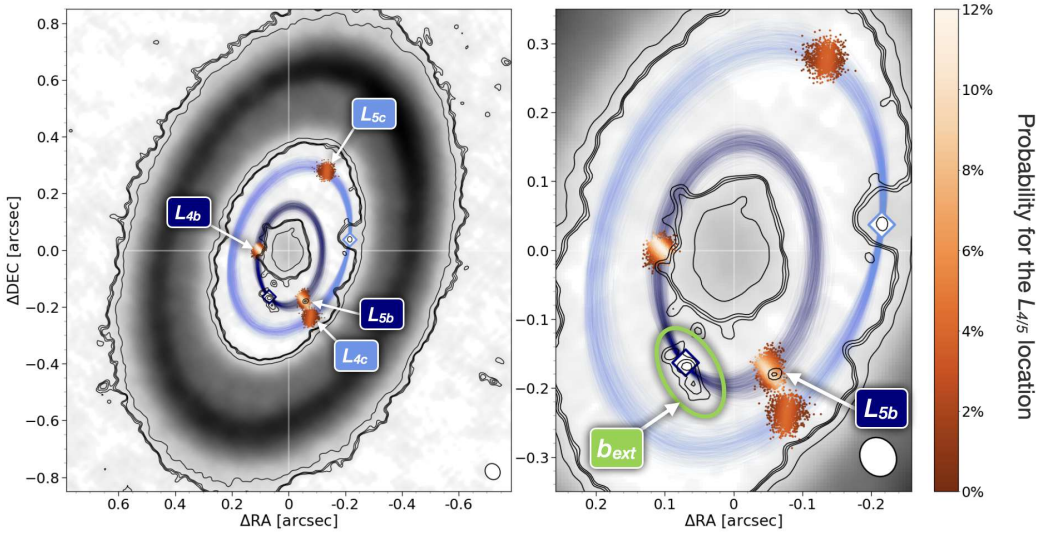

Figure 1: PDS 70 ALMA image with the projected planetary orbits and Lagrangian points (L_4 and L_5) distributions. Diamond-shaped markers indicate the planets locations. Contours correspond to 3, 3.5, 4, and 8-σ. *Left:* global picture of PDS 70. *Right:* zoom to the inner cavity. In this publication we report the tentative detection of the 4-σ emission falling in the orbital path of the inner planet and potentially trapped in its L_5 region.

An M dwarf accompanied by a close-in giant orbiter with SPECULOOS

Amaury H. M. J. Triaud, Georgina Dransfield, Taiki Kagetani, Mathilde Timmermans, Norio Narita, Khalid Barkaoui, Teruyuki Hirano, Benjamin V. Rackham, Mayuko Mori, Thomas Baycroft, Zouhair Benkhaldoun, Adam J. Burgasser, Douglas A. Caldwell, Karen A. Collins, Yasmin T. Davis, Laetitia Delrez, Brice-Oliver Demory, Elsa Ducrot, Akihiko Fukui, Clàudia Jano Muñoz, Emmanuël Jehin, Lionel J. García, Mourad Ghachoui, Michaël Gillon, Yilen Gómez Maqueo Chew, Matthew J. Hooton, Masahiro Ikoma, Kiyoe Kawauchi,Takayuki Kotani, Alan M. Levine, Enric Pallé, Peter P. Pedersen,Francisco J. Pozuelos, Didier Queloz, Owen J. Scutt, Sara Seager, Daniel Sebastian, Motohide Tamura, Samantha Thompson, Noriharu Watanabe, Julien de Wit, Joshua N. Winn and Sebastián Zúñiga-Fernández
SPECULOOS, MuSCAT3, IRD and TESS teams

MNRAS Letters, published (DOI:10.1093/mnrasl/slad097)

In the last decade, a dozen close-in giant planets have been discovered orbiting stars with spectral types ranging from M0 to M4, a mystery since known formation pathways do not predict the existence of such systems. Here, we confirm TOI-4860 b, a Jupiter-sized planet orbiting an M4.5 host, a star at the transition between fully and partially convective interiors. First identified with TESS data, we validate the transiting companion's planetary nature through multicolour photometry from the TRAPPIST-South/North, SPECULOOS, and MuSCAT3 facilities. Our analysis yields a radius of 0.76 ± 0.02 $\mathrm{R_{Jup}}$ for the planet, a mass of 0.34 $\mathrm{M_{\odot}}$ for the star, and an orbital period of 1.52 d. Using the newly commissioned SPIRIT InGaAs camera at the SPECULOOS-South Observatory, we collect infrared photometry in zYJ that spans the time of secondary eclipse. These observations do not detect a secondary eclipse, placing an upper limit on the brightness of the companion. The planetary nature of the companion is further confirmed through high-resolution spectroscopy obtained with the IRD spectrograph at Subaru Telescope, from which we measure a mass of 0.67 ± 0.14 $\mathrm{M_{Jup}}$. Based on its overall density, TOI-4860 b appears to be rich in heavy elements, like its host star.

Download/Website: `https://doi.org/10.1093/mnrasl/slad097`
Contact: `a.triaud@bham.ac.uk`

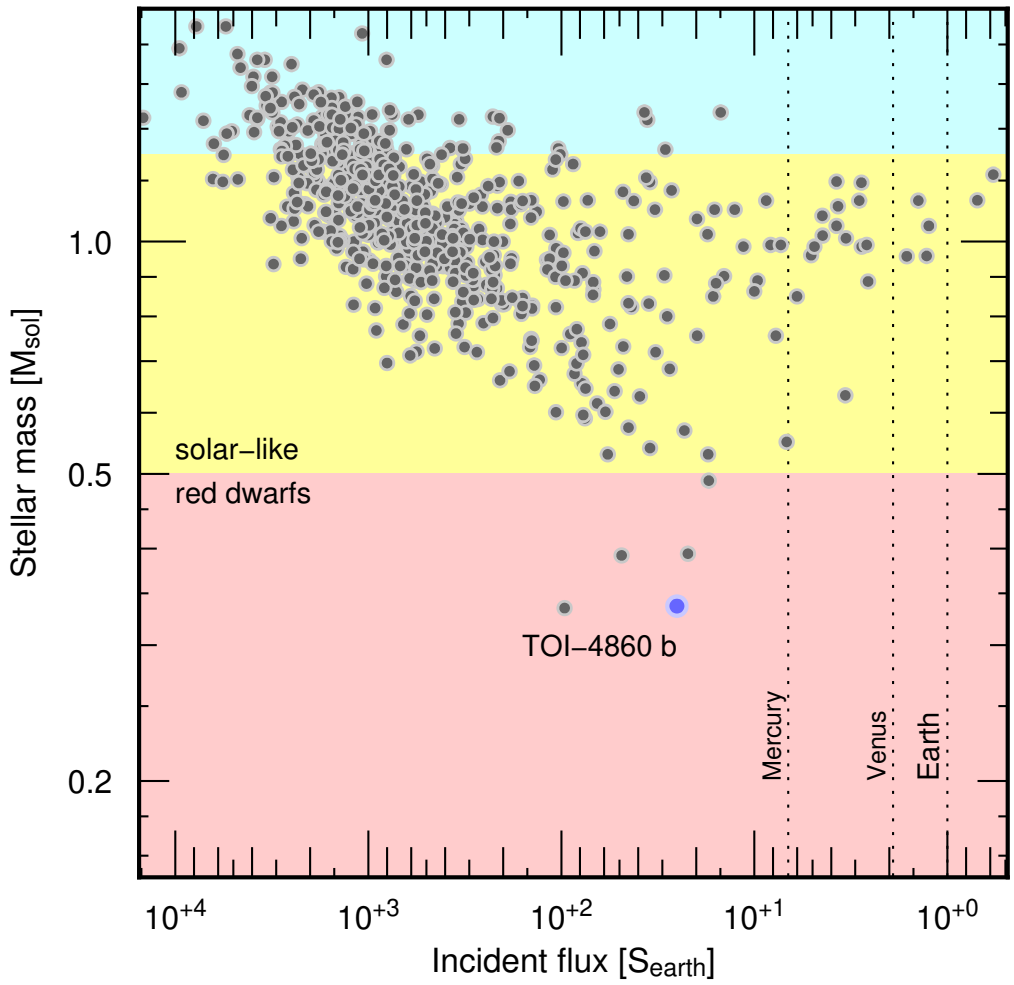

Figure 2: Positions of known transiting planets as a function of the mass of their host and the irradiation they receive. TOI-4860 is amongst the coldest known gas-giants, but it transits every 1.5 day, easing its orbital, physical and atmospheric characterisation.

Hunting for exoplanets via magnetic star-planet interactions: geometrical considerations for radio emission

R. D. Kavanagh[1,2]*, H. K. Vedantham*[1,3]

[1] ASTRON, The Netherlands Institute for Radio Astronomy, Oude Hogeveensedijk 4, 7991PD, Dwingeloo, the Netherlands
[2] Leiden Observatory, Leiden University, PO Box 9513, 2300 RA, Leiden, the Netherlands
[3] Kapteyn Astronomical Institute, University of Groningen, Landleven 12, NL-9747AD Groningen, the Netherlands

Monthly Notices of the Royal Astronomical Society, published (2023MNRAS.tmp.2100K)

Recent low-frequency radio observations suggest that some nearby M dwarfs could be interacting magnetically with undetected close-in planets, powering the emission via the electron cyclotron maser (ECM) instability. Confirmation of such a scenario could reveal the presence of close-in planets around M dwarfs, which are typically difficult to detect via other methods. ECM emission is beamed, and is generally only visible for brief windows depending on the underlying system geometry. Due to this, detection may be favoured at certain orbital phases, or from systems with specific geometric configurations. In this work, we develop a geometric model to explore these two ideas. Our model produces the visibility of the induced emission as a function of time, based on a set of key parameters that characterise magnetic star-planet interactions. Utilising our model, we find that the orbital phases where emission appears are highly dependent on the underlying parameters, and does not generally appear at the quadrature points in the orbit as is seen for the Jupiter-Io interaction. Then using non-informative priors on the system geometry, we show that untargeted radio surveys are biased towards detecting emission from systems with planets in near face-on orbits. While transiting exoplanets are still likely to be detectable, they are less likely to be seen than those in near face-on orbits. Our forward model serves to be a powerful tool for both interpreting and appropriately scheduling radio observations of exoplanetary systems, as well as inverting the system geometry from observations.

Download/Website: `https://arxiv.org/abs/2307.02555`

Contact: `kavanagh@astron.nl`

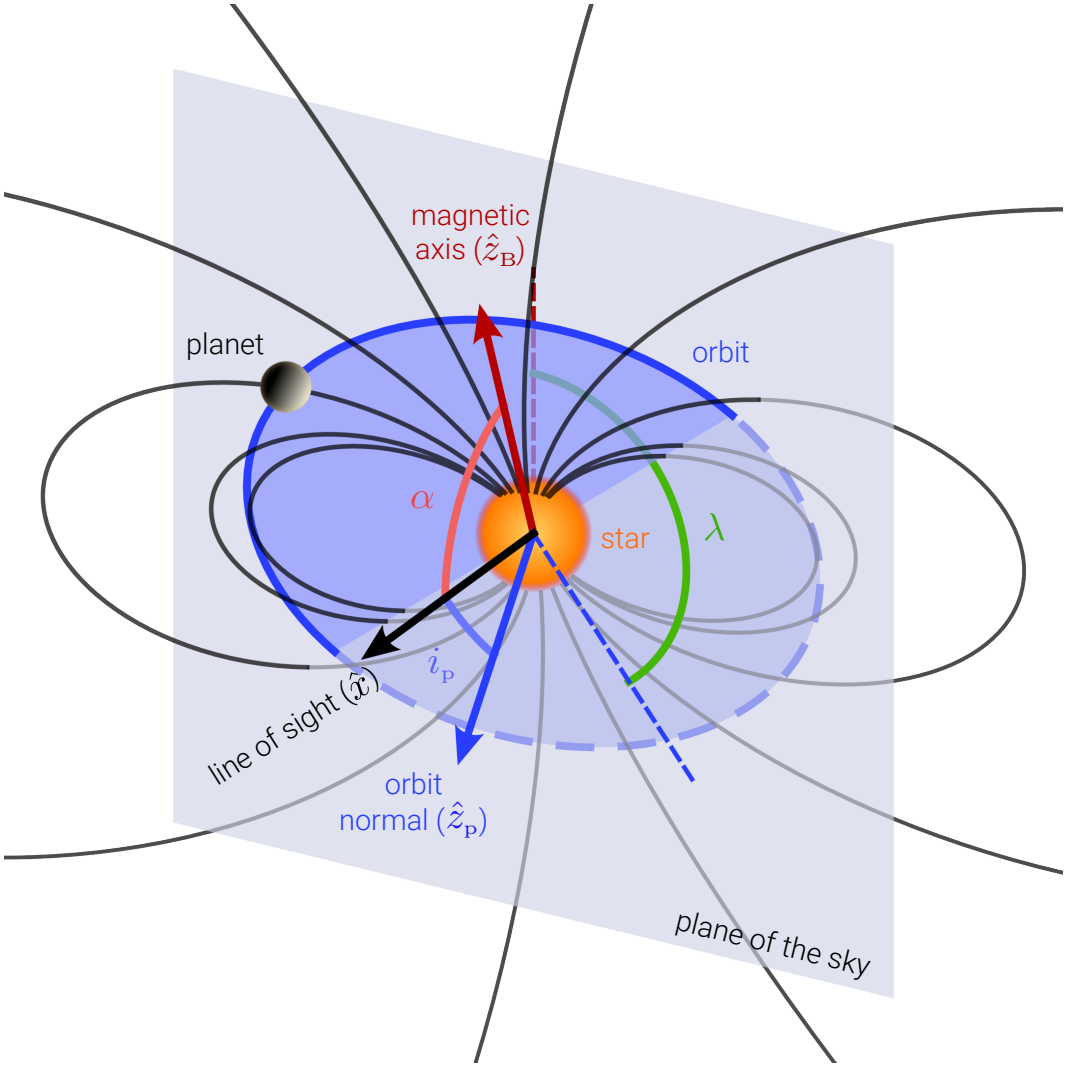

Figure 3: The configuration of exoplanetary systems that we are biased towards detecting at radio wavelengths. When a planet orbits in the magnetically-dominated region around the star, known as the sub-Alfvénic region, it can perturb the stellar magnetic field and produce radio emission via the electron cyclotron maser (ECM) instability. This emission occurs along the stellar magnetic field line connecting the planet to the stellar surface. ECM emission is beamed, propagating outwards from the magnetic field at the characteristic angle α. In this optimal configuration, the axis of the star's magnetic dipole is inclined relative to the line of sight by the angle α. When the planet orbits over the magnetic poles of the star in a near-face on configuration, the emission it induces on the star is visible to the observer for the majority of the planet's orbit. These systems are therefore more likely to be seen in blind radio surveys, such as those recently carried out with the LOFAR radio telescope. With orbital inclinations close to 0 degrees, these planets will be difficult to find through radial velocities. However, the astrometry method may prove to be very complementary in confirming the presence of these planets.

3 Jobs and Positions

PhD Position on Exoplanets Orbital Architectures and Evolution

Vincent Bourrier
Observatoire Astronomique de l'Université de Genève, Chemin Pegasi 51b, 1290 Versoix, Switzerland

University of Geneva, October 2023

Applications are invited for a research assistant (PhD student) position at the University of Geneva (Department of Astronomy), working with Profs. Vincent Bourrier and Christophe Lovis on the orbital architectures of close-in exoplanets.

Close-in exoplanets undergo complex atmospheric and dynamical processes, such as losing their atmosphere or migrating toward the star outside of their original orbital plane. Neptune-size planets appear to be particularly sensitive to these processes, as evidenced by the Neptunian desert (a lack of hot Neptunes at short orbital period) and savanna (a milder deficit of warm Neptunes at longer periods). These objects are thus ideal tracers to determine the relative roles of early disk-driven and late high-eccentricity migration, and their coupling with atmospheric erosion. These two migration pathways are expected to yield different obliquities (the angle between stellar spin and planetary orbital normal), and our team just obtained a large program on the ESPRESSO spectrograph (ESO VLT, Paranal, Chile), to carry out a census of close-in Neptune obliquities. This program will run over the coming two years, gathering high-resolution transit spectroscopy of 60 planets over the equivalent of 36 nights of observations. The PhD student will take a leading role in the acquisition, reduction, analysis, and interpretation of ESPRESSO spectra with the main goals of deriving the 3D orbital architecture of the systems and rewinding the history of close-in Neptunes. They will further have access to data from complementary ESPRESSO programs and from the new Near-InfraRed Planet Searcher (NIRPS) (ESO 3.6m telescope, La Silla, Chile). The PhD student will collaborate with local and international experts in transit photometry and stellar activity to exploit the data in the best possible way, and with experts in dynamics and planetary evolution to constrain formation and evolution models with the derived obliquity measurements. This project is expected to change dramatically our understanding of the Neptunian population, and to shed new light on the formation and evolution processes that shape exoplanets.

Setting: The Geneva Observatory offers one of the most vibrant environments worldwide for exoplanet research. The exoplanet team (www.exoplanets.ch) counts nearly 60 members, currently including 11 faculty members, 16 postdoctoral researchers, 16 PhD students, and 16 project staff members. Research topics include exoplanet detection and characterisation (atmospheres, interiors), planetary system dynamics, and instrumentation. Team members are directly involved in a large number of projects, including photometric instruments (CHEOPS, TESS, NGTS, PLATO), high-resolution spectrographs (ESPRESSO, NIRPS, HARPS, HARPS-N, and others), direct imaging (SPHERE) and astrometry (GAIA). The exoplanet team is also part of PlanetS (www.nccr-planets.ch), a Swiss research network focused on exoplanetary science, which includes 130 scientists from the Universities of Geneva, Bern, Zurich and ETH Zurich. The successful applicant will be able to take advantage of this unique collaborative framework, and to participate in observational runs. The University of Geneva is an equal opportunity employer committed to diversity in its workplace.

Start date: as soon as possible, but no later than December 2023.
Duration: This is a 4-year position.
Salary: 48,000 CHF/year gross salary, according to rules of the University and Canton of Geneva. This position is funded on the ERC project SPICE DUNE (SpectroPhotometric Inquiry of Close-in Exoplanets around the Desert to Understand their Nature and Evolution).
Deadline: Applications are requested before 1 September 2023. Later applications will be reviewed until the position is filled.

Requirements: A MSc degree in astronomy, astrophysics or related fields. Proficiency in Python, as well as background on exoplanets and high-resolution transit spectroscopy, are considered a plus. The successful applicant will become part of a large and active team with a wide range of expertises. Team playing abilities, dedication, and focus will be valued soft skills.

The following application materials should be sent as a single pdf file to vincent.bourrier@unige.ch

- A motivation letter including contact details, information on skills and previous experience, and contact information for 2 reference persons (maximum 1 page)
- A curriculum vitae (maximum 2 pages), including a list of publications (if applicable).
- Academic transcripts of master and bachelor grades

Two letters of recommendation should be sent directly to Prof. Bourrier by the referees themselves. It is the responsibility of the applicant to ensure that the letters are sent on due date.

Contact: `vincent.bourrier@unige.ch`

Tenure Track Assistant Professor Astronomy and Astrophysics

Kapteyn Astronomical Institute, University of Groningen, The Netherlands

deadline, 11:59PM, CEST, September 15, 2023

The Kapteyn Astronomical Institute of the University of Groningen invites applications for an Assistant Professor who will strategically strengthen our research in the field of exoplanets. The ideal candidate has a strong background in Planetary Atmosphere Sciences. As Assistant Professor you will develop your own research line/group, supervise PhD students, acquire external funding, teach and contribute to the organization of the faculty.

The mission of the Kapteyn Astronomical Institute is to perform front-line research in astronomy, astrophysics and related fields, aided by the proximity of NWO-institutes ASTRON and SRON and the NOVA labs, and to provide an excellent educational environment for both graduate and undergraduate studies. The University of Groningen is currently in or near the top 100 on several influential international ranking lists.

We encourage you to apply if you have a PhD degree in Astronomy or closely aligned field and at least two years of postdoctoral experience, a relevant international network, excellent research qualities and a good track record in teaching (appropriate for your career stage), organizational competences and cross-cultural sensitivity.

We offer a full-time position as Assistant Professor in our faculty's tenure track system Career Paths in Science and Engineering with a salary, depending on qualifications and work experience, from 3.974 Euro up to a maximum of 6.181 Euro gross per month (according to the CAO Dutch Universities). The position includes a pension scheme, paid maternity and parental leave and the possibility to work part-time (0,9 fte or 0,8 fte).

A complete application consists of a single pdf file including a cover letter in which you describe your motivation and qualifications for the position, a CV, including a list of your publications and a list with names of at least three references, a list of five self-selected 'best papers', a statement of your teaching goals and experience and a description of your scientific interest and plans. Please also arrange for three letters of reference to be sent directly to VacancyKapteynNW2@astro.rug.nl. The deadline for applications for this position is 11:59 pm CEST on September 15, 2023.

More details concerning the description of the position, working conditions, pre-requisites and how to apply can be found here (https://www.rug.nl/about-ug/work-with-us/job-opportunities/?details=00347-02S000AACP&cat=wp).

Download/Website: `https://www.rug.nl/research/kapteyn/vacatures/scientific-staff`

Contact: `For further inquiries about the position, please contact Prof. dr. I. Kamp, or Prof. dr. L.V.E. Koopmans via VacancyKapteynNW2@astro.rug.nl.`

Assistant Professor in stellar/exoplanetary astrophysics

Amaury Triaud, Guy Davies, Annelies Mortier & Bill Chaplin

Sun, Stars & Exoplanets Research Group, University of Birmingham, Deadline: 17 September 2023

The School of Physics and Astronomy at the University of Birmingham (UoB) seeks to appoint an Assistant Professor in stellar and/or exoplanetary astrophysics to work as part of the Sun, Stars & Exoplanets Research Group. We welcome applications from theoretical and observational researchers. The ideal candidate should conduct research that diversifies, but also complements, the current expertise of the Group. We welcome applications from all backgrounds to enrich the Group's internal culture and to create an environment representative of the wider public.

The Group is heavily involved in the upcoming PLATO mission, has had long-standing and leading involvement in the NASA Kepler and TESS missions, and operates a worldwide network of solar telescopes, the Birmingham Solar-Oscillations Network (BiSON). The group hosts a member of the HARPS3 and HARPS-N collaborations, operates a robotic 1-m optical telescope at Paranal Observatory as part of the SPECULOOS search for habitable Earth-like planets, and is a partner in ASTEP, a 40-cm telescope located within Antarctica. The group currently holds two ERC grants, a Leverhulme Trust grant, a UK Space Agency grant, and several STFC grants and projects. The Group benefits from recently renovated offices. The Group also performs a large range of outreach and public engagement activities with a current emphasis on children that are home-educated, children in schools in areas of high economic deprivation, and collaborations with artists.

The Group currently comprises Prof. Amaury Triaud (Head of Group), who focuses on exoplanet observations; Prof. Bill Chaplin (now Head of the School of Physics & Astronomy at Birmingham), an expert in asteroseismology and helioseismology; Dr Guy Davies, who applies machine learning and advanced statistical methods to asteroseismic and exoplanetary datasets; and Dr Annelies Mortier, an expert in solar/stellar activity and high-precision radial-velocity observations. In addition, the Group includes honorary Prof. Yvonne Elsworth (RAS gold medal in 2020), our BiSON Network Manager, one secretary, six postdoctoral researchers, and eight PhD students. Birmingham's School of Physics & Astronomy also has another research group focussing on Gravitational Wave Astronomy and extragalactic astrophysics, which has nine academics. Both groups interact closely. The School of Physics and Astronomy is a world-leading physics department, excelling in both research and teaching. Our physics research was recently ranked top in the UK for 4-star-category research, and 4th by GPA, by the Research Excellence Framework 2021.

The successful candidate will be expected to contribute teaching in our undergraduate degree programmes, and contribute towards the School's administrative activities. Applicants are expected to demonstrate academic citizenship, develop and maintain mutually respectful and supportive working relationships with staff and students, and ensure their role impacts positively on others.

We expect interviews to be held in person in Birmingham on 18 and 19 October.

For further information about this post, please contact: Professor Amaury Triaud (A.Triaud@bham.ac.uk), Dr Guy Davies (G.R.Davies@bham.ac.uk) and Dr Annelies Mortier (A.Mortier@bham.ac.uk).

Download/Website: `https://www.birmingham.ac.uk/sasp`

4 Conferences and Workshops

AGU 2023 Session P004: Atmospheres, Climate, and Potential Habitability of Rocky Exoplanets

Session Conveners: Lixiang Gu[1], Daniel Koll[1], Thaddeus Komacek[2], Laura Schaefer[3]

[1] Peking University, Beijing, China
[2] University of Maryland, College Park, USA
[3] Stanford University, Palo Alto, CA

San Francisco, CA, USA and Everywhere Online, December 11-15, 2023

Exoplanet discoveries of the past decade have shown that every star hosts at least 0.1-1 roughly Earth-sized, or rocky, planets. Our galaxy therefore contains billions of rocky worlds, vastly outnumbering the 4 rocky planets of our own Solar System. What are these worlds like?

This session invites submissions that probe the nature of rocky exoplanets, including: What can our Solar System teach us about rocky exoplanets? How different are atmospheres and climates on rocky planets around other stars, on rocky planets in exotic orbital states, or on rocky planets with radically different formation histories? How can we characterize such planets via observations? And could the processes that kept Earth habitable over billions of years also occur elsewhere?

Submissions that use observation, experiment, or theory are all welcome. The abstract link is below, and the abstract submission deadline is August 2, 2023.

Download/Website: `https://www.agu.org/Fall-Meeting/Pages/Present/Abstracts`

Contact: `tkomacek@umd.edu`

Habitability: The Astrophysical, Atmospheric, and Geophysical Implications

Nikolaos Georgakarakos[1], *Nader Haghighipour*[2,3], *Dimitri Veras*[4], *Rolf-Peter Kudritzki*[5]

[1] New York University, Abu Dhabi
[2] Planetary Science Institute, USA
[3] Institute for Astronomy, University of Hawaii, USA
[4] University of Warwick, UK
[5] MIAPbP, Garching, Germany

Dear colleagues,

It gives us the greatest pleasure to announce the 2024 planetary habitability program at the Munich Institute for Astro-, Particle, and Bio-Physics (MIAPbP). This four-week residential workshop aims to bring together scientists from all areas related to planetary habitability including stellar astrophysics, planetary science, planetary dynamics, atmospheric science, geology, and geophysics to discuss fundamental questions regarding the formation, characterization, and detection of habitable planets.

The main goal of the program is to facilitate interactions among participants and create an environment that would enable new collaborations and initiatives. The structure of the program is informal. Every participant will be given an office space and resources necessary to carry out research. While the focus is on interactions and collaborations, there will be daily gathering for discussing specific topics, presenting new results, and brain storming. There will also be ample time for independent research. For more details, please see the program website at

`https://www.munich-iapbp.de/habitability`

To attend, please apply using the program website. The program is open to scientists of all geographic areas and of all career levels including junior and early-career researchers, as well as advanced graduate students. We strongly encourage applications by female scientists, and scientists from minorities and underrepresented groups.

Financial support is available at the rate of EUR 80 per day for accommodation and local expenses. Additional financial support for attendees with family and children, and for graduate students is also available. Please see the details at

`https://www.munich-iapbp.de/for-visitors/financial-support`

The application deadline is September 24, 2023. When applying, please note that MIAPbP requires attendance for at least two weeks (10 working days).

Please share this announcement with your colleagues, students and postdocs, and encourage them to apply.

We look forward to receiving your applications.
Nikolaos Georgakarakos, Nader Haghighipour, Dimitri Veras, Rolf-Peter Kudritzki

Special note regarding participation of scientists from Russia:
Regretfully, due to the current regulations by the Deutsche Forschungsgemeinschaft, MIAPbP is unable to admit scientists from Russia as well as the nationals of other countries who are currently working in Russia or are employed by the Russian Federation. However, due to the temporary nature of the ban, we strongly encourage these scientists to submit applications before the deadline so that we can consider their participation should the ban be lifted prior to the start of the program.

COST Action CA22133 : The birth of solar systems

Catherine Walsh
University of Leeds, UK

CA22133, September 2023

I am pleased to announce the successful award of the COST Action CA22133, "The birth of solar systems". A COST Action is an interdisciplinary research network that enables researchers to interact and investigate a specific topic, in our case, planet formation (https://www.cost.eu/cost-actions/what-are-cost-actions/). The mission of this Action is to "Build an interdisciplinary network, with expertise in experimental studies, observations, and models, to advance our understanding of planet formation, by determining the computational and data needs of the community, and how to best exploit current and future observations." COST Actions provide funding over four years to fund meetings, training schools, attendance at conferences (to report research results under the remit of the Action), short-term scientific missions (to visit international collaborators or build new collaborations) and dissemination (e.g., publications) and public engagement material (https://www.cost.eu/what-do-we-fund/).

We aim to recruit researchers (both theorists and observers) working in the areas of protoplanetary disks, planet formation, habitability, and exoplanets (including studies of exoplanet host stars), as well as researchers working in laboratory experiments related to planet formation and habitability. COST Actions are fully open for anyone to join: the only requirement is that you are affiliated with a legal entity such as a university or scientific organisation. If you are based in a COST member state (https://www.cost.eu/about/members/), it is possible to apply for membership of the management committee to represent your country. We especially encourage applications from young researchers and innovators (< 40 years old) to join the management committee. Please contact your Country National Coordinator (CNC) who can guide through the nomination process: https://www.cost.eu/about/who-is-who/national-coordinators/

Applications to join the Action working groups (listed below) are also now open to all:

- WG1: Planet formation: laboratory perspectives
- WG2: Advancing planet formation models
- WG3: Planet formation theory confronts observations
- WG4: Emerging habitable environments
- WG5: Dissemination, public engagement, and outreach
- WG6: Training the next generation of researchers
- WG7: Towards the first database on planet-forming discs

We encourage everyone to join at least two working groups to have good linkage and coverage between and across the groups. You can apply at the COST Action webpage below: look for the "How can I participate?" information on the right-hand side. If you do not already have an eCOST profile you will need to first register.

For more information, please visit the Action page (link below), or you can contact me for any further information (address below).

Download/Website: *https://www.cost.eu/actions/CA22133/*

Contact: c.walsh1@leeds.ac.uk

5 Others

Announcement of Opportunity for Membership of the CHEOPS Science Team

European Space Agency (ESA)

Summary:
Dear colleagues,
With ESA's CHEOPS (Characterising Exoplanet Satellite) mission soon transitioning into its first extension (on 25 September 2023), ESA is looking to appoint up to five new members of the scientific community to the CHEOPS Science Team.
Please find below the official Letter of Invitation from ESA's Director of Science, which includes all important information and links.
I very much encourage all of you who are eligible and interested to contact us with any questions you might have, to forward this announcement to your colleagues, and to consider applying to this great opportunity.
Best regards
Dr. Maximilian N. Günther

Letter of Invitation from ESA's Director of Science:
On behalf of Prof. Carole Mundell, Director of Science
Ref.: ESA-SCI-DIR-LE-052
To: SPC, SSAC, Working Groups and Scientific Community
Dear Colleague,
I am pleased to invite you to respond to the "Announcement of Opportunity" for Membership of the CHEOPS Science Team.
The Announcement of Opportunity, containing the necessary information about the CHEOPS mission, the tasks of the Science Team, and the information needed by proposers, can be found at `http://cosmos.esa.int/web/cheops-swt-2023`
The Announcement of Opportunity will close on 4 September 2023 at 12:00 hrs (noon) CEST. Proposals must be submitted electronically to ESA as indicated at `http://cosmos.esa.int/web/cheops-swt-2023`
I would appreciate if you could circulate this Announcement to interested colleagues within your institute.
Yours sincerely,
Prof. Carole Mundell

More information:

Download/Website: *`https://cosmos.esa.int/web/cheops-swt-2023`*

Contact: `paul.mcnamara@esa.int, maximilian.guenther@esa.int`

6 Exoplanet Archives

July 2023 Updates at the NASA Exoplanet Archive

The NASA Exoplanet Archive team
Caltech/IPAC-NASA Exoplanet Science Institute, MC 100-22 Pasadena CA 91125

Pasadena CA USA, August 8, 2023

Note: Unless otherwise noted, all planetary and stellar data mentioned in the news are in the Planetary Systems Table, which provides a single location for all self-consistent planetary solutions, and its companion table the Planetary Systems Composite Parameters, which offers a more complete table of parameters combined from multiple references and calculations. Data may also be found in the (Microlensing Planets Table and the Direct Imaging Planets Table.

July 28, 2023

Thirteen New Planets, Including a Bloated Gas Giant and an Evaporating sub-Neptune

This week's 13 new planets include WASP-193 b, an extremely low-density super-Neptune, and HD 235088 b, a sub-Neptune so close to its star that the planet's atmosphere is evaporating.

The other new planets are HIP 81208 C b, TOI-615 b, TOI-622 b, TOI-1680 b, TOI-2084 b, TOI-2641 b, TOI-3785 b, TOI-3984 A b, TOI-4184 b, TOI-5293 A b, and MOA-2022-BLG-249L b.

July 18, 2023

A Better Way to Work With Spectra

We're happy to announce the beta release of the Atmospheric Spectroscopy Table. This new table offers an interactive and unified interface for browsing, visualizing, plotting, and downloading the archive's emission and transmission spectra.

The Atmospheric Spectroscopy Table replaces the archive's Emission and Transmission Spectroscopy tables, which are in the process of being retired. All of the data in the retired tables were transferred to the new table and newly ingested spectra will only be loaded into the new table.

In addition to providing a unified interface to browse, visualize, plot, and download all of the emission and transmission spectra in the NASA Exoplanet Archive, the table provides the following features:

- **Data points are now grouped into spectra files.** This presents the data in a format that is similar to how publications present them and will limit users from unknowingly mixing data sets.
- **Automatic unit conversion for transmission files.** The conversions from different units ensure that all of the spectra can be more easily compared. More information about how the archive calculates transmission parameters is given on the Transmission Spectroscopy Calculations page of the table's user guide, which can be accessed from the User Guide tab within the tool's interface.
- **Spectral data points plots.** When you select a spectrum, its data points are visualized in a plot displayed in the bottom pane.

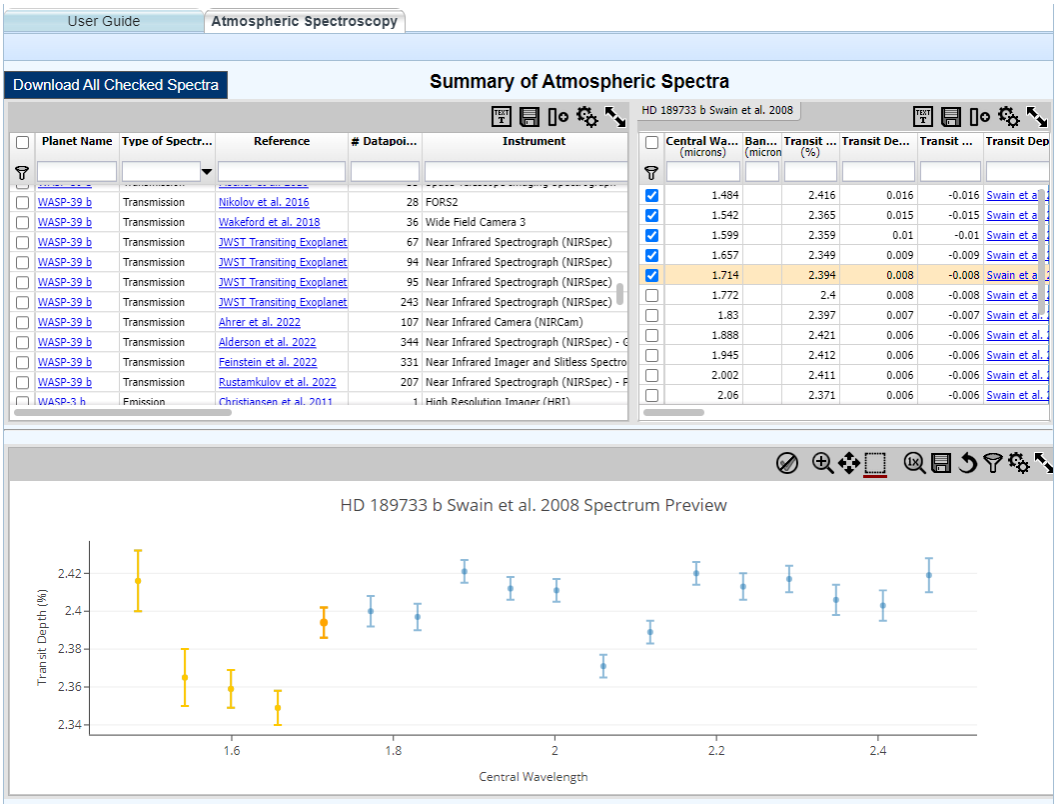

Figure 4: This screen capture shows the user interface of the NASA Exoplanet Archive's new Atmospheric Spectroscopy Table. The interface consists of three panes, with the largest pane at the bottom displaying a plot of the transmission spectrum data highlighted in the two upper panes. The table enables users to review, compare, and analyze transmission and emission spectroscopy data from various space telescopes, including NASA's James Webb and Spitzer Space Telescopes.

The Atmospheric Spectroscopy Table is currently in BETA and we welcome feedback on its features, performance, and availability of data. Please provide any questions, suggestions, or feedback through the Exoplanet Archive Helpdesk.

July 12, 2023

Seven New Planets

This week's update of seven new planets brings the archive's confirmed planet count to **5,470**. The planets are HD 22946 d, HD 307842 b, rho CrB d & e, TOI-908 b, TOI-1634 c, and WASP-84 c.

Download/Website: `https://exoplanetarchive.ipac.caltech.edu`

Contact: `mharbut@caltech.edu`

7 As seen on astro-ph

The following list contains exoplanet related entries appearing on astro-ph in July 2023.
Disclaimer: The hyperlinks to the astro-ph articles are provided for the convenience of the reader, but the ExoPlanet News cannot be responsible for their accuracy and perpetuity.

July 2023

astro-ph/2307.00292: **Dumbbell dynamics: a didactical approach** *by Benedetto Scoppola, Matteo Veglianti*
astro-ph/2307.00538: **Search for planets in hot Jupiter systems with multi-sector TESS photometry. III. A study of ten systems enhanced with new ground-based photometry** *by G. Maciejewski et al.*
astro-ph/2307.00641: **Condensation in Dust-Enriched Systems** *by Denton S. Ebel, Lawrence Grossman*
astro-ph/2307.00643: **Experimental Investigation of Condensation Predictions for Dust-Enriched Systems** *by Gokce Ustunisik et al.*
astro-ph/2307.00669: **Spitzer thermal phase curve of WASP-121 b** *by Giuseppe Morello et al.*
astro-ph/2307.01376: **Particle acceleration by magnetic reconnection in geospace** *by Mitsuo Oka et al.*
astro-ph/2307.01279: **The ChromaStar+ modelling suite and the VALD line list** *by C. Ian Short*
astro-ph/2307.01262: **Eccentric debris disc morphologies II: Surface brightness variations from overlapping orbits in narrow eccentric discs** *by Joshua B. Lovell, Elliot M. Lynch*
astro-ph/2307.01249: **An inflationary disk phase to explain extended protoplanetary dust disks** *by Raphael Marschall, Alessandro Morbidelli*
astro-ph/2307.01195: **An imaged 15Mjup companion within a hierarchical quadruple system** *by A. Chomez et al.*
astro-ph/2307.01025: **Geometric distortion and astrometric calibration of the JWST MIRI Medium Resolution Spectrometer** *by P. Patapis et al.*
astro-ph/2307.00967: **DREAM: III.A helium survey in exoplanets on the edge of the hot Neptune desert with GIANO-B@TNG** *by G. Guilluy et al.*
astro-ph/2307.00935: **Examining NHD vs QHD in the GCM THOR with non-grey radiative transfer for the hot Jupiter regime** *by Pascal A. Noti et al.*
astro-ph/2307.00914: **Revisiting equilibrium condensation and rocky planet compositions: Introducing the ECCOplanets code** *by Anina Timmermann et al.*
astro-ph/2307.00753: **KMT-2022-BLG-0475Lb and KMT-2022-BLG-1480Lb: Microlensing ice giants detected via non-caustic-crossing channel** *by Cheongho Han et al.*
astro-ph/2307.01136: **Living With a Red Dwarf: The Rotation-Age Relationship of M Dwarfs** *by Scott G. Engle, Edward F. Guinan*
astro-ph/2307.01789: **The Effect of Dust Evolution and Traps on Inner Disk Water Enrichment** *by Anusha Kalyaan et al.*
astro-ph/2307.01935: **Relative Equilibria of Dumbbells Orbiting in a Planar Newtonian Gravitational System** *by Jodin Morey*
astro-ph/2307.02555: **Hunting for exoplanets via magnetic star-planet interactions: geometrical considerations for radio emission** *by Robert D. Kavanagh, Harish K. Vedantham*
astro-ph/2307.02657: **DiskMINT: A Tool to Estimate Disk Masses with CO Isotopologues** *by Dingshan Deng et al.*
astro-ph/2307.02268: **Modelling dynamically driven global cloud formation microphysics in the HAT-P-1b atmosphere** *by Elspeth K. H. Lee*
astro-ph/2307.02566: **Planetary evolution with atmospheric photoevaporation II: Fitting the slope of the radius valley by combining boil-off and XUV-driven escape** *by Lukas Affolter et al.*
astro-ph/2307.01983: **Analogous response of temperate terrestrial exoplanets and Earth's climate dynamics to greenhouse gas supplement** *by Assaf Hochman et al.*

astro-ph/2307.02014: **Properties of Original Impactors Estimated from Three-Dimensional Analysis of Whole Stardust Tracks** *by Michael Greenberg, Denton S. Ebel*

astro-ph/2307.02704: **Large Myr-old Disks are Not Severely Depleted of gas-phase CO or carbon** *by Ilaria Pascucci et al.*

astro-ph/2307.02789: **Photometric observations of flares on AD Leo from GWAC-F30 and TESS** *by Jian-Ying Bai et al.*

astro-ph/2307.02970: **HST/WFC3 Light Curve Confirms the Closest Exoplanet to Transit an M Dwarf is Terrestrial** *by Emily K Pass et al.*

astro-ph/2307.03058: **Hydrodynamic atmospheric escape in HD 189733 b: Signatures of carbon and hydrogen measured with the Hubble Space Telescope** *by Leonardo A. Dos Santos et al.*

astro-ph/2307.03221: **Astrometry with Extended-Path Intensity Correlation** *by Ken Van Tilburg et al.*

astro-ph/2307.03583: **Relationship between the moment of inertia and the k_2 Love number of fluid extra-solar planets** *by Anastasia Consorzi et al.*

astro-ph/2307.03676: **A Local Model for the Spherical Collapse/Expansion Problem** *by Elliot M. Lynch, Guillaume Laibe*

astro-ph/2307.03846: **JWST reveals excess cool water near the snowline in compact disks, consistent with pebble drift** *by Andrea Banzatti et al.*

astro-ph/2307.04021: **Direct images and spectroscopy of a giant protoplanet driving spiral arms in MWC 758** *by Kevin Wagner et al.*

astro-ph/2307.05580: **Homogeneous search for helium in the atmosphere of 11 gas giant exoplanets with SPIRou** *by R. Allart et al.*

astro-ph/2307.04598: **Dynamic regimes in planetary cores: $\tau - \ell$ diagrams** *by Henri-Claude Nataf, Nathanaël Schaeffer*

astro-ph/2307.04785: **Empirically Constraining the Spectra of a Stars Heterogeneities From Its Rotation Lightcurve** *by David Berardo et al.*

astro-ph/2307.04848: **Masses and densities of dwarf planet satellites measured with ALMA** *by Michael E. Brown, Bryan J. Butler*

astro-ph/2307.04921: **Brown dwarf companions in binaries detected from the 2021 season high-cadence microlensing surveys** *by Cheongho Han et al.*

astro-ph/2307.04931: **Modelling the effect of 3D temperature and chemistry on the cross-correlation signal of transiting ultra-hot Jupiters: A study of 5 chemical species on WASP-76b** *by Joost P. Wardenier et al.*

astro-ph/2307.05836: **A sub-Saturn Mass-Radius Desert for Planets with Equilibrium Temperature Less than 600 K** *by David G. Russell*

astro-ph/2307.05683: **WHFast512: A symplectic N-body integrator for planetary systems optimized with AVX512 instructions** *by Pejvak Javaheri et al.*

astro-ph/2307.05664: **TESS Stellar Rotation up to 80 days in the Southern Continuous Viewing Zone** *by Zachary R. Claytor et al.*

astro-ph/2307.05230: **Accreting luminous low-mass planets escape from migration traps at pressure bumps** *by O. Chrenko, R. O. Chametla*

astro-ph/2307.05368: **TESS discovery of a super-Earth orbiting the M dwarf star TOI-1680** *by M. Ghachoui et al.*

astro-ph/2307.05666: **JASMINE: Near-Infrared Astrometry and Time Series Photometry Science** *by Daisuke Kawata et al.*

astro-ph/2307.04975: **Exoplanets Around Red Giants: Distribution and Habitability** *by Ruixuan E. Chen et al.*

astro-ph/2307.05191: **Confirmation of an He I evaporating atmosphere around the 650-Myr-old sub-Neptune HD235088 b (TOI-1430 b) with CARMENES** *by J. Orell-Miquel et al.*

astro-ph/2307.04989: **Composition constraints of the TRAPPIST-1 planets from their formation** *by Anna C. Childs et al.*

astro-ph/2307.06356: **Transmission spectroscopy of the lowest-density gas giant: metals and a potential ex-**

tended outflow in HAT-P-67b *by Aaron Bello-Arufe et al.*

astro-ph/2307.06280: **Can the orbital distribution of Neptune's 3:2 mean motion resonance result from stability sculpting?** *by Sricharan Balaji et al.*

astro-ph/2307.06242: **ExoGemS Detection of a Metal Hydride in an Exoplanet Atmosphere** *by Laura Flagg et al.*

astro-ph/2307.06171: **exoMMR: a New Python Package to Confirm and Characterize Mean Motion Resonances** *by Mariah G. MacDonald et al.*

astro-ph/2307.06085: **Investigating the visible phase-curve variability of 55 Cnc e** *by E. A. Meier Valdés et al.*

astro-ph/2307.06070: **Exponential distance relation (aka Titius-Bode law) in extra solar planetary systems** *by Dimitrios Krommydas, Fabio Scardigli*

astro-ph/2307.05907: **An Alternative Formation Scenario for Uranium-rich Giants: Engulfing a Earth-like Planet** *by Dian Xie et al.*

astro-ph/2307.06880: **TOI-4201: An Early M-dwarf Hosting a Massive Transiting Jupiter Stretching Theories of Core-Accretion** *by Megan Delamer et al.*

astro-ph/2307.06986: **Predicting convective blueshift and radial-velocity dispersion due to granulation for FGK stars** *by S. Dalal et al.*

astro-ph/2307.09301: **MINDS. Abundant water and varying C/O across the disk of Sz 98 as seen by JWST/MIRI** *by Danny Gasman et al.*

astro-ph/2307.07070: **Accurate and efficient photo-eccentric transit modeling** *by Mason G. MacDougall et al.*

astro-ph/2307.07530: **DMPP-4: Candidate sub-Neptune mass planets orbiting a naked-eye star** *by J. R. Barnes et al.*

astro-ph/2307.06809: **TOI 4201 b and TOI 5344 b: Discovery of Two Transiting Giant Planets Around M Dwarf Stars and Revised Parameters for Three Others** *by J. D. Hartman et al.*

astro-ph/2307.07329: **A massive hot Jupiter orbiting a metal-rich early-M star discovered in the TESS full frame images** *by Tianjun Gan et al.*

astro-ph/2307.07416: **Azimuthal temperature variations in ISO-Oph2 from multi-frequency ALMA observations** *by Simon Casassus et al.*

astro-ph/2307.09577: **Atmospheric composition of WASP-85Ab with ESPRESSO/VLT observations** *by Zewen Jiang et al.*

astro-ph/2307.06509: **Information Gain as a Tool for Assessing Biosignature Missions** *by Benjamin Fields et al.*

astro-ph/2307.06508: **Where are the Water Worlds?: Self-Consistent Models of Water-Rich Exoplanet Atmospheres** *by Eliza M. -R. Kempton et al.*

astro-ph/2307.09601: **Modelling reflected polarised light from close-in giant exoplanet WASP-96b using PolHEx (Polarisation of Hot Exoplanets)** *by Katy L. Chubb et al.*

astro-ph/2307.07600: **How large is a disk – what do protoplanetary disk gas sizes really mean?** *by Leon Trapman et al.*

astro-ph/2307.07598: **Orbital alignment of the eccentric warm Jupiter TOI-677 b** *by Elyar Sedaghati et al.*

astro-ph/2307.07211: **Pyxis: A ground-based demonstrator for formation-flying optical interferometry** *by Jonah T. Hansen et al.*

astro-ph/2307.08148: **Another look at the dayside spectra of WASP-43b and HD 209458b: are there scattering clouds?** *by Jake Taylor, Vivien Parmentier*

astro-ph/2307.08350: **WASP-193b: An extremely low-density super-Neptune** *by Khalid Barkaoui et al.*

astro-ph/2307.08653: **The GAPS program at TNG XLVII: The unusual formation history of V1298 Tau** *by D. Turrini et al.*

astro-ph/2307.08704: **Chemical footprints of giant planet formation. Role of planet accretion in shaping the C/O ratio of protoplanetary disks** *by Haochang Jiang et al.*

astro-ph/2307.08752: **A Re-Appraisal of CO/O_2 Runaway on Habitable Planets Orbiting Low-Mass Stars** *by Sukrit Ranjan et al.*

astro-ph/2307.08770: **Tidal excitation of the obliquity of Earth-like planets in the habitable zone of M-dwarf**

stars *by Ema F. S. Valente, Alexandre C. M. Correia*

astro-ph/2307.09559: **The modulation effect of ice thickness variations on convection in icy ocean worlds** *by Wanying Kang*

astro-ph/2307.09515: **Detection of an Atmospheric Outflow from the Young Hot Saturn TOI-1268b** *by Jorge Pérez González et al.*

astro-ph/2307.09181: **Company for the ultra-high density, ultra-short period sub-Earth GJ 367 b: discovery of two additional low-mass planets at 11.5 and 34 days** *by Elisa Goffo et al.*

astro-ph/2307.08959: **A Large and Variable Leading Tail of Helium in a Hot Saturn Undergoing Runaway Inflation** *by Michael Gully-Santiago et al.*

astro-ph/2307.08952: **Early Planet Formation in Embedded Disks (eDisk) V: Possible Annular Substructure in a Circumstellar Disk in the Ced110 IRS4 System** *by Jinshi Sai et al.*

astro-ph/2307.09712: **Planetesimal Accretion at Short Orbital Periods** *by Spencer C. Wallace, Thomas R. Quinn*

astro-ph/2307.09838: **High pressure-temperature phase diagram of ammonia hemihydrate** *by L. Andriambariarijaona et al.*

astro-ph/2307.11150: **Constraining turbulence in protoplanetary discs using the gap contrast: an application to the DSHARP sample** *by E. Pizzati et al.*

astro-ph/2307.11188: **Azimuthal patterns in planetesimal circumstellar disks** *by Tatiana V. Demidova, Ivan I. Shevchenko*

astro-ph/2307.11172: **Do all gaps in protoplanetary discs host planets?** *by Anastasia Tzouvanou et al.*

astro-ph/2307.11147: **Isotopic enrichment of planetary systems from Asymptotic Giant Branch stars** *by Richard J. Parker, Christina Schoettler*

astro-ph/2307.11021: **Sweeping Secular Resonances and Giant Planet Inclinations in Transition Discs** *by J. J. Zanazzi, Eugene Chiang*

astro-ph/2307.10881: **A Circular Restricted n-body Problem** *by Rodolfo Batista Negri, Antonio Fernando Bertachini de Almeida Prado*

astro-ph/2307.10798: **Radio multiwavelength analysis of the compact disk CX Tau: strong free-free variability or anomalous microwave emission?** *by Pietro Curone et al.*

astro-ph/2307.10766: **Large-scale structures in the stellar wind of fast-rotating stars spawned by the presence of Earth-like planets** *by Ada Canet, Ana I. Gómez De Castro*

astro-ph/2307.10931: **Haze optical depth in exoplanet atmospheres varies with rotation rate: Implications for observations** *by Maureen Cohen et al.*

astro-ph/2307.11847: **The influence of a static planetary atmosphere on spin transfer during pebble accretion** *by M. J. Yzer et al.*

astro-ph/2307.11817: **The diverse chemistry of protoplanetary disks as revealed by JWST** *by Ewine F. van Dishoeck et al.*

astro-ph/2307.11569: **Characterizing planetary systems with SPIRou: M-dwarf planet-search survey and the multiplanet systems GJ 876 and GJ 1148** *by C. Moutou et al.*

astro-ph/2307.11627: **Retrieval of the dayside atmosphere of WASP-43b with CRIRES+** *by F. Lesjak et al.*

astro-ph/2307.11442: **Age distribution of exoplanet host stars: Chemical and Kinematics age proxies from GAIA DR3** *by C. Swastik et al.*

astro-ph/2307.11566: **Discovery and characterisation of two Neptune-mass planets orbiting HD 212729 with TESS** *by David J. Armstrong et al.*

astro-ph/2307.12163: **Estimating the number of planets that PLATO can detect** *by F. Matuszewski et al.*

astro-ph/2307.12040: **Water in the terrestrial planet-forming zone of the PDS 70 disk** *by G. Perotti et al.*

astro-ph/2307.12013: **The Tianlin Mission: a 6m UV/Opt/IR space telescope to explore the habitable worlds and the universe** *by Wei Wang et al.*

astro-ph/2307.12330: **The chemical evolution of the solar neighbourhood for planet-hosting stars** *by Marco Pignatari et al.*

astro-ph/2307.12403: **Stable fiber-illumination for extremely precise radial velocities with NEID** *by Shubham*

Kanodia et al.

astro-ph/2307.12411: **Chasing Nomadic Worlds: A New Class of Deep Space Missions** *by Manasvi Lingam et al.*

astro-ph/2307.13074: **Constraints on Tidal Quality Factor in Kepler Eclipsing Binaries using Tidal Synchronization: A Frequency-Dependent Approach** *by Ruskin Patel et al.*

astro-ph/2307.13034: **A Comparison of the Composition of Planets in Single- and Multi-Planet Systems Orbiting M dwarfs** *by Romy Rodríguez Martínez et al.*

astro-ph/2307.13029: **Ro-vibrational Spectroscopy of CI Tau – Evidence of a Multi-Component Eccentric Disk Induced by a Planet** *by Janus Kozdon et al.*

astro-ph/2307.12811: **Tentative co-orbital submillimeter emission within the Lagrangian region L5 of the protoplanet PDS 70 b** *by Olga Balsalobre-Ruza et al.*

astro-ph/2307.12782: **Giant Impact Events for Protoplanets: Energetics of Atmospheric Erosion by Head-on Collision** *by Kenji Kurosaki, Shu-ichiro Inutsuka*

astro-ph/2307.12969: **Multistability and Gibbs entropy in the planar dissipative spin-orbit problem** *by Vitor M. de Oliveira*

astro-ph/2307.13853: **Assessing the Accuracy of TESS Asteroseismology with APOGEE** *by Artemis Theano Theodoridis, Jamie Tayar*

astro-ph/2307.13726: **Fizzy Super-Earths: Impacts of Magma Composition on the Bulk Density and Structure of Lava Worlds** *by Kiersten M. Boley et al.*

astro-ph/2307.13722: **Formation of a wide-orbit giant planet in a gravitationally unstable subsolar-metallicity protoplanetary disc** *by Ryoki Matsukoba et al.*

astro-ph/2307.13857: **Modeling the Chromosphere and Transition Region of Planet-hosting Star GJ 436** *by Dominik Hintz et al.*

astro-ph/2307.13622: **Revised orbits of the two nearest Jupiters** *by Fabo Feng et al.*

astro-ph/2307.13433: **Spirals and clumps in V960 Mon: signs of planet formation via gravitational instability around an FU Ori star?** *by P. Weber et al.*

astro-ph/2307.13359: **Systematic KMTNet Planetary Anomaly Search. X. Complete Sample of 2017 Prime-Field Planets** *by Yoon-Hyun Ryu et al.*

astro-ph/2307.14526: **Dust enrichment and grain growth in a smooth disk around the DG Tau protostar revealed by ALMA triple bands frequency observations** *by Satoshi Ohashi et al.*

astro-ph/2307.14309: **Can Cold Jupiters Sculpt the Edge-of-the-Multis?** *by Nicole Sobski, Sarah C. Millholland*

astro-ph/2307.14274: **OGLE-2019-BLG-0825: Constraints on the Source System and Effect on Binary-lens Parameters arising from a Five Day Xallarap Effect in a Candidate Planetary Microlensing Event** *by Yuki K. Satoh et al.*

astro-ph/2307.14399: **Probing reflection from aerosols with the near-infrared dayside spectrum of WASP-80b** *by Bob Jacobs et al.*

astro-ph/2307.14027: **Long-Term Dynamics of Planetesimals in Planetary Chaotic Zones** *by Tatiana Demidova, Ivan Shevchenko*

astro-ph/2307.14947: **First on-sky results of a FIOS prototype, a Fabry Perot Based Instrument for Oxygen Searches** *by Surangkhana Rukdee et al.*

astro-ph/2307.15137: **Chasing rainbows and ocean glints: Inner working angle constraints for the Habitable Worlds Observatory** *by Sophia R. Vaughan et al.*

astro-ph/2307.15024: **The Variable Detection of Atmospheric Escape around the young, Hot Neptune AU Mic b** *by Keighley E. Rockcliffe et al.*

astro-ph/2307.14674: **Rocky sub-Neptunes formed by pebble accretion: Rain of rocks from polluted envelopes** *by Allona Vazan, Chris W. Ormel*

astro-ph/2307.14908: **On the survivability of a population of gas giant planets on wide orbits** *by Ethan Carter, Dimitris Stamatellos*

astro-ph/2307.15329: **Rapid Formation of Gas-giant Planets via Collisional Coagulation from Dust Grains to**

Planetary Cores. II. Dependence on Pebble Bulk Density and Disk Temperature *by Hiroshi Kobayashi, Hidekazu Tanaka*

astro-ph/2307.15544: **Effect of Dust Evaporation and Thermal Instability on Temperature Distribution in a Protoplanetary Disk** *by Ya. N. Pavlyuchenkov et al.*

astro-ph/2307.15562: **The Space Experiment of the Exo-ecosystem** *by Zhu Liu et al.*

astro-ph/2307.15729: **A transiting brown dwarf in a 2 hour orbit** *by Kareem El-Badry et al.*

astro-ph/2307.15897: **Long-period radial velocity variations of nine M red giants: The detection of sub-stellar companions around HD 6860 and HD 112300** *by Byeong-Cheol Lee et al.*

astro-ph/2307.15961: **Spacecraft VLBI tracking to enhance stellar occultations astrometry of planetary satellites** *by M. Fayolle et al.*

astro-ph/2307.15875: **Enhanced Size Uniformity for Near-Resonant Planets** *by Armaan V. Goyal et al.*

astro-ph/2307.16277: **Comparative Study of Planetary Atmospheres and Implications for Atmospheric Entry Missions** *by Athul Pradeepkumar Girija*

astro-ph/2307.16729: **The Chemical Inventory of the Inner Regions of Planet-forming Disks – The JWST/MINDS Program** *by Inga Kamp et al.*

astro-ph/2307.16738: **ExoGemS High-Resolution Transmission Spectroscopy of WASP-76b with GRACES** *by Emily K. Deibert et al.*

astro-ph/2307.16774: **Protostellar Disks Fed By Dense Collapsing Gravo-Magneto-Sheetlets** *by Yisheng Tu et al.*

astro-ph/2307.16872: **The Rapid Imaging Planetary Spectrograph** *by Patrick Lierle et al.*