ExoPlanet News
An Electronic Newsletter

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Contents

1 Editorial

Welcome to Edition 189 of 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 next month, we look forward to continuing receiving your submissions of paper abstracts, job ads, or meeting announcements. Special announcements are also 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 (`https://nccr-planets.ch/exoplanetnews/`).

The next issue will appear on Tuesday, April 8th (with a submission deadline ending on Sun April 6th, 2025 CEST).

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

Daniel Angerhausen
Haiyang Wang
Jeanne Davoult
Leander Schlarmann
Timm-Emanuel Riesen

2 Abstracts of refereed papers

The GAPS Programme at TNG LXVII. Detection of water and preliminary characterisation of the atmospheres of the two hot Jupiters KELT-8 b and KELT-23 Ab

M. Basilicata[1,2], P. Giacobbe[2], M. Brogi[3,2], F. Amadori[2], E. Pacetti[4], M. Baratella[5], A. S. Bonomo[2], K. Biazzo[6], D. Turrini[2], L. Mancini[1,2,7], A. Sozzetti[2], G. Andreuzzi[8,6], W. Boschin[8,9,10], L. Cabona[11], S. Colombo[12], M. C. D'Arpa[12,13], G. Guilluy[2], A. F. Lanza[14], L. Malavolta[15,16], F. Manni[1,2], L. Naponiello[2], M. Pinamonti[2], L. Pino[17], D. Sicilia[14], T. Zingales[15,16].

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Astronomy & Astrophysics, in press (arXiv:2502.05056)

Hot Jupiters are among the most suitable targets for atmospheric studies. Expanding the number of hot gaseous giant planets with atmospheric characterisation can improve our understanding of the chemical-physical properties of their atmospheres as well as the formation and evolution of these extreme planets. In this work, we use high-resolution spectroscopy in the near-infrared (NIR) to search for chemical signatures in the atmosphere of the two hot Jupiters KELT-8 b (equilibrium temperature $T_{\rm eq} = 1\,675^{+61}_{-55}$ K) and KELT-23 Ab ($T_{\rm eq} = 1\,561 \pm 20$ K), and perform a first characterisation of their atmospheric properties. We measured the transmission spectrum of each target with the NIR high-resolution spectrograph GIANO-B at the TNG. We searched for atmospheric signals by cross-correlating the data with synthetic transmission spectra. In order to characterise the chemical-physical properties of the atmosphere of both planets, we ran two different atmospheric retrievals for each dataset: a retrieval assuming chemical equilibrium and a "free-chemistry" retrieval, in which the abundance of each molecule could vary freely. We detect water vapour (H_2O) in both the atmospheres of KELT-8 b and KELT-23 Ab with an S/N = 6.6 and S/N = 4.2, respectively. The two retrievals indicate a water-rich atmosphere for both targets. In the case of KELT-8 b, we determine a water volume mixing ratio of $\log_{10}(\mathrm{VMR}_{\mathrm{H_2O}}) = -2.07^{+0.53}_{-0.72}$, a metallicity [M/H] $= 0.77^{+0.61}_{-0.89}$ dex, and a sub-solar C/O ratio (C/O ≤ 0.30, at $2\,\sigma$). For KELT-23 Ab, we find $\log_{10}(\mathrm{VMR}_{\mathrm{H_2O}}) = -2.26^{+0.75}_{-1.24}$, [M/H] $= -0.42^{+1.56}_{-1.35}$ dex, and a C/O ratio ≤ 0.78 (at $2\,\sigma$). The constraints on the metallicity and C/O ratio are based on the assumption of chemical equilibrium. Comparing these atmospheric chemical properties with those of the host stars, we suggest that, for both planets, the accretion of gaseous material occurred within the H_2O snowline in a pebble-rich disk enriched in oxygen due to sublimation of water ice from the inward-drifting pebbles. In conclusion, we investigated the atmospheres of KELT-8 b and KELT-23 Ab for the first time, finding water vapour in both of them and placing first constraints on their properties. These two planets are promising targets for future high- and low-resolution observations.

Download/Website: `https://arxiv.org/abs/2502.05056`

Contact: `mario.basilicata@inaf.it`

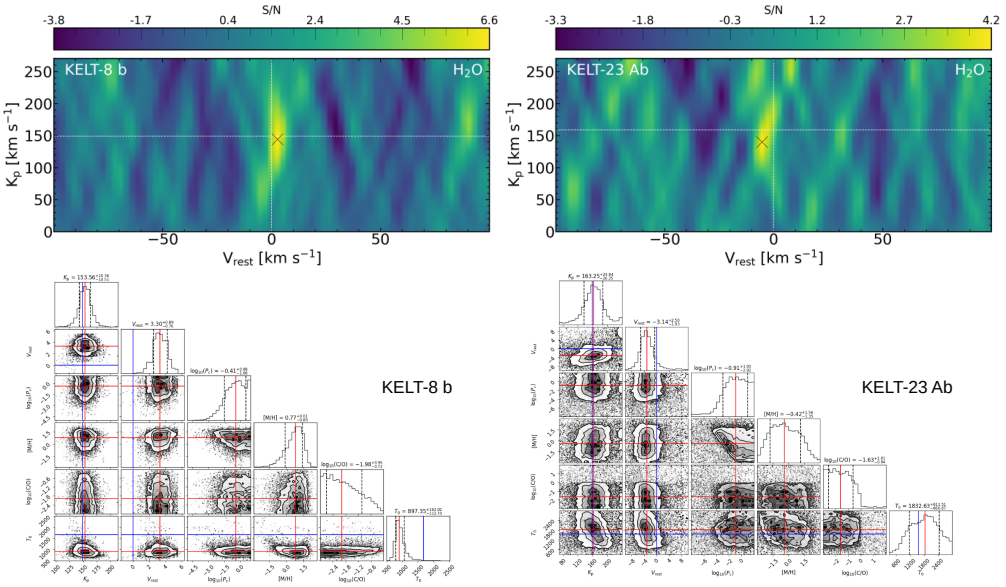

Figure 1: First detection and characterisation of the atmospheres of KELT-8 b (left panels) and KELT-23 Ab (right panels). Top panels: S/N $K_{\rm p} - V_{\rm rest}$ maps obtained by cross-correlating a single-species transmission model of H_2O, built for each target, with data. The S/N $K_{\rm p} - V_{\rm rest}$ maps are computed dividing the cross-correlation function values by the standard deviation of the noise far ($|V_{\rm rest}| \geq 25$ km s^{-1}) from the peak. The horizontal (vertical) white dashed lines represent the expected $K_{\rm p}$ ($V_{\rm rest}$) of the atmospheric signal. The black "$\times$" marks denote the cross-correlation maximum in each plot. As it is visible, we detect the signal of H_2O in the atmosphere of KELT-8 b and KELT-23 Ab with an S/N $= 6.6$ and 4.2, respectively. Bottom panels: posterior distributions for all the parameters of the chemical-equilibrium retrieval. Off-diagonal plots report the 2D posterior distribution for pairs of parameters with the $1\,\sigma$-, $2\,\sigma$-, and $3\,\sigma$-confidence intervals. On-diagonal plots report the posterior distributions of each parameter marginalised over the remaining parameters. The blue lines represent the predicted values for some parameters and the red lines represent the median of the posterior distributions.

A Population Synthesis Study on the Formation of Cold Jupiters from Truncated Planetesimal Disks

K. Guo[1], *M. Ogihara*[1,2], *S. Ida*[3], *Y. Hori*[4,5], *K. Cui*[6,7], *F. Feng*[1,2]

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The Astrophysical Journal, in press

The occurrence rate of giant planets increases with orbital period and turns over at a location that roughly corresponds to the snow line of solar-type stars. Further, the density distribution of cold Jupiters (CJs) on the semi-major axis - mass diagram shows a relatively steep inner boundary, shaping the desert of warm Jupiters. The eccentricities of CJs show a broad distribution with a decreasing number density towards the larger end. Previous planet formation models fail to reproduce all these features at the same time. We use a planet population synthesis (PPS) model with truncated initial planetesimal distribution and compare the mass and orbital distribution of the simulated planets with the observation. We show that the occurrence of CJs with respect to the orbital period, the slope of the inner boundary of CJs on the semi-major axis - mass diagram, and the eccentricity distribution of CJs agree reasonably well with observation, if CJs form from truncated planetesimal disks of 10 au or wider with suppressed migration. While PPS simulations generally overestimate the fraction of giants with eccentricity below 0.2, N-body simulations produce a more consistent eccentricity distribution with observation. While the fraction of high-eccentricity planets can be increased by widening the planetesimal disk or reducing the migration speed, a deficit of giants with eccentricity between 0.2—0.4 exists regardless of the choices of parameters. Our results indicate that CJs are more likely born in truncated disks near the snow line than in classical uniform disks.

Download/Website: `https://arxiv.org/abs/2503.01570`

Contact: `carol.guo@stju.edu.cn`

Intermediate-mass stars and the origin of the gas-giant planet-metallicity correlation.

J. Maldonado[1], *G. M. Mirouh*[2], *I. Mendigutía*[3], *B. Montesinos* [3], *J. L. Gragera-Más* [3,4], *E. Villaver* [5,6]

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Astronomy & Astrophysics, published (2025A&A...695A..27M)

Context. Currently, the number of known planets around intermediate-mass stars ($1.5\ M_\odot < M_\star < 3.5\ M_\odot$) is rather low and, as a consequence, models of planet formation have their strongest observational evidence on the chemical signature of mostly low-mass (FGK) Main-Sequence (MS) stars with planets.
Aims. We aim to test whether the well-known correlation between the metallicity of the star and the presence of gas-giant planets found for MS low-mass stars still holds for intermediate-mass stars. In particular, we aim to understand whether or not the planet-metallicity relation changes as stars evolve from the pre-MS to the red giant branch.
Methods. We compile the basic stellar parameters (metallicity, mass and age) of a sample of intermediate-mass stars at different evolutionary phases with and without evidence suggesting that they host gas-giant planets. The metallicities of the different susbsamples are compared and set in the context of current models of planet formation and stellar evolution.
Results. Our results confirm that pre-MS stars with transitional discs with gaps show lower metallicities than pre-MS with flat discs. We show a tendency of intermediate-mass stars in the MS to follow the gas-giant planet-metallicity correlation, although the differences in metal content between planet and non-planet hosts are rather modest and the strength of the correlation is significantly lower than for the less massive FGK MS stars. For stars in the red giant branch, we find a strong planet-metallicity correlation, compatible with that found for FGK MS stars. We discuss how the evolution of the mass in the convective zone of the star's interior might affect the measured metallicity of the star. In particular, if the planet-metallicity correlation were of primordial origin, one would expect it to be stronger for less massive stars, as they are longer convective during the stellar evolution. However, within our sample, we find the opposite.
Conclusions. The lack of a well-established planet-metallicity correlation in pre-MS and MS intermediate-mass stars can be explained by a scenario in which planet formation leads to an accretion of metal-poor material on the surface of the star. As intermediate-mass stars are mainly radiative the metallicity of the star does not reflect its bulk composition but the composition of the accreted material. When the star leaves the MS and develops a sizeable convective envelope, a strong-planet metallicity correlation is recovered. Thus, our results are in line with core-accretion models of planet formation and the idea that the planet-metallicity correlation reflects a bulk property of the star.

Download/Website: `https://www.aanda.org/articles/aa/abs/2025/03/aa53328-24/aa53328-24.html`

Contact: `jesus.maldonado@inaf.it`

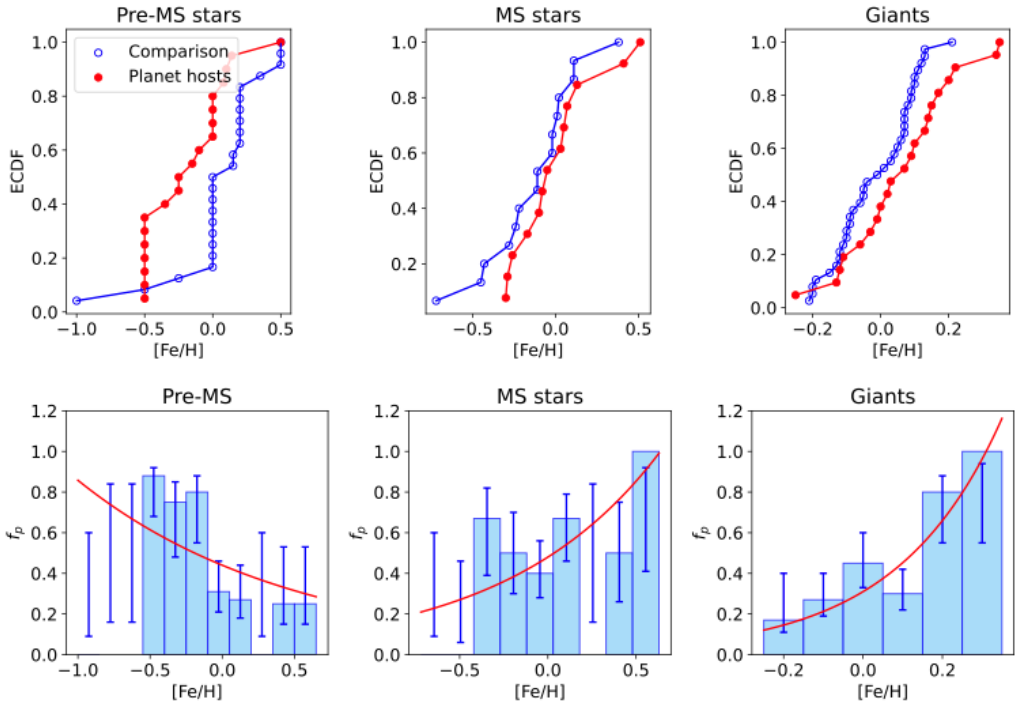

Figure 2: Top. Comparison of the [Fe/H] empirical cumulative distribution function (ECDF) between planet hosts (red circles) and stars without known planets (blue circles) for the different subsamples studied in this work, from pre-MS stars to giants. Bottom. Frequency of gas-giant planets as a function of the stellar [Fe/H].

3 Jobs and Positions

ESA Archival Research Visitor Programme

Guido De Marchi

ESAC (Spain) and ESTEC (Netherlands),

To increase the scientific return from its space science missions, the European Space Agency (ESA) welcomes applications from scientists interested in pursuing research projects based on data publicly available in the ESA Space Science Archives.

The ESA Archival Research Visitor Programme is open to scientists, at all career levels, affiliated with institutes in ESA Member States and Collaborating States although we will also consider strong applications from outside those states. Early-career scientists (within 10 years of the PhD) and PhD students are particularly encouraged to apply. We encourage applications from women and minorities. The peer-review evaluation process is anonymised to ensure equal opportunities for all applicants.

During their stay, visiting scientists will have access to archives and mission specialists for help with the retrieval, calibration, and analysis of archival data. In principle, all areas of space research covered by ESA science missions can be supported.

Residence lasts typically between one and three months, also distributed over multiple visits. Research projects can be carried out at ESAC (Madrid, Spain) and at ESTEC (Noordwijk, Netherlands). To offset the expenses incurred by visitors, ESA covers travel costs from and to the home institution and provides support for lodging expenses and meals.

Applications received before 1 May 2025 will be considered for visits in autumn and winter 2025/2026.

For further details, including areas of research and contact information, please refer to the website and email address indicated below.

Download/Website: `https://www.cosmos.esa.int/web/esdc/visitor-programme`

Contact: `arvp@cosmos.esa.int`

Postdoctoral Researcher in Exoplanet Atmospheres

Daniel Koll

Peking University, Beijing, Starting Fall 2025 or Spring 2026

Applications are invited for a postdoctoral position in the Department of Atmospheric and Oceanic Sciences (AOS) at Peking University (PKU). PKU hosts a vibrant research community with multiple AOS faculty members working on planetary climates and habitability. We seek a motivated researcher to join Prof Daniel Koll's research group (danielkoll.github.io) and work on theory and simulations of exoplanet atmospheres. The successful candidate will be expected to lead an effort to characterize the atmospheres and surfaces of rocky exoplanets, leveraging recent advances in modeling, theory, and JWST observations.

All research will be conducted in English. Individuals will have excellent opportunities for professional development, including the potential to advise student projects, to participate in international collaborations, and to work with cutting-edge telescope data. The compensation is competitive with other international postdocs and includes PKU staff benefits. Candidates are also eligible to combine the position with PKU's Boya prize postdoctoral fellowship.

Applicants should possess a PhD or equivalent qualification in Climate Science, Planetary Science, Astronomy, or related field by the time the appointment begins. The start date is flexible but expected to be in the fall of 2025 or spring of 2026. The position is for two years, with potential for extension.

Interested candidates should submit the following materials:

- Curriculum Vitae and list of publications
- Statement of research interests (max 2 pages)
- Name and contact details of two references

Please contact Prof Daniel Koll for any questions.

Download/Website: `https://danielkoll.github.io`

Contact: `dkoll@pku.edu.cn`

MITACS Elevate Postdoctoral Fellowship

Jonathan Gagné

[1] Planétarium de Montréal, Espace pour la Vie, 4801 av. Pierre-de Coubertin, Montréal, Québec, Canada
[2] Trottier Institute for Research on Exoplanets, Université de Montréal, Département de Physique, C.P. 6128 Succ. Centre-ville, Montréal, QC H3C 3J7, Canada

Montréal, Canada, June - September 2025

The Montreal Planetarium, in collaboration with the Trottier Institute for Research on Exoplanets (IREx), affiliated with the Department of Physics of the Université de Montr/'eal (UdeM), invites candidates to apply to a MITACS Elevate Postdoctoral Fellowship in observational astrophysics applied to the study of brown dwarfs, isolated planetary-mass objects and nearby, young associations.

Download/Website: *https://exoplanetes.umontreal.ca/en/job/2025-montreal-planetarium-universite-de-montreal-mitacs-postdoctoral-fellowship/*

Contact: olivier.hernandez@montreal.ca

4 Conferences and Workshops

Spectroscopy of Exoplanets Over All Wavelengths

Jonathan Tennyson, Sergei N. Yurchenko, A.E. Lynas-Gray

High Leigh Conference Centre (near London), Lord St., Hoddesdon, EN11 8SG, UK, 26-29 June 2025

Dear Colleagues,

We are delighted to announce the conference "Spectroscopy of Exoplanets Over All Wavelengths", which will be held at the High Leigh Conference Centre, Hertfordshire, UK (near London) on June 26-29 2025.

In an era of challenging new spectroscopic observations of exoplanets, brown dwarfs and cool stars, it is essential to ensure the provision of adequate atomic and molecular data for analysis and interpretation. A meeting at which observers and those calculating data may exchange ideas is being held in the idyllic Hertfordshire countryside near London at the end of June. Invited speakers include: Ahmed Al-Refaie, Peter Bernath, Jayne Birkby, Jo Barstow, Sarah Casewell, Patricio Ernesto Cubillos, Elias Ehl, Eric Hebrard, Helgi Rafn Hrodmarsson, Ryan MacDonald, Yamila Miguel, Jonathan Tennyson, Giovanna Tinetti, Patrick Tisserand and Hannah R Wakeford. Discussion during the meeting is regarded as essential: which atomic and molecular data are needed and could be provided, given the hardware and software currently available, and how are scientific research priorities to be established accordingly.

If you plan to participate in the conference, please register and pay by means of our online form using the link provided in the conference webpage, where you will find further details about the conference. As accommodation at High Leigh Conference Centre is limited the registration will be on a first come first served basis.

Important Dates:
Fee-free registration and payment deadline: 15 May 2025
Abstract submission deadline: 15 May 2025
Final registration and payment deadline: 25 June 2025

We look forward to seeing you at the conference!

Best wishes,
Jonathan Tennyson, Sergey Yurchenko and Tony Lynas-Gray
(Conference organisers)
Conference website:
`https://exomol.com/activities/conference-spectroscopy-of-exoplanets-over-all-wavelength`

Contact: `a.lynas-gray@ucl.ac.uk`

Exoplanets 6

Nuno Santos (Co-Chair), Sergio Sousa (Co-Chair)

Porto, Portugal, 29 June - 03 July 2026

Exoplanet research is experiencing exciting times. Space missions and cutting-edge ground-based instruments are continually uncovering new populations of planets and enabling their detailed characterization. Along with advancements in theoretical models, these discoveries are providing unprecedented insights into the processes of planet formation and evolution, while also revealing the interiors and atmospheres of these distant worlds.

In 2026, the PLATO mission will be launched, marking the beginning of a new chapter in this quest. Shortly after, missions like Roman and ARIEL, alongside the first generation of extremely large telescopes, will further complement this exploration. Together with current instruments and missions such as JWST and Gaia, a new window will open allowing a unique view into the diversity and properties of exoplanets, from hot giant planets to cool neptunes and rocky worlds. The stage is set to pursue one of the holy grails in the field: detecting and characterizing Earth-like planets, including searching for potential bio-signatures, and understanding their frequency in the Galaxy.

It is in this context that we invite the entire exoplanet community to join us in Porto for Exoplanets 6. The conference will take place in Porto, Portugal, between the 29th of June and the 3rd of July 2026, and cover all state-of-the-art aspects of exoplanet science, including:

- Present day results of exoplanet research
- The detailed characterization of exoplanets and exoplanetary systems: architecture, interior models, atmospheres, astrobiology
- Next steps towards the detection of the lowest mass/smallest exoplanets: the methods and main the challenges (data analysis, improved treatment of astrophysical variability and instrumentation-based systematics)

More information can be found at **`https://www.iastro.pt/exoplanets6`**

Contact: `exoplanets6@iastro.pt`

Exoplanets 6 logo

5 As seen on astro-ph

The following list contains exoplanet related entries appearing on astro-ph in February 2025.
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.

February 2025

astro-ph/2502.00161: **Magnetic disk winds in protoplanetary disks: Description of the model and impact on global disk evolution** *by Kundan Kadam et al.*
astro-ph/2502.00132: **TRAPPIST-1 d: Exo-Venus, Exo-Earth or Exo-Dead?** *by M. J. Way*
astro-ph/2502.00576: **A 16 Myr super-Neptune in Upper-Centaurus Lupus and a preliminary survey of transiting planets in Sco-Cen with TESS** *by Sydney Vach et al.*
astro-ph/2502.00257: **Radiation sputtering of hydrocarbon ices at Europa-relevant temperatures** *by Sankhabrata Chandra et al.*
astro-ph/2502.00442: **Short-Period Small Planets with High Mutual Inclinations are more Common around Metal-Rich Stars** *by Xinyan Hua et al.*
astro-ph/2502.00553: **The Influence of Stellar Chromospheres and Coronae on Exoplanet Transmission Spectroscopy** *by Volker Perdelwitz et al.*
astro-ph/2502.02614: **Earth Detecting Earth: At what distance could Earth's constellation of technosignatures be detected with present-day technology?** *by Sofia Z. Sheikh et al.*
astro-ph/2502.01765: **Tracking the Chemical Evolution of Hydrocarbons Through Carbon Grain Supply in Protoplanetary Disks** *by Eshan Raul et al.*
astro-ph/2502.01752: **Polydisperse Formation of Planetesimals: The dust size distribution in clumps** *by Jip Matthijsse et al.*
astro-ph/2502.01748: **Resolving the Super-Earth/Gas Giant Connection in Stellar Mass and Metallicity** *by Marta L. Bryan, Eve J. Lee*
astro-ph/2502.01606: **From pre-transit to post-eclipse: investigating the impact of 3D temperature, chemistry, and dynamics on high-resolution emission spectra of the ultra-hot Jupiter WASP-76b** *by Joost P. Wardenier et al.*
astro-ph/2502.01736: **The Dynamical History of the Kepler-221 Planet System** *by Tian Yi et al.*
astro-ph/2502.01510: **Grid-based exoplanet atmospheric mass loss predictions through neural network** *by Amit Reza et al.*
astro-ph/2502.01302: **Coupling of dynamical tide and orbital motion** *by Xing Wei*
astro-ph/2502.01249: **KOBE-1: The first planetary system from the KOBE survey. Two planets likely residing in the sub-Neptune mass regime around a late K-dwarf** *by O. Balsalobre-Ruza et al.*
astro-ph/2502.02611: **Classical 1/3 Nusselt number scaling in highly turbulent compressible convection** *by Harshit Tiwari, Mahendra K. Verma*
astro-ph/2502.00971: **K-dwarf Radius Inflation and a 10-Gyr Spin-down Clock Unveiled through Asteroseismology of HD 219134 from the Keck Planet Finder** *by Yaguang Li et al.*
astro-ph/2502.01513: **Effects of planetary mass uncertainties on the interpretation of the reflectance spectra of Earth-like exoplanets** *by Mario Damiano et al.*
astro-ph/2502.02376: **Modelling a Transiting Circumbinary Disc in the HD98800 System** *by Amena Faruqi et al.*
astro-ph/2502.02176: **MAISTEP – a new grid-based machine learning tool for inferring stellar parameters I. Ages of giant-planet host stars** *by Juma Kamulali et al.*
astro-ph/2502.02134: **Dust supply to slose binary systems** *by Francesco Marzari, Gennaro D'Angelo*
astro-ph/2502.02124: **From Streaming Instability to the Onset of Pebble Accretion I. Investigating the Growth Modes in Planetesimal Rings** *by Nicolas Kaufmann et al.*

astro-ph/2502.01903: **Amplifying Resonant Repulsion with Inflated Young Planets, Overlooked Inner Planets, and Non-zero Initial Δ** *by Yuancheng Xu, Fei Dai*

astro-ph/2502.03107: **Investigating the Bouncing Barrier with Collision Simulations of Compressed Dust Aggregates** *by Haruto Oshiro et al.*

astro-ph/2502.03224: **A Case Study of Interstellar Material Delivery: α Centauri** *by Cole R. Gregg, Paul A. Wiegert*

astro-ph/2502.03336: **Configuration of Single Giant Planet Systems Generating 'Oumuamua-Like Interstellar Asteroids** *by Xi-Ling Zheng, Ji-Lin Zhou*

astro-ph/2502.03584: **Environmental effects on nearby debris discs** *by A. M. Heras et al.*

astro-ph/2502.04452: **Compact protoplanetary discs can be produced by dead zones** *by Simin Tong, Richard Alexander*

astro-ph/2502.04447: **A possible trail of dust from a young, highly-extincted brown dwarf in the outskirts of the Trapezium Cluster** *by Thomas J. Haworth et al.*

astro-ph/2502.04441: **Debris disks around M dwarfs: The Herschel DEBRIS survey** *by Jean-Francois Lestrade et al.*

astro-ph/2502.04016: **From Planetesimals to Dwarf Planets by Pebble Accretion** *by Chris W. Ormel, Yukun Huang*

astro-ph/2502.04433: **A New Spectral Library for Modeling the Surfaces of Hot, Rocky Exoplanets** *by Kimberly Paragas et al.*

astro-ph/2502.04169: **The Effects of Kinematic MHD on the Atmospheric Circulation of Eccentric Hot Jupiters** *by Hayley Beltz et al.*

astro-ph/2502.03704: **Electron-induced CO2 and hydrocarbon sputtering of functionalized hydrocarbons in icy planetary analogs** *by Sankhabrata Chandra et al.*

astro-ph/2502.04436: **Planet Masses, Radii, and Orbits from NASA's K2 Mission** *by Andrew W. Howard et al.*

astro-ph/2502.05359: **On the Orbit of the Binary Brown Dwarf Companion GL229 Ba and Bb** *by William Thompson et al.*

astro-ph/2502.05061: **Emission from multiple molecular isotopologues in a high-inclination protoplanetary disk** *by Colette Salyk et al.*

astro-ph/2502.05056: **The GAPS Programme at TNG LXVII. Detection of water and preliminary characterisation of the atmospheres of the two hot Jupiters KELT-8 b and KELT-23 Ab** *by M. Basilicata et al.*

astro-ph/2502.04957: **ALMA reveals thermal and non-thermal desorption of methanol ice in the HD 100546 protoplanetary disk** *by Lucy Evans et al.*

astro-ph/2502.04787: **Impact-induced Vaporization During Accretion of Planetary Bodies** *by Adrien Saurety et al.*

astro-ph/2502.04926: **Clusters of tribocharged dust aggregates as pebbles in protoplanetary disks** *by F. C. Onyeagusi et al.*

astro-ph/2502.05502: **A ZTF Search for Circumstellar Debris Transits in White Dwarfs: Six New Candidates, one with Gas Disk Emission, identified in a Novel Metric Space** *by Soumyadeep Bhattacharjee et al.*

astro-ph/2502.06030: **Observationally derived magnetic field strength and 3D components in the HD 142527 disk** *by Satoshi Ohashi et al.*

astro-ph/2502.06513: **Radial velocity homogeneous analysis of M dwarfs observed with HARPS I. Exoplanet detection and candidates** *by L. Mignon X. Delfosse et al.*

astro-ph/2502.06553: **Radial velocity homogeneous analysis of M dwarfs observed with HARPS. II. Detection limits and planetary occurrence statistics** *by L. Mignon et al.*

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