ExoPlanet News
An Electronic Newsletter

No. 205, 22 July 2026

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Contents

1 Editorial

Welcome to Edition 205 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 continue looking 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 (`https://nccr-planets.ch/exoplanetnews/`).

The next issue will appear on Tuesday, August 18th (with a submission deadline ending on Sunday, August 16th, 2026 CEST).

Jeanne Davoult
Haiyang Wang
Leander Schlarmann
Timm-Emanuel Riesen

2 Abstracts of refereed papers

Transit timing and starspot-induced transit depth variations in the ∼17 Myr old HIP 67522 system

H. Chakraborty[1] *, M. Lendl*[1] *, A. Nigioni*[1] *, J. A. Egger*[2,3] *, J.M. Almenara*[1] *, M. P. Battley*[4,1] *, A. G. M. Pietrow*[5] *, J. Venturini*[1] *, et. al.*

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Astronomy & Astrophysics, Accepted (arXiv:2606.18045),

HIP 67522 is a one of the youngest multi-planetary systems discovered to date. The 17 Myr-old, Sun-like star is part of the Scorpius-Centarus OB association and is known to host two Saturn-sized planets in a near 2:1 mean motion resonance. We analysed photometric transits observed with the CHaracterising ExOPlanet Satellite (CHEOPS), the Transiting Exoplanets Survey Satellite (TESS), and multiple ground-based facilities to search for transit timing variations induced by planet-planet gravitational interactions, as well as transit depth variations, linked with the changing coverage of active regions on the stellar surface. We do not detect any transit timing variations for HIP 67522 b exceeding two minutes, contrary to previous results from the *James Webb* Space Telescope. In addition, we found that the observed transit depth of planet b changes strongly over time, with a >30% variation in amplitude. The high sensitivity and blue bandpass of the CHEOPS satellite also enabled us to identify multiple starspot crossings and measure their properties, including spot temperatures and sizes. We also measured the shear of the host star's differential rotation by modelling the out-of-transit photometric variability and concluded that HIP 67522 exhibits a supersolar differential rotation. Based on internal structure models and planet formation simulations, we find that more than 20% of the mass of HIP 67522 b, at the system's current age, is likely made of gaseous envelopes. Evolutionary simulations further indicate that both planets in the system will experience significant photoevaporation, evolving into either Earth size planets with completely stripped atmospheres or sub-Neptune-sized planets.

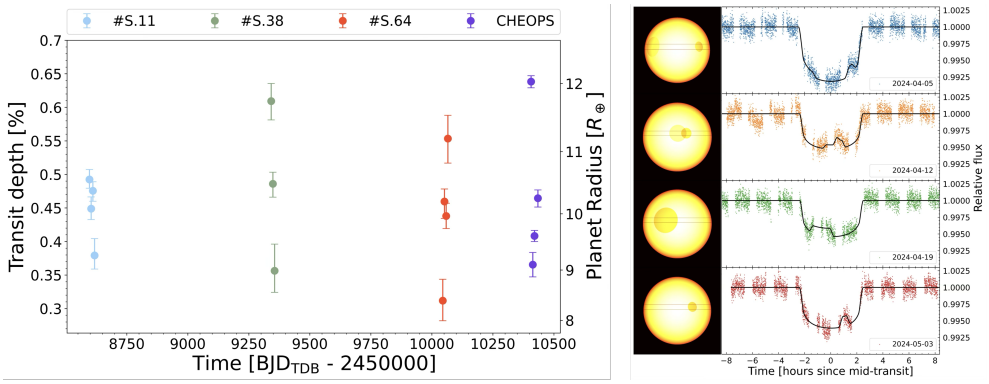

Figure 1: *Left:* Stellar activity-induced transit depth variations for HIP 67522 b. *Right:* CHEOPS transits of HIP 67522 b with transit plus spot models overplotted.

Download/Website: `https://arxiv.org/abs/2606.18045`

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Detection and characterization of the temperate Super-Earth Gliese 48 b

G. Conzo[1], *M. Moriconi*[1], *S.A. Correa Jr*[2]
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Open European Journal on Variable Stars (OEJV) (DOI: 10.5817/OEJV2026-0273),

Gliese 48 is an M3.5V red dwarf exhibiting significant magnetic activity and a stellar rotation period of ~ 51.5 d. In this work we present a systematic re-analysis of radial velocities (RV) from CARMENES and decade-long HIRES observations, integrated with TESS space-based photometry. We identify a planet of undetermined composition, Gliese 48 b, with an orbital period $P = (39.6299 \pm 0.29)$ d and a minimum mass $M \sin i = (8.11 \pm 1.63) M_{\oplus}$. The dynamical nature of the signal is confirmed by its temporal coherence over a 15-year baseline and its achromaticity between visible and near-infrared channels. TESS photometry from Sectors 18, 19, 24, and 25 (218.6 d total baseline, 66 983 cadences) reveals no transit at $P = 39.63$ d (FAP $> 10\%$, BLS). An injection-and-recovery test demonstrates that a 1287 ppm transit signal corresponding to a minimum-radius $1.69 R_{\oplus}$ planet (rocky mass–radius lower bound) would have been detected with Signal-to-Pink-Noise Ratio SPNR > 7, ruling out a transiting geometry with high confidence. The orbital inclination is constrained to $i < 89.3°$. With an incident stellar flux $S_{\rm eff} \approx 0.889\, S_{\oplus}$ and bolometric luminosity $L_* = (0.0273 \pm 0.0023) L_{\odot}$, Gliese 48 b lies near the inner edge of the Conservative Habitable Zone and within the Optimistic HZ, making it one of the most astrobiologically compelling temperate Super-Earths orbiting an M-dwarf.

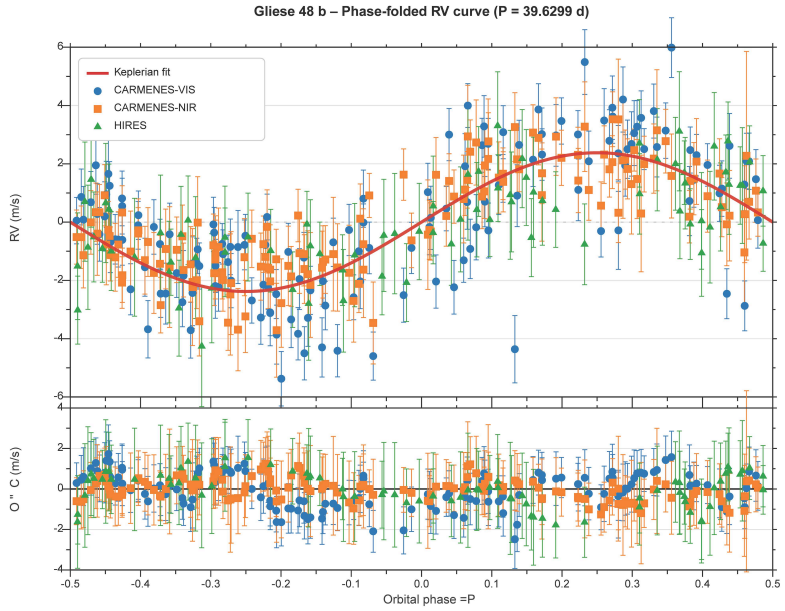

Figure 2: Phase-folded radial velocity curve for Gliese 48 b at $P = 39.63$ d. Blue circles represent CARMENES-VIS data; orange squares represent CARMENES-NIR data; green triangles represent HIRES data. The bottom panel shows the residuals (O−C) after subtracting the model.

Download/Website: `https://oejv.physics.muni.cz/issues.html`

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Spectral Ratio Analysis: probing of a new suite of stellar activity indicators as a tool for astrophysical noise mitigation

J. C. Costes[1], C. A. Watson[1], E. de Mooij[1], K. L. Hobbs[1], D. S. Yaptangco[2], Y. C. Unruh[2], M. Bedell[3], N. Meunier[4], T. D. Mitchell[1,5]

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Monthly Notices of the Royal Astronomical Society, published (2026MNRAS.tmp.1105C)

Stellar activity is the main barrier to detecting and/or confirming low-mass/long-period (and Earth-analogue) planets using radial-velocity (RV) measurements. Searching for reliable indicators that better trace magnetic activity may be key for both distinguishing more clearly between stellar and planetary signals, and for probing the underlying physics occurring on the stellar surface. In this work we have compared observations taken for magnetically active and inactive stellar phases over multiple time scales to study the spectral imprint due to varying stellar activity. This serves as a proof-of-concept demonstration of a technique (named Spectral Ratio Analysis, SRA) that can be used to isolate activity-driven changes directly in the stellar photospheric absorption lines where RVs are measured. Using 14 relatively quiet and well sampled G- and K-type stars that show stellar activity cycles, we identified hundreds of activity-sensitive spectral features. Reducing this variability information into two global metrics – amplitude and velocity shift – uncovers potential evidence of a decoupling of the photospheric and chromospheric responses to stellar activity in earlier-type stars. Additionally, potential signatures of the variations in the magnitude of the suppression of the convective blueshift throughout the activity cycle were observed via SRA. Finally, we show that these SRA indicators better capture RV variability than classical activity proxies, such as the chromospheric logR'HK index and other cross-correlation function-based parameters such as BIS and FWHM, by up to a factor of two. The direct link between photospheric line behaviour and stellar-induced RV variability offers a promising path for improving astrophysical noise mitigation.

Download/Website: `https://arxiv.org/pdf/2607.06339`

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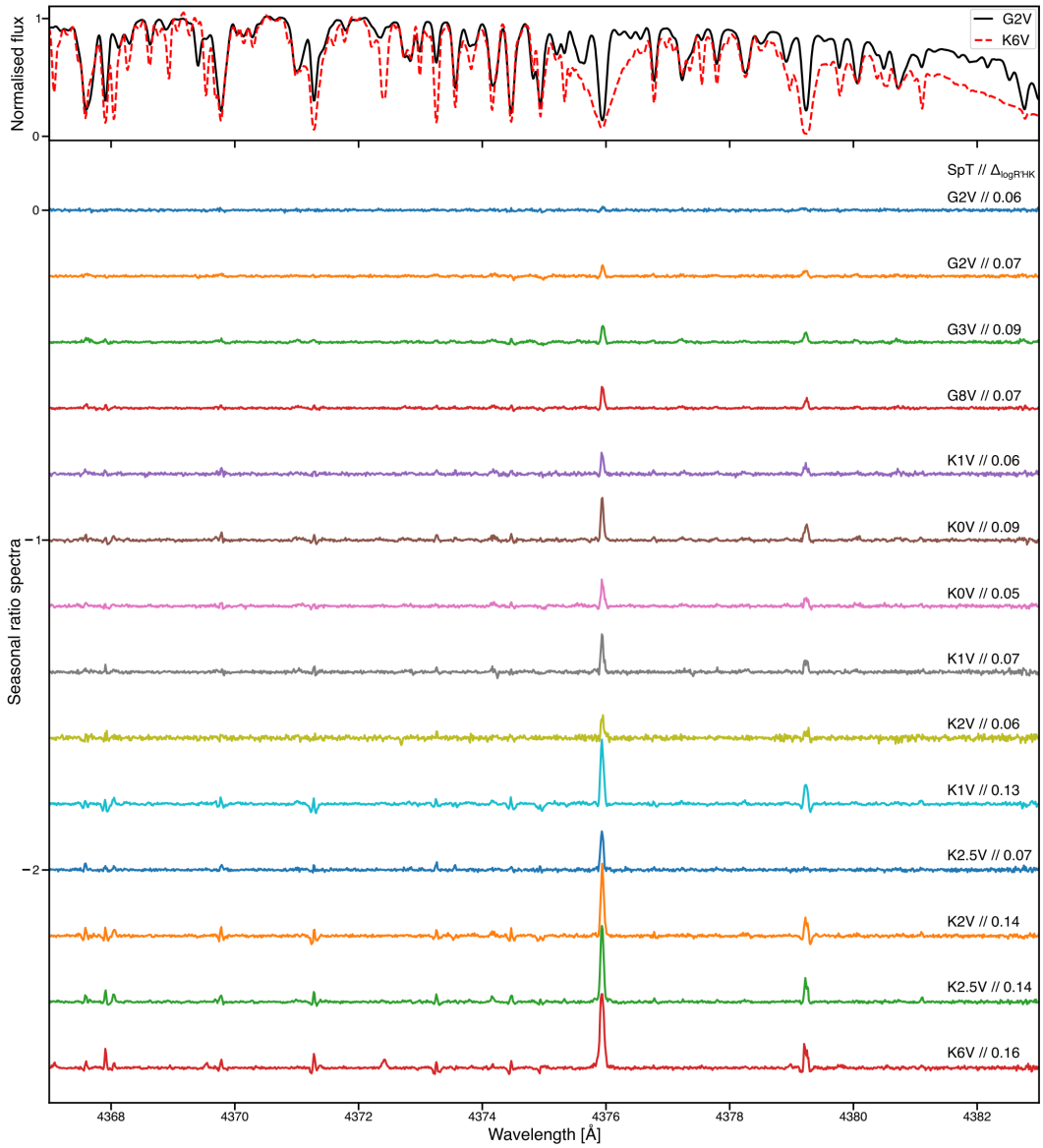

Figure 3: A selection of seasonal ratio spectra for the 14 stars used in this study, ordered by $B-V$ and removed from the ripple-like structure. The ratio spectra were generated by dividing high-activity spectra by a low-activity template for each star (SRA). For comparison, all the spectra are shown in their rest wavelength and, in order to increase the signal-to-noise, we have combined the three most active seasonal ratio spectra for each star. The wavelength range has been restricted in order to show some detail of prominent features. Two representative normalised spectra, from a G2- and a K6-type star, covering the same wavelength range as the ratio spectra are shown in the upper panel. The values to the right of each ratio spectrum indicate the spectral type of the target and the difference of activity as measured by logR'HK between the seasonal average spectrum and the low activity template, respectively. Each ratio spectrum has been offset vertically for clarity.

Understanding eccentric temperate giants: an in-depth study of the architecture and stellar obliquity of the TOI-2134 system

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A complete list of affiliation can be found on the publication

Monthly Notices of the Royal Astronomical Society, in press, doi:10.1093/mnras/stag1265

We revisit the TOI-2134 planetary system with three new high-cadence TESS sectors and 98 more spectra. This new analysis confirms the two orbiting planets by simultaneously modelling a total of eight sectors of corrected TESS photometry and 280 HARPS-N and SOPHIE radial velocities: an inner mini-Neptune in a near-circular 9.229198 ± 0.000003 days orbit, and an outer temperate sub-Saturn orbiting with a 95.852840 ± 0.000042 days period and eccentricity of 0.31 ± 0.01. The masses and radii of the planets were computed to be 9.37 ± 0.54 $M_\oplus$ and 2.735 ± 0.068 $R_\oplus$ for planet b, and 58.3 ± 1.9 $M_\oplus$ and 7.35 ± 0.18 $R_\oplus$ for planet c. The new data not only improves the detection significance and precisions on the planetary orbits, but also breaks the original multimodality in the eccentricity solution for the outer planet. We also detect a long-term trend in the radial velocity data, which we attribute to a stellar magnetic cycle. We investigate the spin-orbit alignment of the system via observations of the Rossiter-McLaughlin effect for TOI-2134 b with EXPRES and TOI-2134 c with PARAS-2. No RM effect was detected for planet b, but we find a 4.7σ detection of a $59 \pm 31^\circ$ obliquity for planet c. Finally, we examine the architecture of the system, assess its completeness, investigate the planetary interior, and their suitability for follow-up atmospheric analysis.

Download/Website: `https://arxiv.org/pdf/2607.01027`

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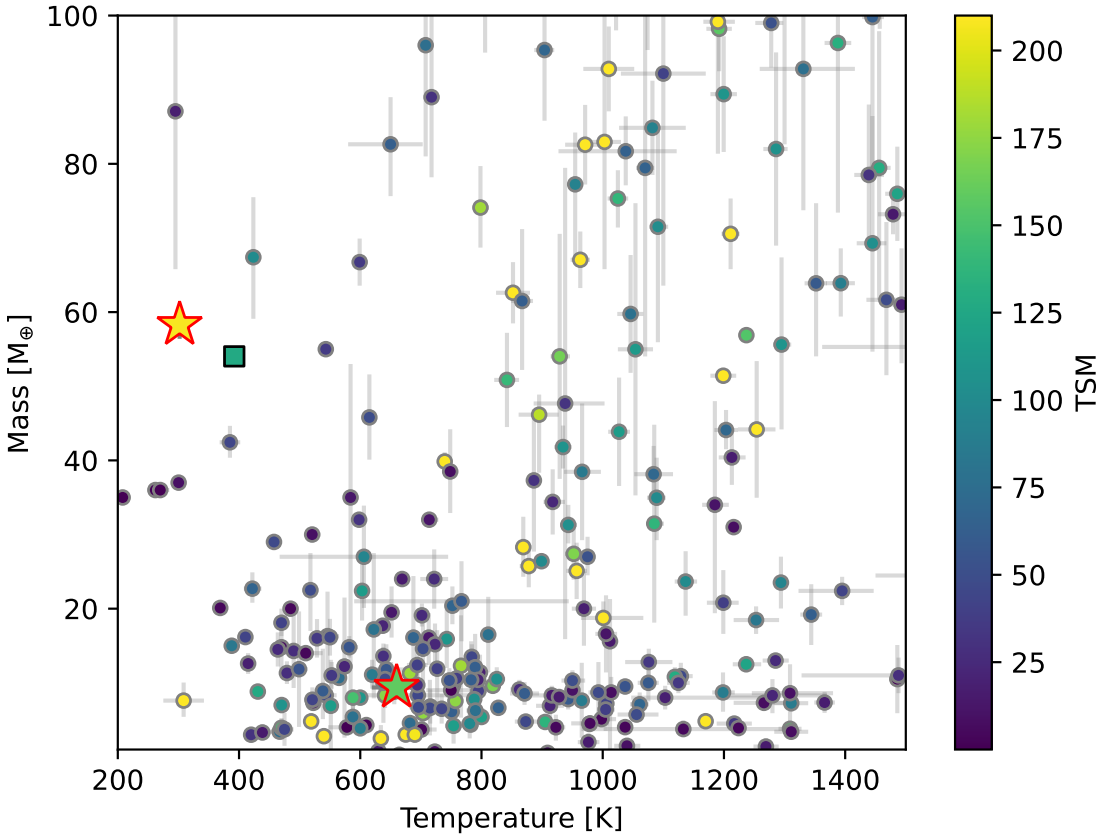

Figure 4: Mass-equilibrium temperature diagram for all confirmed exoplanets FGK-type stars with better than 3σ mass detection, known eccentricity, stellar luminosity and orbital semi-major axis, as stored by NASA's exoplanet archive. The TOI-2134 planets are plotted as stars with red borders. Uncertainties are included but not visible. All other confirmed planets are plotted as circles with gray errorbars indicating the quoted uncertainties. The data is colour-coded based based on on computed planetary transmission spectroscopy metric (TSM). Both TOI-2134 b and c have notable TSM values (159 and 208, respectively), and planet c in particular stands out as a uniquely favourable target in the $<$400 K regime. TOI-199 b, which showed strong evidence of CH_4 absorption from its atmosphere based on a single JWST/NIRSpec G395M transit (Bello-Arufe et al. 2025) and has TSM lower than TOI-2134 c, is also plotted as a square.

Plasma chemistry and electron-moderated pathways in substellar atmospheres: a new perspective on the L/T transition

M. I. Swayne[1]*, D. A. Diver*[1]*, C. R. Stark*[1]

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Monthly Notices of the Royal Astronomical Society, in press (arxiv:2607.12779)

The long-standing puzzle of the CO/CH_4 transition in brown dwarfs endures. Although the bulk spectral evolution across an atmosphere can be accounted for through thermal equilibrium cloud models, the behaviour in the NIR remains unaccounted for, indicating that additional, non-thermal processes may influence atmospheric chemistry alongside conventional pathways. We explore cloud-driven electrical activation, where low-energy sparks to full lightning discharges, unlocks non-equilibrium reaction pathways inaccessible under thermal conditions alone. To quantify this, the aim of this paper is to model the electron-moderated atmospheric chemistry with `SPARCKS`, a bespoke zero-dimensional code that solves the coupled set of particle balance equations for substellar plasma activation and reaction kinetics, focusing on the key CO–CH_4 electron-moderated chemistry across the parameter ranges $T_{\rm gas} \in [700, 1600]\,\mathrm{K}$ and $T_e \in [2, 5]\,\mathrm{eV}$. We simulate a 1 microsecond pulse, representing a short dart-stepped leader; and, two pulsed systems with $(t_{\rm on}, t_{\rm off}) = (10^{-8}\ \mathrm{s}, 10^{-6}\ \mathrm{s})$ and $(10^{-9}\ \mathrm{s}, 10^{-9}\ \mathrm{s})$, representing small-scale inter-grain discharges, consistent with a typical characteristic substellar atmosphere. Our results show that even modest, physically plausible energies can strongly perturb atmospheric composition: an electron energy of 3.0 eV is sufficient to halve the CH_4/CO ratio in our sample atmosphere within one microsecond. Beyond the CO–CH_4 system, electron-moderated plasma chemistry exerts a far-reaching influence on substellar atmospheric composition.

Download/Website: `https://doi.org/10.1093/mnras/stag1322`

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Exploration of the inner region of the system HD 142527

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Astronomy & Astrophysics, in press (arXiv:2605.04869)

Context. HD 142527 is a well-studied intermediate-mass T Tauri star surrounded by a transitional disk with a large dust cavity, spiral structures, and an accreting low-mass companion. Despite extensive observations, the system's inner regions remain poorly understood, particularly regarding their influence on disk morphology and planet formation.
Aims. This study aims to investigate the inner region of HD 142527 (separation < 50 au) with high detection sensitivity thanks to dedicated post-processing methods to search for undetected components and explore their potential role affecting the disk's structure and evolution.
Methods. We analyze high-contrast imaging data obtained with the SPHERE instrument at the Very Large Telescope (VLT). To enhance detection sensitivity, we applied the `PACO` and `REXPACO` algorithms, dedicated respectively to the detection of point-like sources and to the reconstruction of circumstellar disks with high reliability, while exploiting both angular and spectral variations.
Results. We revisit the known companion HD 142527 B and update its photometry, astrometry, and accretion rate estimates. Furthermore, we identify a new candidate companion (CC) at an angular separation of $\rho \sim 0.09''$ ($\sim$14 au). Though it is shown as a point-like object, the possibility that CC is a disk feature remains. Otherwise, it could be a young gas-giant planet or a brown dwarf with a mass of 12–50 $M_{\rm Jup}$. Additionally, we report the discovery of a tightly wound Hα spiral feature in the inner disk, reconstructed for the first time by high contrast imaging. The spiral implies varying accretion dynamically linked to the known companion B and possibly to CC, suggesting ongoing interactions that influence the disk's structure.
Conclusions. Our findings provide new insights into the complex interactions within the HD 142527 system, highlighting the role of multiple companions in driving disk asymmetries and facilitating planet formation. Future high-resolution observations and dynamical modeling will be essential to fully understand the system's architecture and evolution.

Download/Website: `https://arxiv.org/abs/2605.04869/`

Contact: `thi-my-hanh.tran@univ-lyon1.fr`

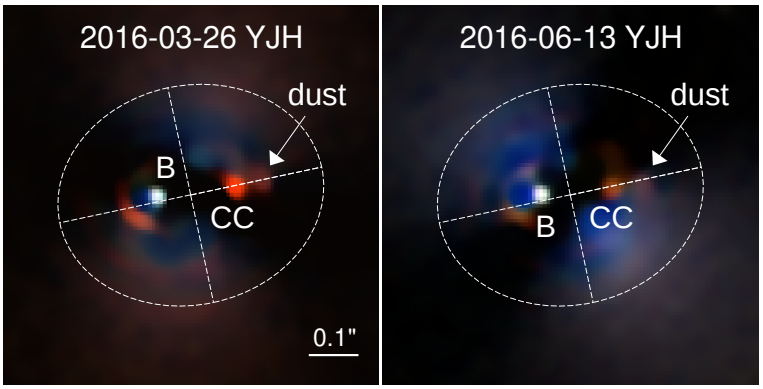

Figure 5: Enlarged deconvolved reconstructed images using REXPACO toward the central area in two epochs viewed from IFS in linear scale; the units are arbitrary. Colors encode different wavelengths, from blue (shorter wavelengths) to red (longer wavelengths). In both the panels, an ellipse of identical spatial extent, centered at the star, is marked for visual comparison purposes.

Mind the Companion: Demographics of Transiting S-type Exoplanets and Update of the PlanetS Catalogue with Stellar Multiplicity

Lina Y. Messamah [1], *F. Bouchy* [1], *J. Venturini* [1], *L. Parc* [1] *& A. Nigioni* [1]
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Astronomy & Astrophysics, in press, arxiv:2605.31523

We present an update of the *PlanetS* catalogue of transiting exoplanets, available on the Data & Analysis Center for Exoplanets (DACE) platform, which now explicitly incorporates stellar multiplicity information for all planet hosts. The catalogue, initially presented in Otegi et al. (2020) and extended by Parc et al. (2024), is cross-matched with the catalogue of wide binary stars in Gaia data release 3 (DR3) from El-Badry et al. (2021), identifying gravitationally bound stellar companions through a conservative, astrometry-based classification.

Out of 860 transiting planets in the current version of the catalogue, 133 are found to orbit one component of a resolved visual binary system (S-type planets), with projected separations ranging from 76 to 9655 AU. For each binary system, the catalogue now includes the angular and projected separation, the Gaia G-band magnitude and colour index of the companion, the magnitude difference between the two components, and the companion's effective temperature, metallicity, luminosity, and surface gravity where available from Gaia DR3.

Using a matched control sample of single-star hosts designed to reproduce the stellar parameter distributions of the binary sample, we perform a comparative demographic analysis and find a binary fraction of 19.4% among transiting planets. Significant differences emerge in the giant planet regime: planets in binary systems tend to be more massive than their single-star counterparts and orbit closer to their host stars, resulting in more inflated radii. Most strikingly, $\sim 50\%$ of giant planets orbiting M-dwarfs reside in binary systems, a 2.6σ excess compared to FGK-type hosts, suggesting that stellar multiplicity plays a key role in the formation or survival of giant planets around low-mass stars.

The updated catalogue is available on the DACE platform and will be maintained as a community resource for future demographic and formation studies of planets in multiple-star environments.

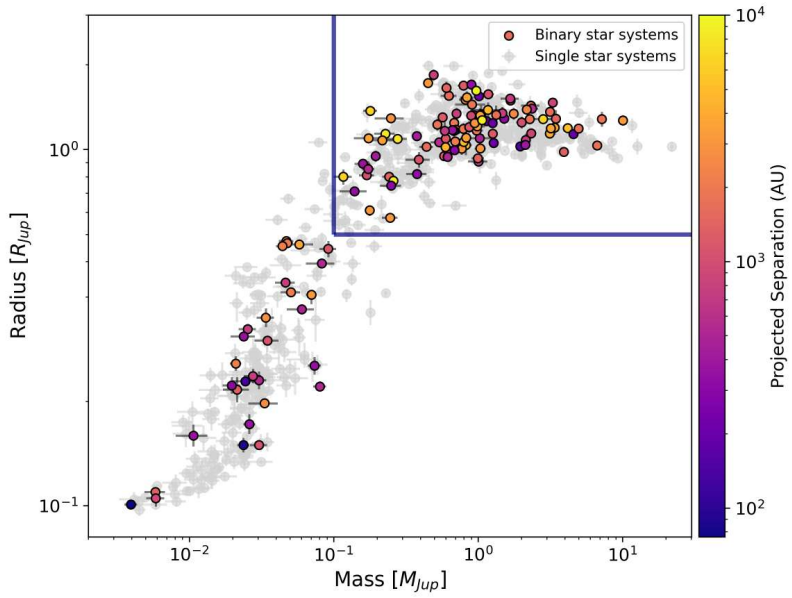


Figure 6: Mass–radius diagram of the transiting exoplanet population, comparing planets in binary systems (colour-coded by projected separation in AU) to the control sample of single-star systems (grey). The blue rectangle delimits the giant planet regime used for the demographic analysis.

Download/Website: `https://arxiv.org/pdf/2605.31523/https://dace.unige.ch/exoplanets/`

Contact: `lina.messamah@unige.ch`

3 Exoplanet Archives

June 2026 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, July 9, 2026

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. Links to other tables and System Overview pages are embedded in the news text.

June 18, 2026

Start Planet-ing Your JWST Observations with NExoList

We're excited to announce NExoList: the NASA Exoplanet Archive Atmospheric Observation List, a new service designed to make JWST proposal planning easier and more streamlined.

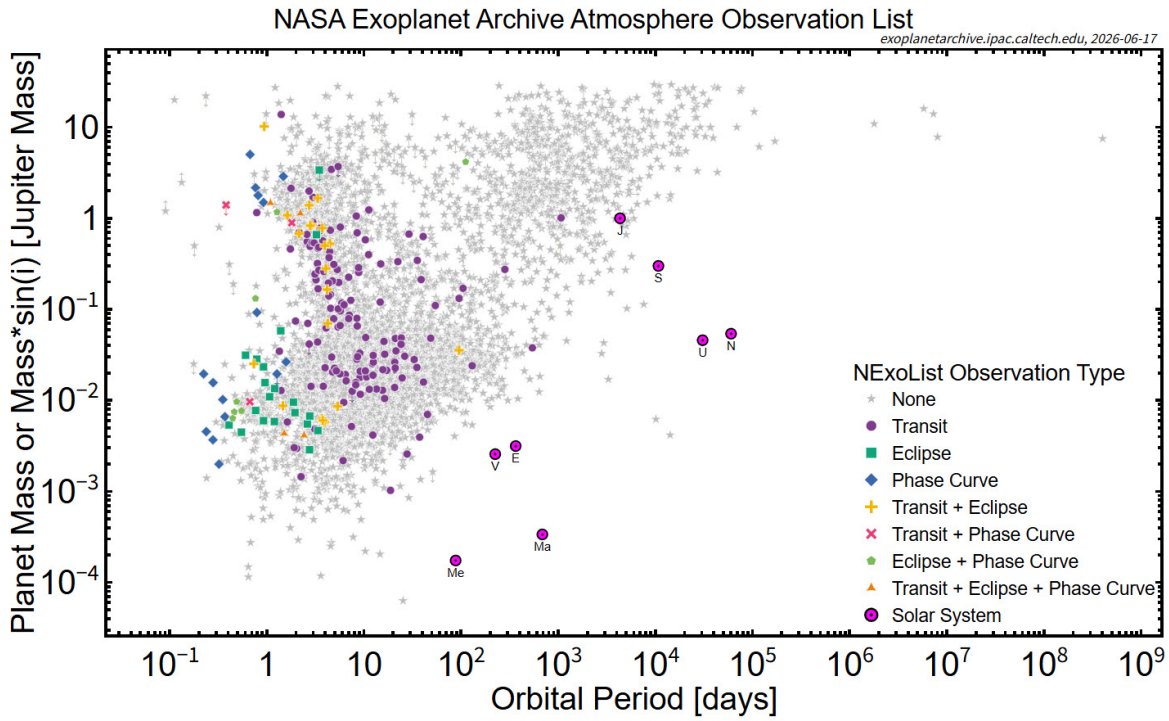
NExoList is designed to help users with their proposal planning for NASA's James Webb Space Telescope (JWST) by providing a fully integrated workflow to find the best JWST targets for their science questions—as well as targets that have already been observed. The table is particularly useful for researchers who are new to JWST and learning which of the telescope's instruments, modes, and subarrays are appropriate for their use cases.

The service contains all archived and planned JWST atmospheric programs for transit, eclipse, and phase curve observations from NIRSpec, NIRISS, NIRCam and MIRI, with plans to integrate more observatories. The information is sourced from the Transiting Exoplanets List of Space Telescope Spectroscopy (TRExoLiSTS), originally described by Nikolov, Kovacs, & Martlin (2022, Res. Notes AAS, 6, 272). NExoList content includes observation status and observation dates and is updated weekly to reflect the current status of JWST programs.

The Exoplanet Archive has enhanced its tools and data to support NExoList-related workflows and easier exploration of the data, including:

- **ESM and TSM Columns:** The Planetary Systems Composite Parameters (PSCompPars) table now includes columns for Transmission Spectroscopy Metric (TSM) and Emission Spectroscopy Metric (ESM), with calculations based on Kempton et al. (2018). More information about the calculations are provided in ow the Archive Calculates Values in the Planetary Systems Composite Parameters Table.
- **New Calculated Values:** Planetary parameters for planet insolation (pl_insol) and planet equilibrium temperature (Teq, or pl_eqt) are now provided as calculated values in the PSCompPars table when all required values for the calculation are present, and when published values are otherwise not available. The reference will display **Calculated Value** instead of the paper that reported it—the same practice the archive follows for calculated radius values. Refer to How the Archive Calculates Values in the Planetary Systems Composite Parameters Table for details.
- **Check the Spectra:** New columns in the PSCompPars table indicate the number of eclipse, transmission, and direct imaging spectra currently in the Atmospheric Spectroscopy Table for a given planet, as well as the total number of JWST transit, eclipse, and phase curve observations from NExoList for the planet.

Figure 7: Exoplanet mass vs. orbital period for the JWST Atmosphere Observation List. Scatter plot of all confirmed planets utilizing composite parameters from the PSCompPars table. Gray markers represent planets without JWST spectra, while colored symbols denote planets with available JWST spectra (excluding directly imaged planets), categorized by the specific observation method or combination of methods used.



- **System Overview Page Integration:** The new **NExoList: JWST** link on System Overview pages goes to a filtered version of the table for the planet flagged with the icon.
- **JWST Atmosphere Observation List:** This new pre-generated atmosphere observation scatter plot shows all confirmed planets in mass–orbital period space using composite parameters from the PSCompPars table. Gray markers indicate planets without JWST spectra; planets with JWST spectra (currently not including JWST directly imaged planets) are marked with a symbol and color based on the observation method (or combination of methods) used to observe the planets.

Learn more about NExoList and how to use it by clicking on the User Guide tab within the service. Then, after you've had a chance to try out the service, let us know what you think!

June 4, 2026

New Feature: Transit Service API

Our popular Transit and Ephemeris Service has a new feature to help automate your observation planning: an application programming interface (API) that supports automated and direct retrieval (e.g., within your Python environment) of transit prediction results in a machine-readable format.

More about this new feature:

- Supports synchronous and asynchronous modes. Supports queries for single targets as well as pre-defined datasets (e.g., all confirmed RV planets, all confirmed KOIs, all TESS Objects of Interest) hosted by the Exoplanet Archive.
- Supports file uploads of custom target lists in .txt, .csv, and .tsv file formats.
- Accepts the same query parameters as the web version of the service.

Check out the Transit API documentation, which includes ready-to-use examples, try it out, and let us know what you think!

Seven New Planets and 11 Spectra

This week's seven new planets feature GJ 3378 b, a super-Earth around a nearby M dwarf in its host star's conservative habitable zone. We've also reinstated four previously demoted or excluded objects based on new data published in Piccinini et al. (2026). The four planets now have Confirmed status in the archive, and are also flagged as Controversial due to ongoing discussions about these planets in the literature. The reinstated planets are noted in the following list with an asterisk (*).

Planets added this week: GJ 3378 b, HD 5388 b*, HD 6718 b*, HD 16760 b*, HD 148427 b*, TOI-707 b, & TOI-3457 b. There are also new parameters for 11 planets: GJ 463 b, HD 141937 b, HD 222237 b, HD 96127 b, HIP 65891 b, K2-33 b, K2-106 b, pi Men b, TOI-1259 A b, TOI-1728 b, & TOI-4507 b.

The planets with 11 new spectra in the Atmospheric Spectroscopy Table are GJ 436 b, HAT-P-12 b, HAT-P-32 b, K2-33 b, WASP-19 b, & WASP-43 b.

Download/Website: `https://exoplanetarchive.ipac.caltech.edu`
Contact: `mharbut@caltech.edu`

4 Jobs and Positions

18 Doctoral and 6 Postdoctoral Positions in Planetary Habitability

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Berlin / Dresden / Bochum / Vienna, 01 October 2026

The SFB 1759 is a newly established Collaborative Research Center studying habitability for life as we know it based on fundamental physio-geo-chemical processes set by the planet's evolution. The study of planetary habitability in this SFB is therefore oriented along the planetary boundary conditions set by astronomy, physics, chemistry and geology, rather than Earth-specific biological evolution. By focusing on the environments in which life may (or may not) evolve, the SFB will be able to define which signatures (such as trace elements in an atmosphere) can be explained by abiotic processes, and which would indeed need some form of extraterrestrial life, leading to a new database of potential biosignatures as well as traces of habitability. As finding potential biosignatures or traces of habitability may also impact society, the SFB takes a holistic approach and investigates also ethical considerations, how scientists communicate scientific results to the public and how these are discussed in social media, as well as the general perception of the public and factors influencing this. In the SFB, different views on one of the most important questions of humanity — are we alone in the universe? — will therefore be examined hand in hand with different perspectives in natural sciences, social sciences, and humanities.

We invite applications for 6 Postdoctoral and 18 Doctoral positions for the first funding period of the SFB 1759 (10/2026–06/3030). The starting dates are flexible but funding is limited to 30 June 2030. The regular working time for full (100%) employment is between 39.4 hours (for positions in Berlin) / 39.83 hours per week (Dresden and Bochum). Good English language skills (written and oral) are required.
The participating institutions are equal opportunity employers and are committed to increasing the proportion of women academics. Consequently, we actively encourage applications by women. Female candidates with equivalent qualifications and academic achievements will be preferentially considered within the framework of the legal possibilities. We also welcome applications from candidates with severe disabilities. Disabled candidates with equivalent qualifications will be preferentially considered, although some restrictions related to accessing laboratory facilities may apply in some projects.

For details about the individual positions and projects, please visit the project overview website: `https://sfb1759-planetary-habitability.de/`

Applications should be written in English and include a cover letter, the names of three (postdoc positions) or two (doctoral positions) referees, CV, copies of degree certificates and transcripts, all combined into a single pdf (max. 10 MB). Please indicate which position(s) you are applying for via the reference codes listed on the project website and email your application to the contact e-mail listed below.

More information on the positions including necessary requirements will be linked on the project overview website once published by the institutions. Positions may have different individual application deadlines, but review of all applications will begin **22 July 2026** and will continue until all positions have been filled.

Contact: `coord@sfb1759-planetary-habitability.de`

POSTDOC POSITION in Planet-forming Disks and Astrochemistry

Priv.-Doz. Dr. Peter Woitke

Space Research Institute (IWF) of the Austrian Academy of Sciences, Graz, Austria, Seot 15, 2026

The Space Research Institute in Graz, Austria, invites applications for a position as Postdoc (f/m/x) in the research group "Planet-forming Disks and Astrochemistry" led by Priv.-Doz. Dr. Peter Woitke as part of the OeAW's efforts to expand the theme of exoplanet research at the Space Research Institute (IWF) in Graz.
The Space Research Institute (IWF) is involved in about 20 missions led by the world's main space agencies. The disk group focusses on connecting astrochemistry with planet formation, modelling the physico-chemical processes in disks, and to link these models to astronomical and solar system observations, and geology. Current research topics include the structure and chemical composition of the disk probed with ALMA and JWST, the impact of dust evolution, external irradiation and disk winds on element abundances, chemistry and observation, and the prediction of the material composition of rocks and ices forming in the disks.

Your Tasks

- Prepare archival and new observational data (for example ALMA or JWST) for analysis and modelling, including high-quality data reduction
- Use ProDiMo (see `https://prodimo.iwf.oeaw.ac.at`) to analyse and interpret these observations
- Identify future ESA L, M, and F space missions with IWF contribution related to disks, and get involved in the international science teams preparing the science cases for them

Your Profile

- The applicant must hold a PhD in Physics, Geophysics, Astrophysics, or a related field
- Experience with astrochemistry in protoplanetary disks
- Experience with data reduction, in particular ALMA and JWST
- Excellent publication record

Our Offer
The appointment will be for 3 years initially but can be extended up to 6 years, subject to the availability of funding and performance. The appointment begins as early as November 1st, 2026, but can also be agreed to start at a later time.

Application Deadline: September 15, 2026 (remains open until a suitable candidate has been found)

Download/Website: `https://www.oeaw.ac.at/jobs?jh=nkujljvb04425fl0u688i6lz2tk9dw7`
Contact: `peter.woitke@oeaw.ac.at`

5 As seen on astro-ph

The following list contains exoplanet related entries appearing on astro-ph in June 2026.
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.

June 2026

astro-ph/2606.00177: **Magnesium Silicate Clouds in the Atmosphere of HD 209458b from a Rule-Based Tree-Structured Data Reduction** *by Katy L. Chubb et al.*

astro-ph/2606.00217: **Hubble Science in the 2030s White Paper: High-Contrast Optical and UV Spectroscopy with HST/STIS** *by K. Ward-Duong et al.*

astro-ph/2606.00463: **Some Thoughts on the Future of Technosignature Searches: Constraining the Fermi Paradox** *by Ian A. Crawford*

astro-ph/2606.00574: **Prospects for Astrobiology and Technosignature Searches with the Vera C. Rubin Observatory Legacy Survey of Space and Time** *by Andjelka B Kovacevic et al.*

astro-ph/2606.00443: **Jets and Superrotation in Deep and Shallow Planetary Atmospheres** *by Geoffrey K Vallis et al.*

astro-ph/2606.00974: **Photochemical CS_2 Gas Detected on a 20-Myr-old Exoplanet** *by Fei Dai et al.*

astro-ph/2606.02457: **Size limits on tidal debris around white dwarfs: the km-size barrier** *by Jordan K. Steckloff et al.*

astro-ph/2606.02473: **Orbit Refinement of WASP-18 b and Evidence Against the Existence of WASP-18 c** *by Avinash Salguneswaran Nediyedath et al.*

astro-ph/2606.02696: **HERMES: HiERarchical Modelling for Exoplanet Science** *by Wasi M. F. Naqvi, Nicolas B. Cowan*

astro-ph/2606.02734: **Formation of multiple dust rings and gaps in protoplanetary discs by a single migrating planet II: radiative discs and observational signatures** *by Kim M. Weiskopf et al.*

astro-ph/2606.02746: **Bridging the UV Gap: The HST Ultraviolet Foundation for Star Formation Science in the Era of Roman, Euclid, and HWO** *by F. Z. Majidi et al.*

astro-ph/2606.02778: **One Transit Is All You Need: Detecting Exoplanets Through Learned Stellar Behaviour with EXOVEIL** *by Pratik Priyanshu*

astro-ph/2606.04283: **Preparing for the Early eVolution Explorer: Detecting the Primordial, Transiting Exoplanet Population** *by George Zhou et al.*

astro-ph/2606.04144: **Characterizing Transiting Exoplanet Atmospheres in the 2030s with the Hubble Space Telescope** *by Joshua D. Lothringer et al.*

astro-ph/2606.04105: **Predictive Rankings of the Probability for Temperate Terrestrial Worlds for the HWO ExEP Mission Star List** *by Jamie Dietrich et al.*

astro-ph/2606.03456: **A comprehensive Rossiter-Mclaughlin Modelling Framework in TLCM: Application to HD 2685 = TOI-135 system** *by Szilárd Csizmadia et al.*

astro-ph/2606.03824: **The CRIMSON survey I: super-stellar SiO in the directly imaged companion TWA 5 B from high-resolution M-band spectroscopy** *by Luke T. Parker et al.*

astro-ph/2606.03740: **KRONOS I: The $1-2.8\mu$m JWST Transmission Spectrum of the 23 Myr V1298 Tau c** *by Matthew M. Murphy et al.*

astro-ph/2606.03850: **A Previously Underexplored Regime in TESS: Minute-Scale Eclipses Reveal Ten White Dwarf-Cool M-Dwarf Binaries** *by Tristan Cavalier et al.*

astro-ph/2606.05364: **A Critical UV Legacy: A Hubble Roadmap for HWO Science Readiness** *by Sarah Peacock et al.*

astro-ph/2606.05451: **Ultraviolet-Driven Atmospheric Degeneracies Challenge Conventional Biosignature Frameworks for Terrestrial Planets with Ultracool M Dwarf Hosts: An Archean-Analog TRAPPIST-1 e Case Study** *by Evan L. Sneed et al.*

astro-ph/2606.05295: **TOI-3664 b, TOI-4034 b & TOI-6564 b: Three new hot Jupiters around stars approaching the terminal age main sequence** *by Matthew P. Battley et al.*
astro-ph/2606.05237: **GREX-PLUS Science Book v2** *by GREX-PLUS Science Team et al.*
astro-ph/2606.04685: **Upper limits on exosatellites around β Pictoris b** *by M. A. Kenworthy et al.*
astro-ph/2606.04529: **Late infall of molecular cloud material reshaped the outer Solar System** *by Elishevah van Kooten et al.*
astro-ph/2606.05132: **The ALMA Survey of Gas Evolution of PROtoplanetary Disks (AGE-PRO): Formaldehyde (H_2CO) emission and its links to disk properties** *by Ella Chevalier et al.*
astro-ph/2606.06230: **Peas and USPs: Can Stellar Spindown and Peas in a Pod Replicate Ultra-Short-Period Planet Characteristics?** *by Adam Distler, Juliette Becker*
astro-ph/2606.06576: **Gaussian Process Latent Factor Regression for Low-Data, High-Dimensional Output Problems** *by Edward T. Stevenson et al.*
astro-ph/2606.06691: **Ultraviolet Radiation Effects on the Optical Properties of Water-Dominated Exoplanet Hazes** *by Lori Huseby et al.*
astro-ph/2606.06868: **The mass of TOI-1883 b: A low density super-Neptune in the ridge regime transiting an early-M dwarf** *by Izuru Fukuda et al.*
astro-ph/2606.06884: **Tidal Disruption of Blanets in Kerr Spacetime** *by Shreesham Pandey, Sunita Singh*
astro-ph/2606.07511: **GJ 3929 b as the First Complete Rocky Worlds DDT Data Set** *by Nicholas J. Connors et al.*
astro-ph/2606.07769: **Towards Instrument-Agnostic Exoplanet Candidate Prioritization** *by Vivaswan Koppparapu et al.*
astro-ph/2606.08859: **A Framework to Model Stellar Irradiated Disks with Frequency-dependent Absorption and Scattering Opacities in Athena++** *by Stanley A. Baronett et al.*
astro-ph/2606.10012: **Complex gas flows in magnetized protoplanetary disks promote the formation of dust traps at low fragmentation velocities** *by Vignesh Vaikundaraman et al.*
astro-ph/2606.09979: **Planet or brown dwarf? Constraints on the formation of H-type objects in IC348** *by Richard J. Parker, Catarina Alves de Oliveira*
astro-ph/2606.10140: **Exploring the Orbital Stability of Large, Lightweight Mirrors around Exoplanets** *by Shauna M. Sallmen Eric J. Korpela*
astro-ph/2606.08996: **Parameter Effects in Circumplanetary Disk Spectra and Prospects for Spectral Fitting** *by Xilei Sun et al.*
astro-ph/2606.09481: **MRI-triggered instability at the inner dead zone edge: disc evolution and burst modes tied to magnetic field strengths** *by Michael Cecil et al.*
astro-ph/2606.10108: **Exploring Exoplanets with Interferometry** *by Sascha P. Quanz et al.*
astro-ph/2606.10624: **Multi-epoch scattered-light analysis of HD 135344B: new evidence for a spiral-driving protoplanet** *by J. Latour et al.*
astro-ph/2606.10816: **Analysis of the young disk around WRAY 15-1880: does it contain a primitive planetary system?** *by Elisabetta Rigliaco et al.*
astro-ph/2606.10888: **First detection of HDO ice in a protoplanetary disk** *by Alexey Potapov et al.*
astro-ph/2606.11026: **MINDS survey of silicates in T Tauri disks: Correlation between dust and gas** *by J. Varga et al.*
astro-ph/2606.11330: **Do Super-Puffs Defy Core Accretion? Population-Wide Interior Structure Constraints** *by Nicholas T. Marston et al.*
astro-ph/2606.11344: **Planet formation at the inner edge of the dead zone II. Outbursts, rings, vortices, and suppression of planetesimal formation** *by Alexandros Ziampras, Tilman Birnstiel*
astro-ph/2606.11452: **Hydrodynamical Simulations of Resonant Breaking in Multi-Planet Systems via Rebound Migration During Disk Dispersal** *by Beibei Liu et al.*
astro-ph/2606.11737: **Machine-learning clustering of close-in exoplanet populations: links to pebble accretion** *by Yi Duann et al.*

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astro-ph/2606.12401: **The carbon isotope ratio of β Pic b with high-resolution spectroscopy** *by D. González Picos et al.*

astro-ph/2606.12524: **An early look at how gas giants shape small planet bulk compositions** *by Joseph Y. Tang et al.*

astro-ph/2606.13789: **COUNTESS I: A Uniformly Vetted Catalog of Known and New Transiting Exoplanets in the TESS Northern Continuous Viewing Zone** *by Andrew Hotnisky et al.*

astro-ph/2606.13920: **A coupled-oscillator model for the formation of planetary rings** *by Ruoming Gong et al.*

astro-ph/2606.12862: **Ultraviolet Imaging of SR 12 c with HST/WFC3: Accretion and Variability of a Giant Planet at the End Stages of Growth** *by Claire O. Finley et al.*

astro-ph/2606.13350: **An unidentified absorption feature at 5.11 μm on the surface of Titan and Pluto from JWST spectroscopy** *by B. Bézard et al.*

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astro-ph/2606.14899: **Direct High-Resolution Imaging of Earth-like Exoplanets with the Solar Gravitational Lens** *by Slava G. Turyshev*

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astro-ph/2606.18464: **Modeling Doppler Shifts in Radial-Velocity Data with Deep Learning toward Earth-mass Exoplanet Detection** *by Isidro Gómez-Vargas et al.*
astro-ph/2606.18792: **Direct Optical Evidence of Late-Stage Infall in AB Aurigae: A Stagnant [O I] Reservoir and a Crushed Magnetosphere** *by Dipen Sahu et al.*
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astro-ph/2606.20789: **Dynamical Tides during High-Eccentricity Migration produces the Hot Jupiter Pile-up, Neptune Ridge, and Neptune Desert** *by J. J. Zanazzi et al.*
astro-ph/2606.20838: **Ground control to major time-lag: on-sky results of data-driven predictive wavefront control at Keck Observatory** *by Jules Fowler et al.*
astro-ph/2606.20398: **Giant impact between high-viscosity Theia and low-viscosity proto-Earth: Origin of lunar isotopic crisis** *by Wenshuai Liu*
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astro-ph/2606.21625: **The GAPS Programme at TNG LXXIV. A reanalysis of the planetary systems TOI-1272 and TOI-1694 with HARPS-N and retraction of the planetary interpretation of TOI-1272 c** *by L. Mancini et al.*
astro-ph/2606.22267: **Reassessment of ammonia self- and air-broadened half-widths in the HITRAN database** *by Ali Elkhazraji*
astro-ph/2606.21855: **The panchromatic JWST dayside spectrum of WASP-121 b reveals a refractory-rich formation** *by K. Angelique Kahle et al.*
astro-ph/2606.22547: **Parameterizing slantwise convection in icy moon oceans** *by Yaoxuan Zeng, Malte F. Jansen*
astro-ph/2606.22455: **Magnetic field strengths of hot giant exoplanets consistent with Solar System values** *by Julia V. Seidel et al.*
astro-ph/2606.22489: **FAUST XXXI. Grain properties and variability of three sources in GSS 30** *by Q. Yang et*

al.

astro-ph/2606.23910: **Effects of Super-rotating Jets on Phase-Resolved Transmission Spectra at High Spectral Resolution** *by Hayley Beltz, Arjun B. Savel*

astro-ph/2606.23899: **Hydrogen airglow from an escaping ultrahot Jupiter atmosphere** *by Yapeng Zhang et al.*

astro-ph/2606.23820: **Photochemical Production of CS2 in Temperate-to-Warm Gas Giant Exoplanet Atmospheres** *by Jeehyun Yang et al.*

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astro-ph/2606.23766: **Machine Learning and Deep Learning for Exoplanet Detection and Atmospheric Characterization with JWST and the Upcoming Ariel Mission** *by Muallim Yakubu, Vwavware Oruaode Jude*

astro-ph/2606.23393: **A λ=1.3 millimeter Survey for Disks around Herbig Be Stars** *by David J. Wilner et al.*

astro-ph/2606.23310: **The Barnard's Star Planetary System: Stability, Composition, and Evolution of Four Sub-Earth Exoplanets** *by Xander Byrne et al.*

astro-ph/2606.23209: **Parametrizing the projected wind fields of ultra-hot Jupiters in thermal emission: an application to GCM spectra of WASP-76b** *by Joost P. Wardenier et al.*

astro-ph/2606.23103: **A decade of monitoring the HIP 41378's planetary system** *by S. Grouffal et al.*

astro-ph/2606.22996: **Characterising transiting exoplanets at long orbital period: lessons learned for PLATO from 10 years of monitoring the HIP41378 system** *by Alexandre Santerne et al.*

astro-ph/2606.23551: **Observing a 542-day transiting giant with large TTVs: The 2025 transit of HIP 41378 f and new constraints on the outer system** *by Pietro Leonardi et al.*

astro-ph/2606.24862: **Ultra-Precise Astrometric Search for Exoplanets with SKA-VLBI** *by Salvador Curiel et al.*

astro-ph/2606.25069: **A Potential Signature of HD 7977's Passage Among Observed Long-Period Comet Orbits** *by Nathan A. Kaib, Sean N. Raymond*

astro-ph/2606.24458: **An Agnostic Machine Learning Model of Photosynthetic Habitability** *by Callum Gray et al.*

astro-ph/2606.24132: **Bayesian analysis of Gaia epoch astrometry and radial velocities with kima** *by Thomas A. Baycroft et al.*

astro-ph/2606.24757: **Coupled atmospHere Interior modeL Intercomparison (CHILI). I. Evolutionary Modelling – Primordial Magma Oceans of Earth and Venus** *by Harrison Nicholls et al.*

astro-ph/2606.26381: **Two inner dust clumps in PDS 70. A third protoplanet traced by trojan material or a substructured inner disk?** *by O. Balsalobre-Ruza et al.*

astro-ph/2606.26358: **Predictions of Transiting Exoplanet Confirmations from Rubin LSST Surveys** *by Suber Corley et al.*

astro-ph/2606.26332: **DiskMINT-GARDEN: Self-consistent Models to Estimate Disk Masses** *by Dingshan Deng et al.*

astro-ph/2606.26232: **Modeling the curved dust sublimation front in protoplanetary disks: a potential probe of midplane turbulence** *by Ezequiel Manzo-Martínez et al.*

astro-ph/2606.26249: **Using VLTI/GRAVITY+ to determine the identity of a third planet candidate in the PDS 70 system** *by David Trevascus et al.*

astro-ph/2606.26075: **Glossy Silicate Clouds on the Scorched Dayside of LTT9779b** *by Suman Saha et al.*
astro-ph/2606.25794: **Substructures in Planet-Forming Disks with the SKAO** *by Yinhao Wu et al.*
astro-ph/2606.25661: **Optical constants of Ih, Ic, and amorphous H_2O ices in the THz and IR ranges** *by A. A. Gavdush et al.*
astro-ph/2606.25648: **Long-term Orbital Period Variations of the Eclipsing Dwarf Nova HT Cas** *by Aykut Ozdonmez et al.*
astro-ph/2606.26214: **Nautilus Space Observatory: The Evolution of Planets and their Atmospheres** *by Ilaria Pascucci et al.*
astro-ph/2606.27289: **Unveiling Complex Chemistry in Planet-forming Disks with the SKAO** *by Linda Podio et al.*
astro-ph/2606.27535: **The Dust Mineralogy of Interstellar Comet 3I/ATLAS from JWST/MIRI Observations** *by Matthew Belyakov et al.*
astro-ph/2606.27477: **From Young to Older Disks: JWST/MIRI Evidence for Fading Molecular Emission and Hints for Elevated C/O in Upper Scorpius** *by Chengyan Xie et al.*
astro-ph/2606.27476: **Chemical Divergence and Water Depletion: Gas Properties of Evolved Upper Scorpius Disks Revealed by JWST/MIRI** *by Eshan Raul et al.*
astro-ph/2606.27278: **Astrochemical Study of Early Embedded Disks** *by Eleonora Bianchi*
astro-ph/2606.27419: **Revisiting the picture of circumbinary disc truncation** *by Enrico Ragusa et al.*
astro-ph/2606.27221: **Cross-correlation transmission spectroscopy of ultra-hot Jupiters WASP-189b, HAT-P-57b, KELT-17b, and KELT-21b with GIANO-B** *by P. Meni-Gallardo et al.*
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