ExoPlanet News
An Electronic Newsletter

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1 Editorial

Welcome to Edition 198 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!

At the end of the year, we can report that this newsletter has reached **over 1330 active subscribers.**

For 2026, 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 (`https://nccr-planets.ch/exoplanetnews/`).

The next issue will appear on Tuesday, January 13th (with a submission deadline ending on Sunday, January 11th, 2026 CET).

Thanks again for your support, happy holidays and all the best for 2026 from the editorial team,

Leander Schlarmann
Jeanne Davoult
Haiyang Wang
Timm-Emanuel Riesen

2 Abstracts of refereed papers

Using Stellar Spectral Energy Distributions to Measure Exoplanet Parameters

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Monthly Notices of the Royal Astronomical Society, in press (arxiv:2511.07536)

The ability to make accurate determinations of planetary parameters is inextricably linked to measuring physical parameters of the host star, in particular the stellar radius. In this paper we fit the stellar spectral energy distributions of exoplanet hosts to measure their radii, making use of only archival photometry, the $Gaia$ parallaxes and $Gaia$ extinction maps. Using the extinction maps frees us of the degeneracy between temperature and extinction which has plagued this method in the past. The resulting radii have typical random uncertainties of about 2 per cent. We perform a quantitative study of systematic uncertainties affecting the methodology and find they are similar to, or smaller than, the random ones. We discuss how the stellar parameters can be used to derive the properties of both transiting exoplanets, and those where only a radial-velocity curve is available. We then explore in detail the improvements the method makes possible for the parameters of the PanCET sample of transiting planets. For this sample we find the best literature measurements of the planetary radii have mean uncertainties about 40 per cent larger than those presented here, with the new measurements achieving precisions of 2 per cent in radius and 10 per cent in mass. In contrast to much recent work, these transiting exoplanets parameters are derived without using theoretical models of stellar interiors, freeing them of the assumptions those models contain, and any priors for stellar age. As the data used are available for the whole sky, the method can be used for self-consistent measurements of the planetary parameters of a very large fraction of known exoplanets.

Download/Website: `https://arxiv.org/abs/2511.07536`
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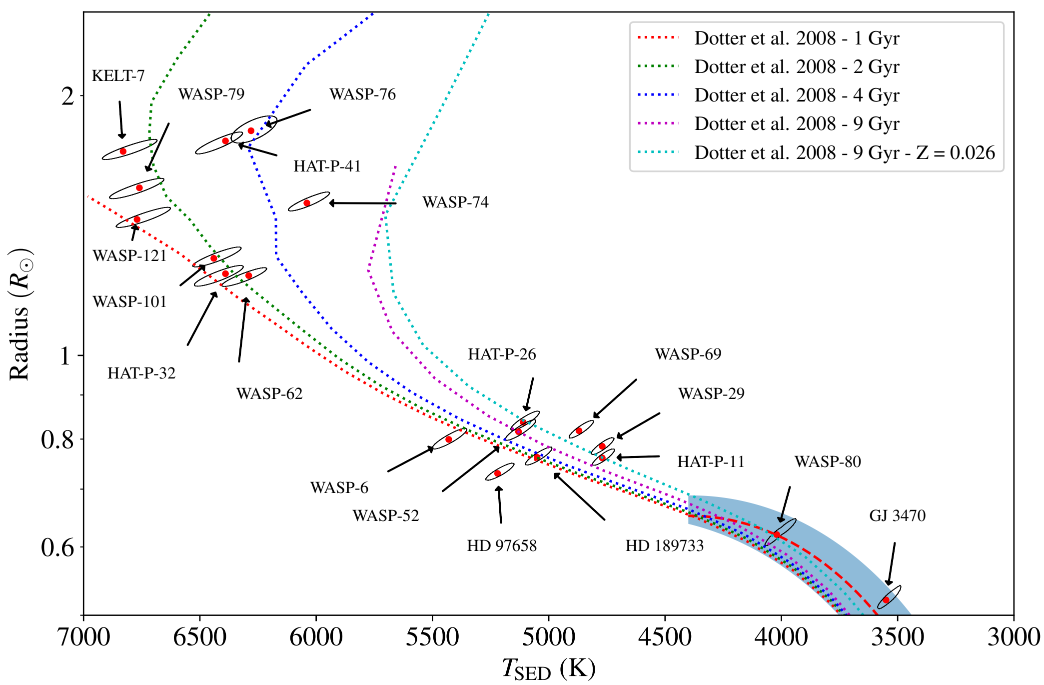

Figure 1: The host star properties in $T_{\mathrm{SED}} - R_\star$ space, along with their associated 68% confidence contours. For comparison we show a series of isochrones from Dotter et al. (2008) and the M-dwarf temperature radius relationship (red dashed line) derived in Morrell et al. (2019) and its bounds (blue shaded region). We emphasise that we do not expect all the stars to lie on these relationships, for example HD 97658 which is known to be metal poor (Howard et al. 2011) and so should lie below the Solar metallicity isochrones.

NIRPS and TESS reveal a peculiar system around the M dwarf TOI-756: A transiting sub-Neptune and a cold eccentric giant

Léna Parc[1], *François Bouchy*[1], *Neil J. Cook*[2], *Nolan Grieves*[1], *Étienne Artigau*[2,3], *Alexandrine L'Heureux*[2], *René Doyon*[2,3], *Yuri S. Messias*[2,4], *and the NIRPS Consortium*

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Astronomy & Astrophysics, published, 702, A138 (10.1051/0004-6361/202555684)

The Near InfraRed Planet Searcher (NIRPS) joined HARPS on the 3.6-m ESO telescope at La Silla Observatory in April 2023, dedicating part of its Guaranteed Time Observations (GTO) program to the radial velocity follow-up of TESS planet candidates to confirm and characterize transiting planets around M dwarfs.
We present the "Sub-Neptunes" subprogram of the NIRPS-GTO, aimed at investigating the composition and formation of sub-Neptunes orbiting M dwarfs. We report the first results of this program with the characterization of the TOI-756 system, which consists of TOI-756 b, a transiting sub-Neptune candidate detected by TESS, as well as TOI-756 c, an additional non-transiting planet discovered by NIRPS and HARPS.
We analyzed TESS and ground-based photometry, high-resolution imaging, and high-precision radial velocities (RVs) from NIRPS and HARPS to characterize the two newly discovered planets orbiting TOI-756, as well as to derive the fundamental properties of the host star. A dedicated approach was employed for the NIRPS RV extraction to mitigate telluric contamination, particularly when the star's systemic velocity was shown to overlap with the barycentric Earth radial velocity.
TOI-756 is a M1V-type star with an effective temperature of $T_{\rm eff} \sim 3657$ K and a super-solar metallicity ([Fe/H]) of 0.20±0.03 dex. TOI-756 b is a 1.24-day period sub-Neptune with a radius of 2.81 $\pm$ 0.10 $R_\oplus$ and a mass of $9.8^{+1.8}_{-1.6}$ $M_\oplus$. TOI-756 c is a cold eccentric (e_c = 0.45 $\pm$ 0.01) giant planet orbiting with a period of 149.6 days around its star with a minimum mass of 4.05 $\pm$ 0.11 $M_{\rm jup}$. Additionally, a linear trend of 146 $\rm m\,s^{-1}\,yr^{-1}$ is visible in the radial velocities, hinting at a third component, possibly in the planetary or brown dwarf regime.
We present the discovery and characterization of the transiting sub-Neptune TOI-756 b and the non-transiting eccentric cold giant TOI-756 c. This system is unique in the exoplanet landscape, standing as the first confirmed example of such a planetary architecture around an M dwarf. With a density of 2.42 $\pm$ 0.49 g cm^{-3}, the inner planet, TOI-756 b, is a volatile-rich sub-Neptune. Assuming a pure H/He envelope, we inferred an atmospheric mass fraction of 0.023 and a core mass fraction of 0.27, which is well constrained by stellar refractory abundances derived from NIRPS spectra. It falls within the still poorly explored radius cliff and at the lower boundary of the Neptune desert, making it a prime target for a future atmospheric characterization with JWST to improve our understanding of this population.
All data used to produce the results presented in this article are publicly available at the following link: `10.82180/dace-voj8hff0`

Download/Website: `https://doi.org/10.1051/0004-6361/202555684`

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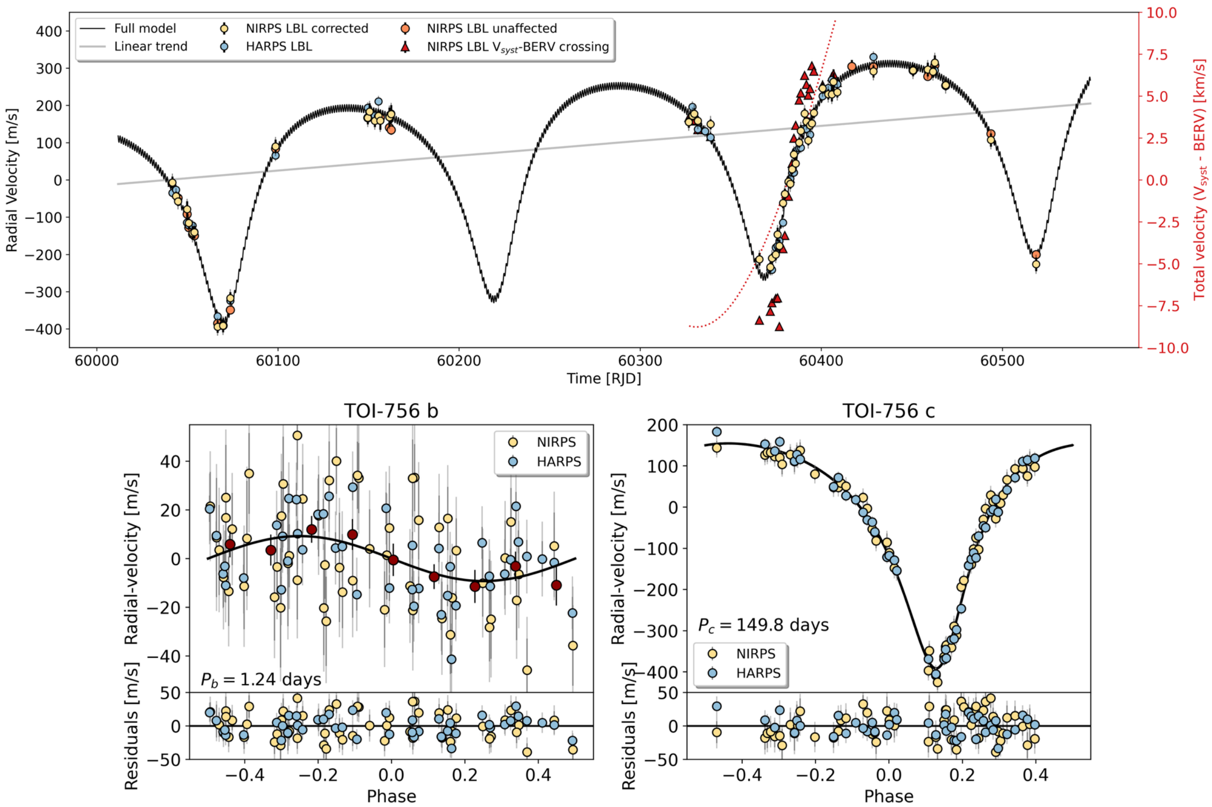

Figure 2: Top panel: RV data from HARPS (blue dots) and NIRPS measurements. The NIRPS data is separated in unaffected datapoints (orange dots) and affected datapoints (red triangles) by the crossing of the V_{syst} and BERV velocities during the observations. Yellow dots are NIRPS data with the correction explained in Sect. 5.2.2. The dotted red line together with the right y axis represent the total velocity of TOI-756, showing the crossing of the BERV with the V_{syst}. The complete inferred model in Sect. 5.2.3, which comprises signals from the two planets along with the linear model for the acceleration (in gray), is represented by a black solid line. Bottom panel: Phase-folded RVs with the resulting model and its residuals for TOI-756 b (left) and TOI-756 c (right). In red dots, binned data combining HARPS (blue dots) and NIRPS (yellow dots). The error-bars in light gray account for the fitted jitters.

A homogeneous transit-timing-variation investigation of all TESS systems with a confirmed single-transiting planet

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Astronomy & Astrophysics, Accepted (arXiv:2511.16504)

Transit-timing variations (TTVs) are a powerful tool for detecting unseen companions in systems with known transiting exoplanets and for characterising their masses and orbital properties. Large-scale and homogeneous TTV analyses represent a valuable method to complement the demographics of planetary systems and understand the role of dynamical interactions. We present the results of a systematic TTV analysis of 423 systems covering $\sim 16\,000$ transits, each with a single transiting planet first discovered by the NASA TESS mission and then confirmed or validated by follow-up studies. The primary aim of this survey is to identify the most promising candidates for dynamically active systems that warrant further investigation. Our analysis was performed in a two-stage pipeline. In the first stage, precise measurements of individual transit times are extracted from the TESS light curves for each system in a homogeneous way. In the second stage, we applied a two-tiered decision framework to classify candidates by analysing the resulting transit variations. Based on excess timing scatter ($\chi^2_{\rm mod}$) and the difference in Bayesian information criterion (ΔBIC) of periodic models over linear ones, the TTVs were classified as significant, marginal, or non-detections. We find 11 systems with significant TTVs, five of which were announced in previous works, and ten more systems with marginal evidence in our sample. We present three-panel diagnostic plots for all the candidates, showing phase-folded light curves, the transit variations over time, and the same variations folded on the recovered TTV period. A comprehensive summary table detailing the fitted parameters and TTV significance for the entire survey sample is also provided. This survey constitutes the largest homogeneous TTV analysis of TESS systems to date. We provide the community with updated ephemerides and a catalogue of high-quality TTV candidates, enabling targeted follow-up observations and detailed dynamical modelling to uncover the nature of unseen companions and study system architectures.

Download/Website: `https://www.arxiv.org/abs/2511.16504`

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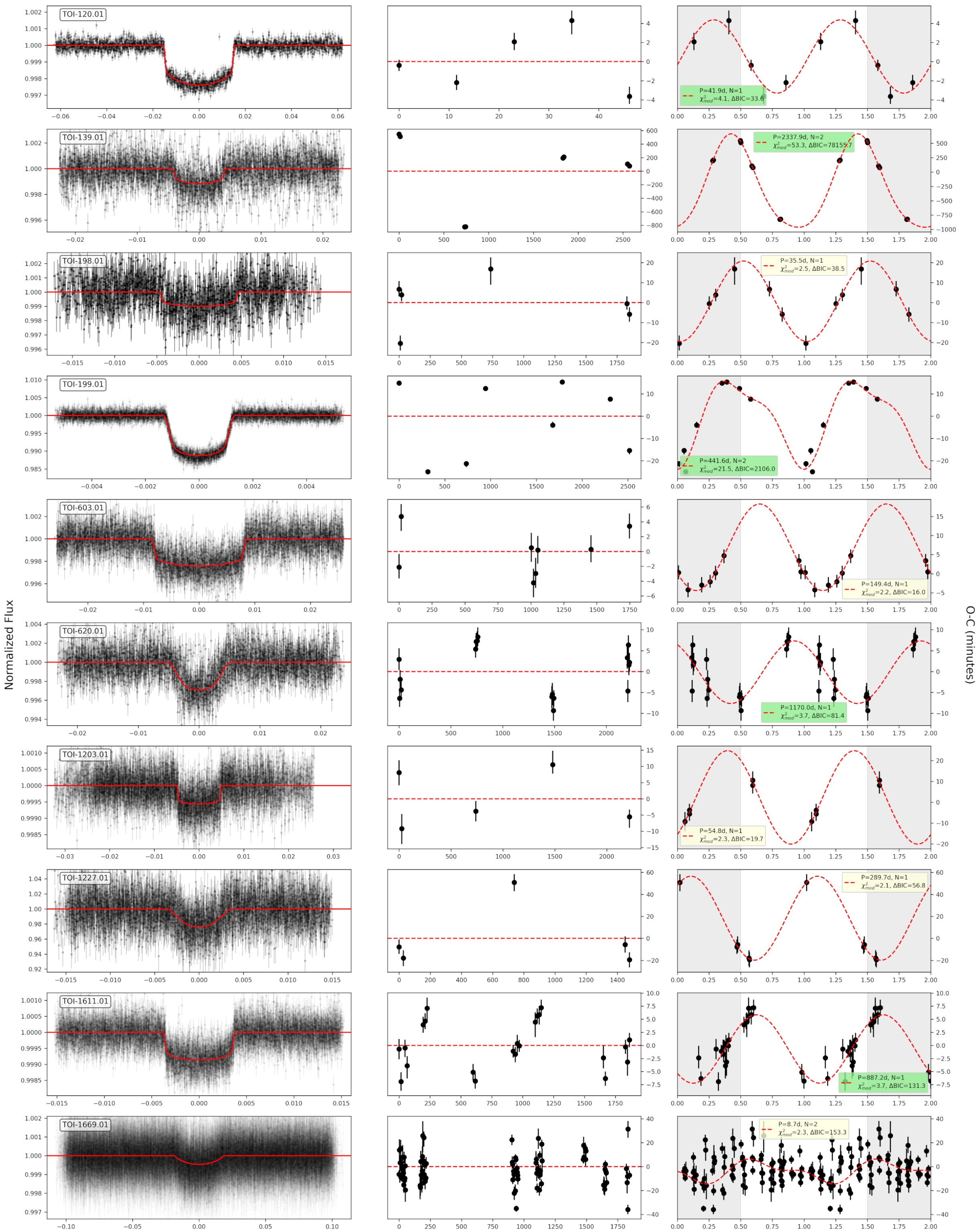

Figure 3: Three-panel diagnostic plot for TTV candidates. Left: TTV-corrected, phase-folded transit light curve with the best-fit model. Middle: O−C measurements over time from first transit (t_0). Right: O−C diagram folded to best-fit TTV period (with the model represented by a dashed red line). The colour of the legend indicates the classification, with green and light yellow representing strong and weak candidates, respectively. Shaded regions indicate phase repetitions for visual continuity.

Ross 458 C: Gas Giant or Brown Dwarf?

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The Astrophysical Journal, published (2025ApJ...994L..237C)

Ross 458 C is a widely separated planetary mass companion at a distance of 1100 AU from its host binary, Ross 458 AB. It is a member of a class of very low-mass companions at distances of hundreds to thousands of AU from their host stars. We aim to constrain Ross 458 C's formation history by fitting its near-IR spectrum to models to constrain its composition. If its composition is similar to its host star, we infer that it likely formed through turbulent fragmentation of the same molecular cloud that formed the host. If its composition is enhanced in heavy elements relative to the host, this lends evidence to formation in the disk and subsequent migration to its current separation. Here, we present high-resolution (R$\sim$2700) emission spectra of Ross 458c with JWST NIRSpec Fixed Slit in the F070LP, F100LP, and F170LP filters from 0.8 to 3.1 μm. We fit these spectra using both grids of forward models (Sonora Bobcat, Sonora Elf Owl, and ExoREM) and atmospheric retrievals (POSEIDON). We also constrain the composition of Ross 458AB by fitting an archival SpeX spectrum with PHOENIX forward models. The forward model grids prefer an enhanced atmospheric metallicity for Ross 458 C relative to the host, but our retrievals return a metallicity consistent with the host within 1σ. Our results offer new insights into the formation history of Ross 458 C, as well as the efficacy of fitting forward model grids versus retrievals to derive atmospheric properties of directly imaged companions.

Download/Website: https://iopscience.iop.org/article/10.3847/1538-4357/ae0ad0

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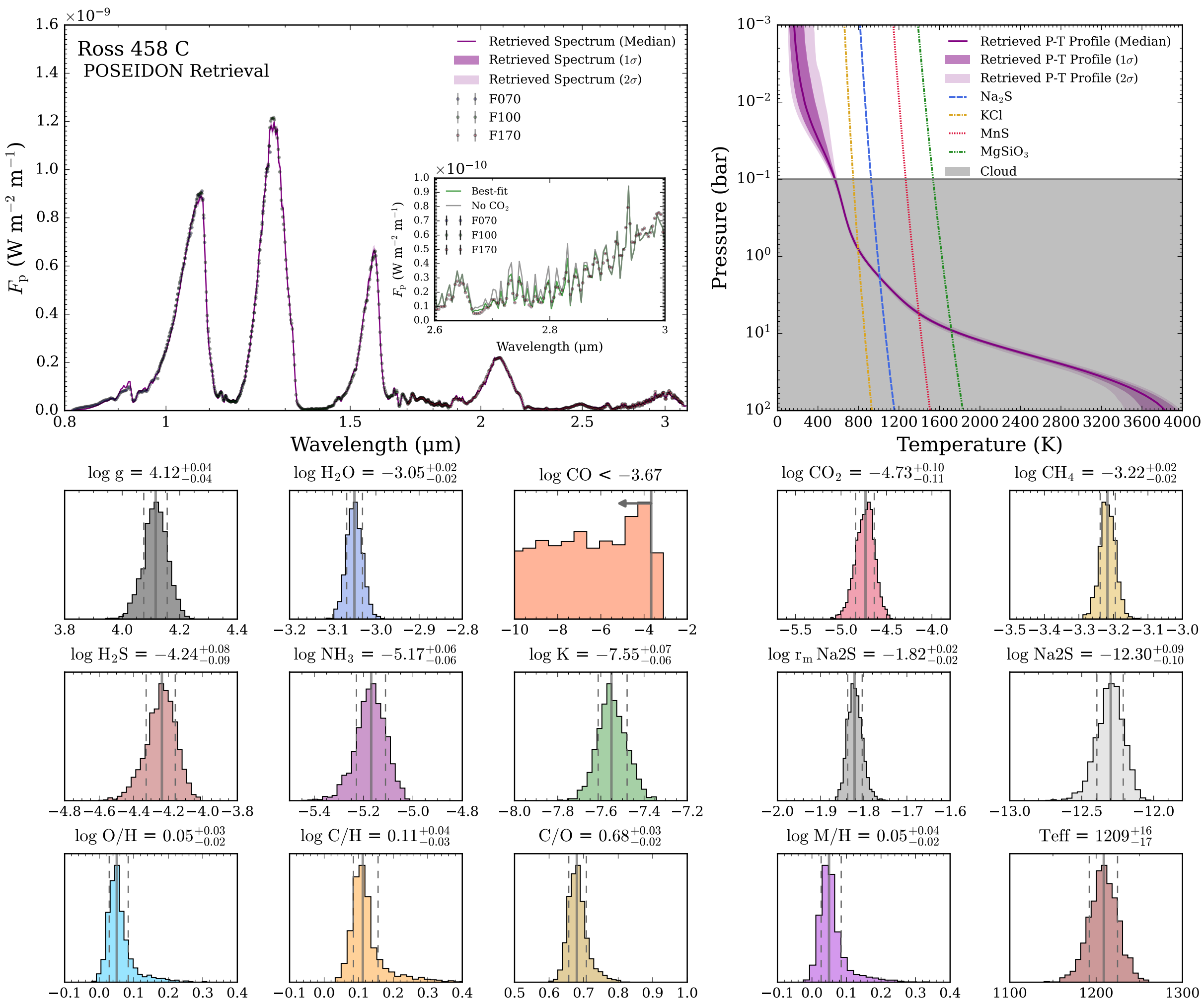

Figure 4: Summary figure of the fit to Ross 458 C using `POSEIDON` atmospheric retrievals. Top left: median, 1σ, and 2σ retrieved spectra compared to the data. Inset is the wavelength range of a 2.8 μm CO_2 absorption band, showing a model with and without CO_2. Top right: retrieved pressure-temperature profile, with condensation curves of the cloud species considered overplotted, from `Virga` (Batalha et al. 2025), and the retrieved cloud location shaded gray. Bottom rows: probability distributions of key parameters, including $\log g$, molecular abundances, cloud properties, C/O, and [M/H].

A substellar flyby that shaped the orbits of the giant planets

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The Open Journal of Astrophysics, Vol. 8, Nov 2025, published; 2025OJAp....846688B

The modestly eccentric and non-coplanar orbits of the giant planets pose a challenge to solar system formation theories which generally indicate that the giant planets emerged from the protoplanetary disk in nearly perfectly circular and coplanar orbits. We demonstrate that a single encounter with a 2–50 Jupiter-mass object, passing through the solar system at a perihelion distance less than 20 AU and a hyperbolic excess velocity of 1–3 $\mathrm{km\,s^{-1}}$, can excite the giant planets' eccentricities and mutual inclinations to values comparable to those observed. We describe a metric to evaluate how closely a simulated flyby system matches the eccentricity and inclination secular modes of the solar system. We estimate that there is about a 1-in-9000 chance that such a flyby occurs during the solar system's residence in its primordial cluster and produces a dynamical architecture similar to that of the solar system. The scenario of an ancient close encounter with a substellar object offers a plausible explanation for the origin of the moderate eccentricities and inclinations and the secular architecture of the planets. We discuss some broader implications of disruptive flyby encounters on planetary systems in the Galaxy.

Download/Website: `https://doi.org/10.33232/001c.146688`

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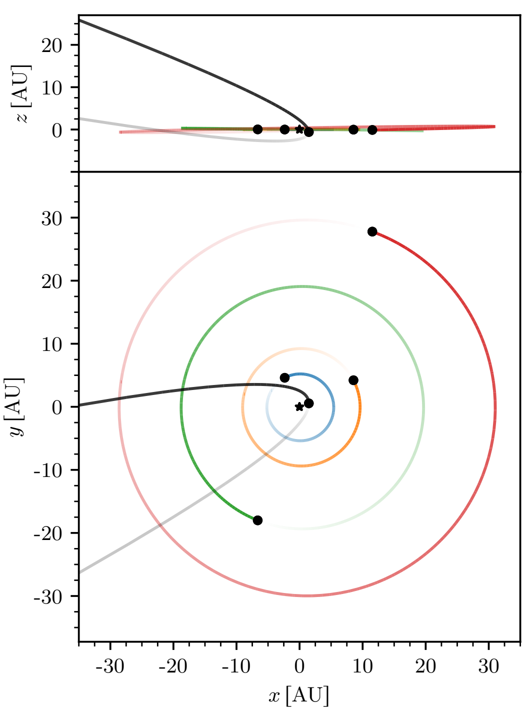

Figure 5: A snapshot of the flyby simulation that produces the best match to the solar system. The flyby parameters for the encounter are $m_\star = 8.27\,\mathrm{M_J}$, $q_\star = 1.69\,\mathrm{AU}$, $v_\infty = 2.69\,\mathrm{km\,s^{-1}}$, and $i_\star = 131°$.

A complex structure of escaping helium spanning more than half the orbit of the ultra-hot Jupiter WASP-121 b

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Nature Communications, published on December 8th (arXiv-Code: arXiv:2510.09809)

Atmospheric escape of close-in exoplanets, driven by stellar irradiation, influences their evolution, composition, and atmospheric dynamics. The near-infrared metastable helium triplet (10833 Å) has become a key probe of this process, enabling mass loss rate measurements for dozens of exoplanets. Only a few studies, however, have detected absorption beyond transit, supporting the presence of hydrodynamic outflows. None have yet precisely identified the physical extent of the out-of-transit signal, either due to non-continuous or short-duration observations. This strongly limits our ability to measure accurate mass-loss rates and to understand how the stellar environment shapes outflows. Here we present the continuous, full-orbit helium phase-curve observation of an exoplanet: the ultra-hot Jupiter WASP-121 b, obtained with the James Webb Space Telescope (JWST) and the Near Infrared Imager and Slitless Spectrograph (NIRISS). We detect significant helium absorption at $> 3\sigma$ over nearly 60% of the orbit, revealing a persistent and large-scale outflow. The signal separates into a dense leading tail moving toward the star and a trailing tail pushed away by stellar irradiation. Both appear to remain collisional far from the planet, implying strong hydrodynamic escape. While qualitatively consistent with theoretical expectations, current models cannot reproduce the full spatial and kinematic structure, limiting precise mass-loss estimates. These results demonstrate JWST's ability to map exoplanet outflows in detail and highlight its synergy with ground-based spectroscopy.

Download/Website: `https://www.doi.org/10.1038/s41467-025-66628-5`

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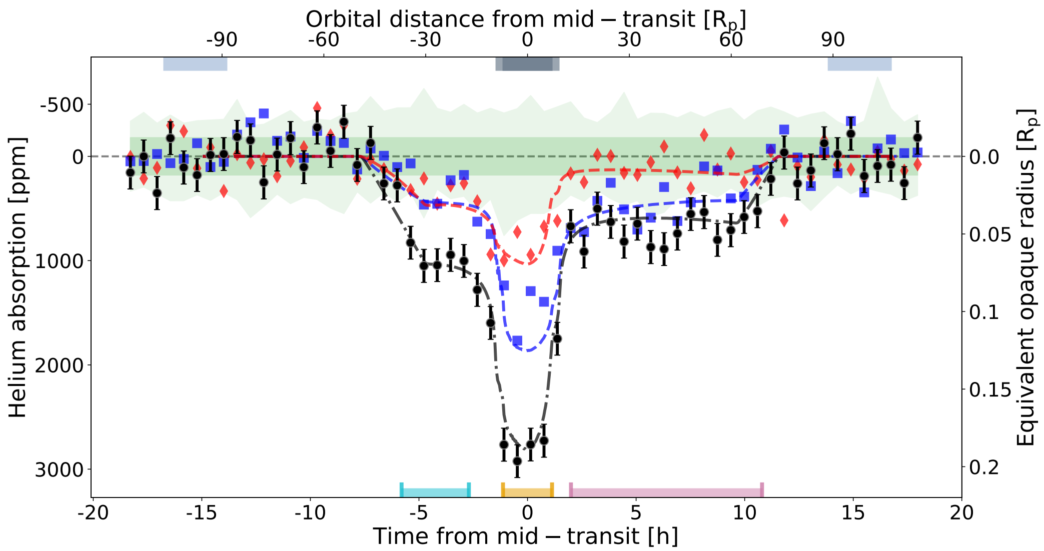

Figure 6: **JWST/NIRISS excess absorption phase curve around the helium triplet** binned into 60 temporal bins showing the helium absorption in part per millions (and its equivalent opaque radius in planet radius on the right axis) as function of the time from mid-transit in hours (and its equivalent distance in planetary radius on the top axis). The central pixel (10836.34 Å) is shown as the black dashed data points (with 1σ error bars). The two neighboring pixels of helium are shown in blue squares (10826.98 Å) and red diamonds (10845.70 Å). The dashed lines denote the best-fit toy model. The dark green region is the standard deviation of all the remaining pixels studied (from 10547.04 to 10714.83 Å and from 10958.12 to 11127.17 Å). In contrast, the light green region represents their upper and lower envelopes (obtained as the minimum and maximum flux value at each temporal bin). At the top, the two eclipses are indicated by the light blue gray regions, while the transit is shown by the grey regions with ingress and egress as the light grey regions. At the bottom, the temporal signature is decomposed as the leading (cyan), transit (orange), and trailing signatures (pink).

Testing the Impact of Planet-stirring, Self-stirring, and Mixed-stirring on Debris Disc Architecture: A Case Study of HD 16743

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Monthly Notices of the Royal Astronomical Society, published (2025MNRAS.tmp.1878M)

Dynamical interactions between planets and debris discs can excite the orbits of embedded planetesimals to such a degree that a collisional cascade is triggered, generating detectable amounts of dust. Millimetre wavelength observations are sensitive to emission from large and cold dust grains, which are unperturbed by radiation forces and act as a proxy for the location of the planetesimals. The influence of unseen planetary companions on debris discs can be inferred with high-resolution imaging observations at millimetre wavelengths, tracing the radial and vertical structure of these belts. Here we present a set of N-body simulations modelling ALMA observations of the HD 16743 debris disc. We consider a range of relative contributions from either a single planetary companion and/or a set of embedded massive planetesimals to reproduce the disc's observed radial and vertical structure. We compare our dynamical results for the limiting cases of planet-stirring and self-stirring, finding them to be consistent with theoretical expectations for each scenario. For the case of HD 16743, we find that a set of massive planetesimals on mildly eccentric orbits, confined to a relatively narrow range of semimajor axes (compared to the observed belt width), offers the best results to reproduce the vertical and radial extent of the observed emission. Our findings constrain the total planet–disk system mass. A combined giant and dwarf planet mass of $\geq 27\ M_\oplus$ can reproduce the observed architecture, with the equipartition scenario requiring only half the disc mass of the self-stirring scenario.

Download/Website: `https://scixplorer.org/abs/2025MNRAS.tmp.1878M/abstract`

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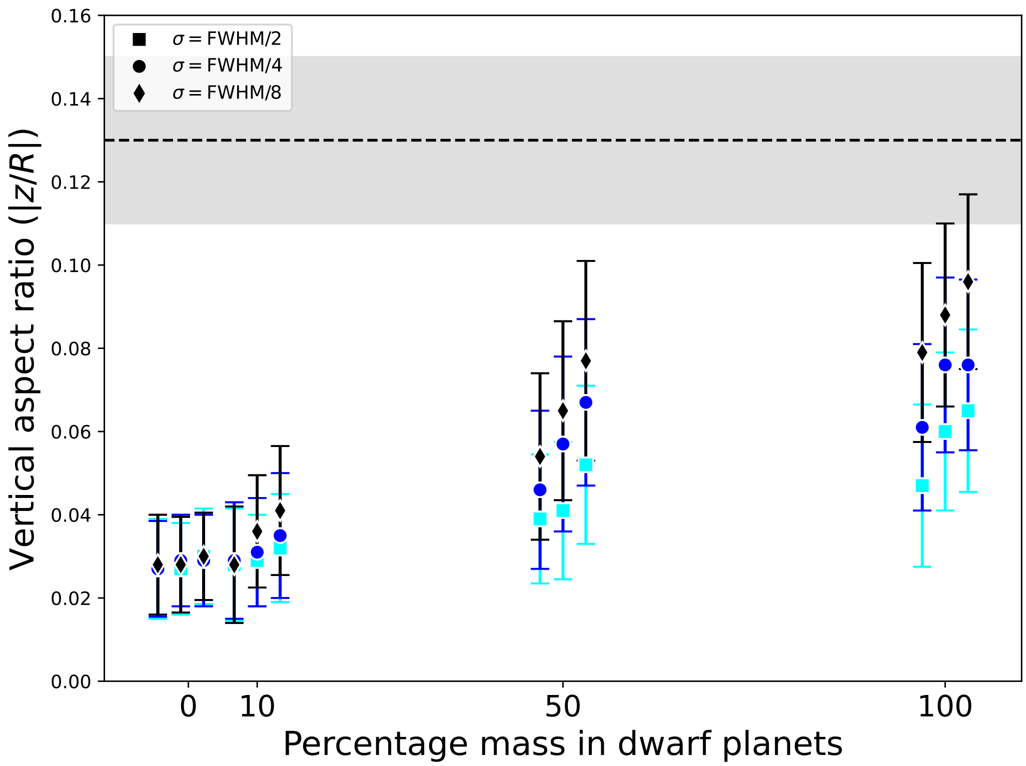

Figure 7: Vertical aspect ratio of the disc models from synthetic observations with the ALMA C6-4 configuration. The aspect ratios (and uncertainties) are presented as a function of the percentage mass of the disc in dwarf planets. Simulations have been spread over ±5% along the x-axis for clarity. Data point colours denote the total mass of the system: 18 (cyan), 27 (blue), or 36 (black) $M_\oplus$. The horizontal dashed line and surrounding shaded region denote the observed vertical aspect ratio of HD 16743's disc and its associated uncertainty ($h = 0.13^{+0.02}_{-0.02}$). We see that the model aspect ratios approach values consistent with the observations for discs comprised solely of planetesimals with cumulative masses greater than or equal to 27 $M_\oplus$.

3 Conferences and Workshops

Layers of Understanding: Model Intercomparisons of Exoplanet Interiors

Lorena Acuña
[1] Max Planck Institute of Astronomy

Heidelberg, 13-17 April 2026

We are very pleased to announce a 5-day conference:

Layers of Understanding: Model Intercomparisons of Exoplanet Interiors

Venue: Haus der Astronomie, on the Max Planck Institute for Astronomy campus in Heidelberg
Date: 13–17 April 2026
Registration deadline: 15 January 2026 **Attendance:** Limited to 60 participants; in-person attendance is possible only after admission by the organizers.

Exoplanet interior modeling is crucial to link observations (bulk density, atmospheric spectra, Love numbers, demographics) with planet formation and habitability. As observational precision improves, the main challenge will shift from data uncertainties to model uncertainties. Addressing these requires comparing existing interior frameworks in terms of their laboratory and quantum molecular dynamics data (equations of state, opacities), theoretical models, and statistical inference methods.
The aim of this conference is to assemble the exoplanet interior community to initiate systematic intercomparisons of interior models and foster discussions on model types, planetary targets, and parameter spaces. We will compile unpublished comparisons, plan future ones ahead of upcoming missions such as PLATO, Ariel, and ELT. Additionally, we will introduce best practices and protocols successfully implemented by the exoplanet atmospheric Global Circulation Model (GCM) community that have led to intercomparisons of complex atmospheric physics models of exoplanets. This provides us a preliminary protocol framework to carry out our comparison of interior models.
Throughout the week, experts will present on these topics from theoretical and empirical perspectives, with ample time dedicated to open discussion and collaboration.

Download/Website: `https://layersofunderstanding2026.github.io/`

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Exoplanets 6 - Registration opening

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

Porto, Portugal, 29 June - 3 July 2026

Important News:

- Registrations and Abstract submission will soon be open at: **www.iastro.pt/exoplanets6**
- Abstracts for contributions will be considered until the end of January 2026.
- Early registration will be open until 20 March 2026: (750 euros).
- Late registration: 21 March – 1st June 2026 (900 euros)
- The conference will be held in Porto, Portugal, in the historical "Alfândega do Porto", within the old town of Porto, near the river: **maps.app.goo.gl/ed2zLNAMLsE21hkc9**

We invite the entire exoplanet community to join us 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 **www.iastro.pt/exoplanets6**

Exoplanets 6 Logo

Contact: `exoplanets6@iastro.pt`

EGU 2026 - PS 5.1 Exoplanets atmospheres: climates, clouds, magnetic fields and charge processes

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[4] Leibniz-Institut fuer Astrophysik, Potsdam, Germany

Vienna, Austria , 3.- 8.5.2026

Dear colleagues,
we would like to advertise the following session at the EGU 2026 in Vienna 3.- 8.5.2026.
P.S.5.1: Exoplanets atmospheres: climates, clouds, magnetic fields and charge processes

This session brings together new developments in the characterisation of exoplanet climate regimes based on observations with, for example, JWST and CHEOPS and also new advances in theoretical modelling triggered by new observations. E.g. JWST for the first time observed features of solid particles which have been interpreted as signatures of mineral clouds in transition spectra of gas giant exoplanets. Smaller space telescopes like TESS and CHEOPS provide equally important insight into the physics of exoplanet atmospheres. TESS, CHEOPS and JWST phase curves and secondary eclipse spectra point to the need of a magnetically coupled atmospheric gas because the observable dayside of ultra-hot Jupiters is dominated by charged particles. While all these processes have been predicted for exoplanets before they could be observed, planetary clouds and magnetic fields have been studied for solar system planets in situ with many space missions.
This session aims to present recent progress in exoplanet atmosphere characterisation based on a combination of observation and modelling. The session focuses on cloud and gas-phase chemistry modelling, the modelling of magnetic coupling and charged particles in atmospheres and how these have and can be observed. Contributions working on the cross-over of solar system and exoplanet sciences are particularly welcomed.
This session is triggered by the upcoming PLATO launch at the end of 2026 and ongoing CHEOPS-PLATO synergies, including atmospheric characterization of hot to ultra-hot Jupiters facilitated by optical observations (secondary eclipse measurements/phasecurves) that are highly complementary to JWST observations in the infrared. The session will also discuss atmosphere interpretation activities on incorporating complex 3D modelling in their data interpretation.
Abstract submission deadline: 15 January 2025

Download/Website: `https://www.egu26.eu/session/56109`

Contact: `ludmila.carone@oeaw.ac.at`

4 Others

Roman Microlensing Data Challenge 2026

Roman Galactic Exoplanet Survey Project Infrastructure Team

January 2026,

The Nancy Grace Roman Space Telescope is predicted to detect approximately 1400 bound planets with microlensing and 50,000 total microlensing events. To increase the number of microlensers by Roman's launch date, the Roman Galactic Exoplanet Survey Project Infrastructure Team has created the Roman Microlensing Data Challenge 2026. Launching in January 2026, the data challenge will give both beginner and experienced microlensing modelers a chance to try fitting simulated Roman microlensing events. To accommodate all levels of experience, the data challenge is divided into two tiers - a beginner tier with fewer, less complex events, and an expert tier that is designed to be challenging even for experienced microlensers. Registration for the data challenge is currently open. Information and sign up links can be found at the URL below.

Download/Website: `https://rges-pit.org/data-challenge/`

Contact: hulbergjon@gmail.com

5 As seen on astro-ph

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

November 2025

astro-ph/2511.11582: **On Bayesian inference considerations and other issues concerning Drake's equation of Astrosociobiology** *by Orfeu Bertolami*
astro-ph/2511.00161: **The Coupled Tidal Evolution of the Moons and Spins of Warm Exoplanets** *by Yubo Su, Melaine Saillenfest*
astro-ph/2511.00515: **Photoevaporation Can Reproduce Extended H_2 Emission from Protoplanetary Disks Imaged by JWST MIRI** *by R. Nakatani et al.*
astro-ph/2511.00513: **On the Gravitational Collapse of Small Dust Grains in Self-gravitating Disk Structures** *by Hans Baehr et al.*
astro-ph/2511.00631: **Modeling dust dynamics in OpenGadget3 – I. SPH implementation of the One-Fluid model** *by Giovanni Tedeschi-Prades et al.*
astro-ph/2511.01231: **Limits on forming coreless terrestrial worlds in the TRAPPIST-1 system** *by Dongyang Huang, Caroline Dorn*
astro-ph/2511.01384: **Chasing the storm: Investigating the application of high-contrast imaging techniques in producing precise exoplanet light curves** *by Ben J. Sutlieff et al.*
astro-ph/2511.01548: **Exoplanet climate characterization with transit asymmetries – A comprehensive population study from the optical to the infrared** *by Ludmila Carone et al.*
astro-ph/2511.01586: **Planets Across Space and Time (PAST). VIII : Kinematic Characterization and Identification of Radial Velocity Variables for the LAMOST-Gaia-TESS Stars** *by Di Wu et al.*
astro-ph/2511.01708: **High CO/H2 ratios supports an exocometary origin for a CO-rich debris disk** *by Kevin D. Smith et al.*
astro-ph/2511.01954: **Precise Radial Velocities** *by Jennifer A. Burt et al.*
astro-ph/2511.01717: **Disk Evolution Study Through Imaging of Nearby Young Stars (DESTINYS): V721 CrA and BN CrA have wide and structured disks in polarised IR** *by Gabriele Columba et al.*
astro-ph/2511.01842: **Origins of Mercury's Big Heart of Iron: Exploring Pathways to Form High Core Mass Fraction (CMF) Planets via N-body Simulations** *by Haniyeh Tajer et al.*
astro-ph/2511.01972: **Inferring the physics of protoplanetary disc evolution from the irradiated Cygnus OB2 region – A comparison of viscous and MHD wind-driven scenarios** *by Jesse Weder et al.*
astro-ph/2511.01973: **Dust back-reaction on gas around planets modifies the cold thermal torque** *by Raúl O. Chametla et al.*
astro-ph/2511.01979: **ExoplaNeT accRetion mOnitoring sPectroscopic surveY (ENTROPY) - II. Time series of Balmer line profiles of Delorme 1(AB)b** *by Dorian Demars et al.*
astro-ph/2511.03045: **Quantifying the Impact of Starspot-Crossing Events on Retrieved Parameters from Transit Lightcurves** *by C. A. Murray, Z. Berta-Thompson*
astro-ph/2511.03021: **High-inclination Centaur reservoirs beyond Neptune** *by Fathi Namouni*
astro-ph/2511.02811: **From thermal to magnetic driving: spectral diagnostics of simulation-based magnetothermal disc wind models** *by Michael L. Weber et al.*
astro-ph/2511.02896: **Determining the impact of post-main-sequence stellar evolution on the transiting giant planet population** *by Edward M. Bryant, Vincent Van Eylen*
astro-ph/2511.02581: **The nature of ASASSN-24fw's occultation: modelling the event as dimming by optically thick rings around a sub-stellar companion** *by Sarang Shah et al.*
astro-ph/2511.02871: **The Exospace Weather Frontier** *by R. O. Parke Loyd et al.*

astro-ph/2511.02643: **The First Occurrence Rate Estimates for Exoplanets in Small-Separation Binary Star Systems: Planet Occurrence is Suppressed in Binary Stars** *by Kendall Sullivan et al.*

astro-ph/2511.03518: **Coherent Differential Imaging of high-contrast extended sources with VLT/SPHERE** *by Axel Potier et al.*

astro-ph/2511.04091: **Early evidence for isotropic planetary obliquities in young super-Jupiter systems** *by Michael Poon et al.*

astro-ph/2511.04372: **Magnetohydrodynamic simulation assessment of a potential near-ultraviolet early ingress in WASP-189b** *by Y. Duann et al.*

astro-ph/2511.04396: **Transiting Exoplanets from Sharjah Astronomical Observatory (SAO-M47): The Exoplanet HAT-P-25b Using L and V Filters** *by Mohammad F. Talafha et al.*

astro-ph/2511.04410: **How the gradient of $M_{\rm d}$ versus UV field strength yields insights into the ages of protoplanetary disc populations** *by Gavin A. L. Coleman, Sierk E. van Terwisga*

astro-ph/2511.04423: **Dust Collisions in Protoplanetary Disks: Atomic Simulations of the Surface Free Energy** *by L. S. Morrissey et al.*

astro-ph/2511.05248: **Multiplicity of stellar systems in the solar neighbourhood, wide binaries, and planet-hosting stars** *by Javier González-Payo*

astro-ph/2511.04592: **The Pre-Outburst Properties of the FU Ori Object HBC 722** *by Gregory J. Herczeg, Bo Reipurth*

astro-ph/2511.04673: **On the Exoplanet Yield of Gaia Astrometry** *by Caleb Lammers, Joshua N. Winn*

astro-ph/2511.05660: **Are We There Yet? Challenges in Quantifying the Frequency of Earth Analogs in the Habitable Zone** *by Rachel B. Fernandes et al.*

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astro-ph/2511.05154: **Upper limits on atmospheric abundances of KELT-11b and WASP-69b from a retrieval approach** *by F. Lesjak et al.*

astro-ph/2511.05658: **Why Estimating $\eta_\oplus$ is Difficult: A Kepler-Centric Perspective** *by Steve Bryson et al.*

astro-ph/2511.06015: **Three New Light Curves and Updated Transit Timings of WASP-135 b** *by Kristine Kate Torres et al.*

astro-ph/2511.06050: **Dust distribution in circumstellar disks harboring multi-planet systems. I. Sub-thermal mass planets** *by V. Roatti et al.*

astro-ph/2511.06507: **Building Wet Planets through High-Pressure Magma-Hydrogen Reactions** *by Harrison Horn et al.*

astro-ph/2511.06935: **Observational evidence for a possible link between PAH emission and dust trap locations in protoplanetary disks** *by Nienke van der Marel et al.*

astro-ph/2511.07370: **Orbital Characterization of a Newly Discovered Small Satellite Around Quaoar** *by Benjamin Proudfoot et al.*

astro-ph/2511.07536: **Using Stellar Spectral Energy Distributions to Measure Exoplanet Parameters** *by Sam Morrell et al.*

astro-ph/2511.07546: **General Circulation Models of Hycean Worlds** *by Edouard Barrier, Nikku Madhusudhan*

astro-ph/2511.07561: **JWST/NIRCam observations of HD 92945 debris disk: An asymmetric disk with a gap** *by C. Lazzoni et al.*

astro-ph/2511.07576: **Resolving the large exoKuiper belt of the HD 126062 debris disc and extended gas emission in its vicinity** *by James M. Miley et al.*

astro-ph/2511.07590: **Dust Recycling and Icy Volatile Enhancement (DRIVE): A Novel Method of Volatile Enrichment in Cold Giant Planets** *by Eric R. Van Clepper et al.*

astro-ph/2511.07632: **Searching for Exoplanets Born Outside the Milky Way: VOYAGERS Survey Design** *by Robert Aloisi et al.*

astro-ph/2511.07656: **A Closed-Form Analytical Theory of Non-Isobaric Transmission Spectroscopy for Exoplanet Atmospheres** *by Leonardos Gkouvelis*

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astro-ph/2511.08862: **CoronaGraph Instrument Reference stars for Exoplanets (CorGI-REx) I. Preliminary Vetting and Implications for the Roman Coronagraph and Habitable Worlds Observatory** *by Justin Hom et al.*
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astro-ph/2511.14733: **Starlight-driven flared-staircase geometry in radiation hydrodynamic models of protoplanetary disks** *by Prakruti Sudarshan et al.*

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astro-ph/2511.20119: **Precise mass and radius determination for two new and one known Neptune-sized planets around G Dwarf hosts** *by Ilaria Carleo et al.*
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astro-ph/2511.21328: **Planet Migration in Protoplanetary Disks with Rims** *by Zhuoya Cao et al.*
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astro-ph/2511.21611: **Transit Timing of the White Dwarf-Cold Jupiter System WD 1856+534** *by Eli A. Gendreau-Distler et al.*
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astro-ph/2511.21853: **Evaluating Star-Planet Interactions with Zeeman Doppler Imaging: Case Study in YZ Ceti** *by J. Sebastian Pineda et al.*
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astro-ph/2511.22709: **Evading the dust fragmentation barrier with the streaming instability in protoplanetary**

disks *by V. Vallucci-Goy et al.*

astro-ph/2511.23018: **ExoJAX Retrievals of VLT/CRIRES Spectra of Luhman 16AB: C/O Ratios and Systematic Uncertainties** *by Hibiki Yama et al.*

astro-ph/2511.23129: **Young M dwarfs flare activity model: Towards better exoplanetary atmospheric characterisation** *by E. Mamonova et al.*

astro-ph/2511.23163: **Large-amplitude Variability Driven by Giant Dust Storms on a Planetary-mass Companion** *by Xianyu Tan et al.*