

## Contents

|  |           |
|--|-----------|
| <b>1 Editorial</b>   | <b>2</b>  |
| <b>2 Abstracts of refereed papers</b>  | <b>3</b>  |
| – Systematic determination of dust properties for a sample of 133 spatially resolved debris discs <i>Marshall et al.</i> . . . . .   | 3         |
| – Modelling dust coagulation, dynamical drag and turbulent mixing during star and disc formation <i>Bate, Hutchison &amp; Elsender</i> . . . . .   | 5         |
| – Uniform Forward-Modeling Analysis of Ultracool Dwarfs. IV. Benchmarking the Sonora Diamond-back and Saumon & Marley (2008) Atmospheric Models Across Late-M, L, and T types with Low-Resolution 0.8–2.5 $\mu\text{m}$ Spectroscopy <i>Mader et al.</i> . . . . . | 7         |
| – Dynamical constraints on the S2 (S0-2) star possible companions <i>Silva et al.</i> . . . . .  | 8         |
| – Discovery and characterisation of two exoplanets orbiting the metal-poor, solar-type star TOI-5788 with TESS, CHEOPS, and HARPS-N <i>Lakeland et al.</i> . . . . .   | 9         |
| <b>3 Exoplanet Archives</b>  | <b>11</b> |
| – January 2026 Updates at the NASA Exoplanet Archive <i>The NASA Exoplanet Archive team</i> . . . . .  | 11        |
| <b>4 Jobs and Positions</b>  | <b>12</b> |
| – Postdoctoral Scholars in Exoplanets and/or Substellar Objects <i>California Institute of Technology</i> . . . . .  | 12        |
| <b>5 Conferences and Workshops</b>   | <b>13</b> |
| – ‘Discs on the Exe’ conference 2026 <i>Sebastian Marino (on behalf of the SOC)</i> . . . . .  | 13        |
| – EPSC2026 Call for Sessions . . . . .   | 14        |
| <b>6 As seen on astro-ph</b>   | <b>15</b> |

## 1 Editorial

Welcome to Edition 200 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, March 10th (with a submission deadline ending on Sunday, March 8th, 2026 CET).

Leander Schlarman  
Haiyang Wang  
Jeanne Davoult  
Timm-Emanuel Riesen

## 2 Abstracts of refereed papers

### Systematic determination of dust properties for a sample of 133 spatially resolved debris discs

*J. P. Marshall*<sup>1</sup>, *S. Hengst*<sup>2</sup>, *R. Young*<sup>3</sup>, *F. Kemper*<sup>4,5,6</sup>, *L. Matrà*<sup>7</sup>, *N. Pawellek*<sup>8,9</sup>, *H. Kobayashi*<sup>10</sup>, *P. Scicluna*<sup>11</sup>, *S. T. Zeegers*<sup>12</sup>

<sup>1</sup> Academia Sinica Institute of Astronomy and Astrophysics, 11F of AS/NTU Astronomy-Mathematics Building, No.1, Sect. 4, Roosevelt Rd, Taipei 106319, Taiwan

<sup>2</sup> Centre for Astrophysics, University of Southern Queensland, Toowoomba, QLD 4350, Australia

<sup>3</sup> Vanderbilt University, Nashville, Tennessee, United States

<sup>4</sup> Institut de Ciències de l'Espai (ICE, CSIC), Can Magrans, s/n, E-08193 Cerdanyola del Vallès, Barcelona, Spain

<sup>5</sup> ICREA, Pg. Lluís Companys 23, E-08010 Barcelona, Spain

<sup>6</sup> Institut d'Estudis Espacials de Catalunya (IEEC), E- 08860 Castelldefels, Barcelona, Spain

<sup>7</sup> School of Physics, Trinity College Dublin, the University of Dublin, College Green, Dublin 2, Ireland

<sup>8</sup> Institut für Astrophysik, Universität Wien, Türkenschanzstraße 17, 1180 Vienna, Austria

<sup>9</sup> Konkoly Observatory, Research Centre for Astronomy and Earth Sciences, Eötvös Loránd Research Network (ELKH), Konkoly-Thege Miklós út 15-17, 1121 Budapest, Hungary

<sup>10</sup> Department of Physics, Nagoya University, Nagoya, Aichi 464-8602, Japan

<sup>11</sup> Centre for Astrophysics Research, University of Hertfordshire, Hatfield, UK

<sup>12</sup> European Space Agency / ESTEC Keplerlaan 1, 2201 AZ, Noordwijk, The Netherlands

*MNRAS, published (2026MNRAS.545S2221M)*

Determination of the composition and size distribution of dust grains in debris discs is strongly dependent on constraining the underlying spatial distribution of that dust through multi-wavelength, spatially resolved imaging spanning near-infrared to millimetre wavelengths. To date, spatially resolved imaging exists for well over a hundred debris disc systems. Simple analytical radiative transfer models of debris dust emission can reveal trends in disc properties as a function of their host stars' luminosities. Here we present such an analysis for 133 debris discs, calculating the dust grain minimum sizes ( $s_{\min}$ ), dust masses ( $M_{\text{dust}}$ ), and exponents of the size distribution ( $q$ ) in conjunction with their architectures determined at far-infrared or millimetre wavelengths. The distribution of  $q$  at far-infrared to millimetre wavelengths is characterised, finding a value of  $3.49^{+0.38}_{-0.33}$ . We further newly identify a trend between  $q$  and  $R_{\text{disc}}$ , which may be indicative of velocity dependent fragmentation, or grain growth at large radii. We find the disc masses inferred from this analysis are consistent with those of protoplanetary discs. Finally, we identify samples of debris discs suitable for further characterisation at millimetre and centimetre wavelengths, expanding the number of spatially resolved systems upon which future studies of these statistics can be based.

*Download/Website:* <https://scixplorer.org/abs/2026MNRAS.545S2221M/abstract>

*Contact:* [jmarshall@asiaa.sinica.edu.tw](mailto:jmarshall@asiaa.sinica.edu.tw)

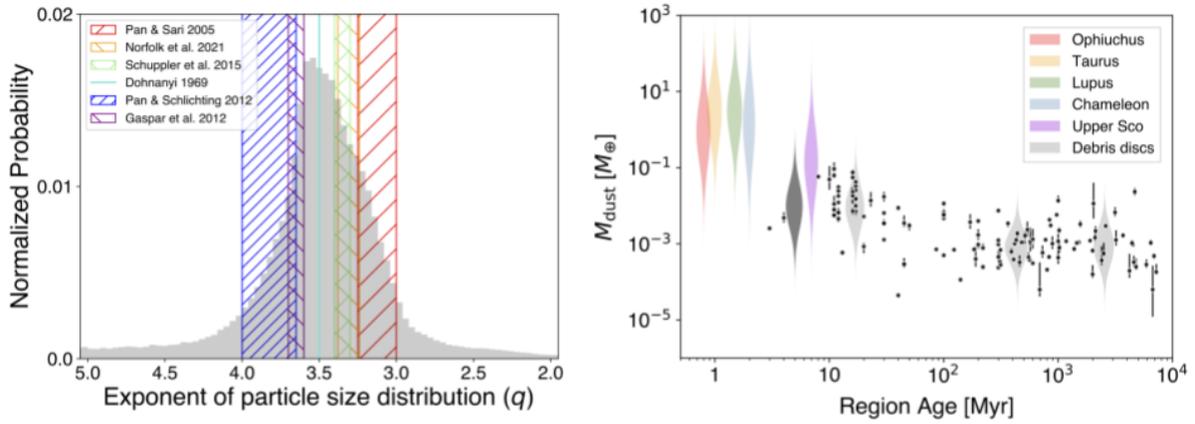


Figure 1: *Left*: Histogram of  $q$  values derived from modelling. The distribution is assembled from the posterior probability distributions of individual systems. Hatched regions on the plot denote the regions associated with  $q$  expected for different collisional models. *Right*: Violin plot of  $M_{\text{dust}}$  vs. time comparing the dust masses for star forming regions against the distribution of debris discs. Coloured shaded regions show the distributions for the Chameleon, Lupus, Ophiucus, Taurus, and Upper Sco star forming regions, following Manara et al. (2023). The light grey shaded regions show the same distribution for debris disc dust masses for three age ranges,  $t = 10$ –100 Myr, 100–1000 Myr, and 1000–10000 Myr, plotted at the median age for each interval. The dark grey shaded region shows the backward extrapolated dust mass of the ensemble for  $t = 5$  Myr based on the disc evolution models of Wyatt et al. (2007). Solid data points show the calculated dust masses for the debris disc sample.

## Modelling dust coagulation, dynamical drag and turbulent mixing during star and disc formation

*Matthew R. Bate*<sup>1</sup>, *Mark A. Hutchison*<sup>2,3</sup>, *Daniel Elsender*<sup>1</sup>

<sup>1</sup> Department of Physics and Astronomy, University of Exeter, Stocker Road, Exeter EX4 4QL, UK

<sup>2</sup> Universitäts-Sternwarte, Ludwig-Maximilians-Universität München, Scheinerstr. 1, 81679 München, Germany

<sup>3</sup> Hochschule für angewandte Wissenschaften München, Lothstraße 34, 80335 München, Germany

*MNRAS, in press (2025arXiv251206409B/arXiv:2512.06409)*

Planet formation in the discs around young stars involves the coagulation of sub-micron sized dust grains into much larger grains that may be mixed by turbulence and migrate through the disc. In this paper, we describe how we have combined a method for modelling the coagulation of a population of dust grains with the MULTIGRAIN algorithm for modelling the dynamical evolution of a population of dust grains that are subject to strong gas drag. We solve the dynamical evolution of the dust grains due to gas drag using a recently-developed implicit integration method, and we introduce a new implicit method to model the diffusion of the dust due to unresolved hydrodynamic turbulence. The resulting smoothed particle hydrodynamics (SPH) code allows us, for the first time, to model the growth, mixing and migration of dust grain populations during the early stages of star formation and the formation, growth and evolution of a young protoplanetary disc using three-dimensional hydrodynamical simulations. In doing so, we find that including turbulent dust diffusion within the disc provides a substantial enhancement of the rate of dust grain growth due to the fact that the turbulent diffusion provides a source of small and intermediate dust grains to the regions in which the largest dust grains are growing.

*Download/Website:* <https://arxiv.org/pdf/2512.06409>

*Contact:* M.R.Bate@exeter.ac.uk

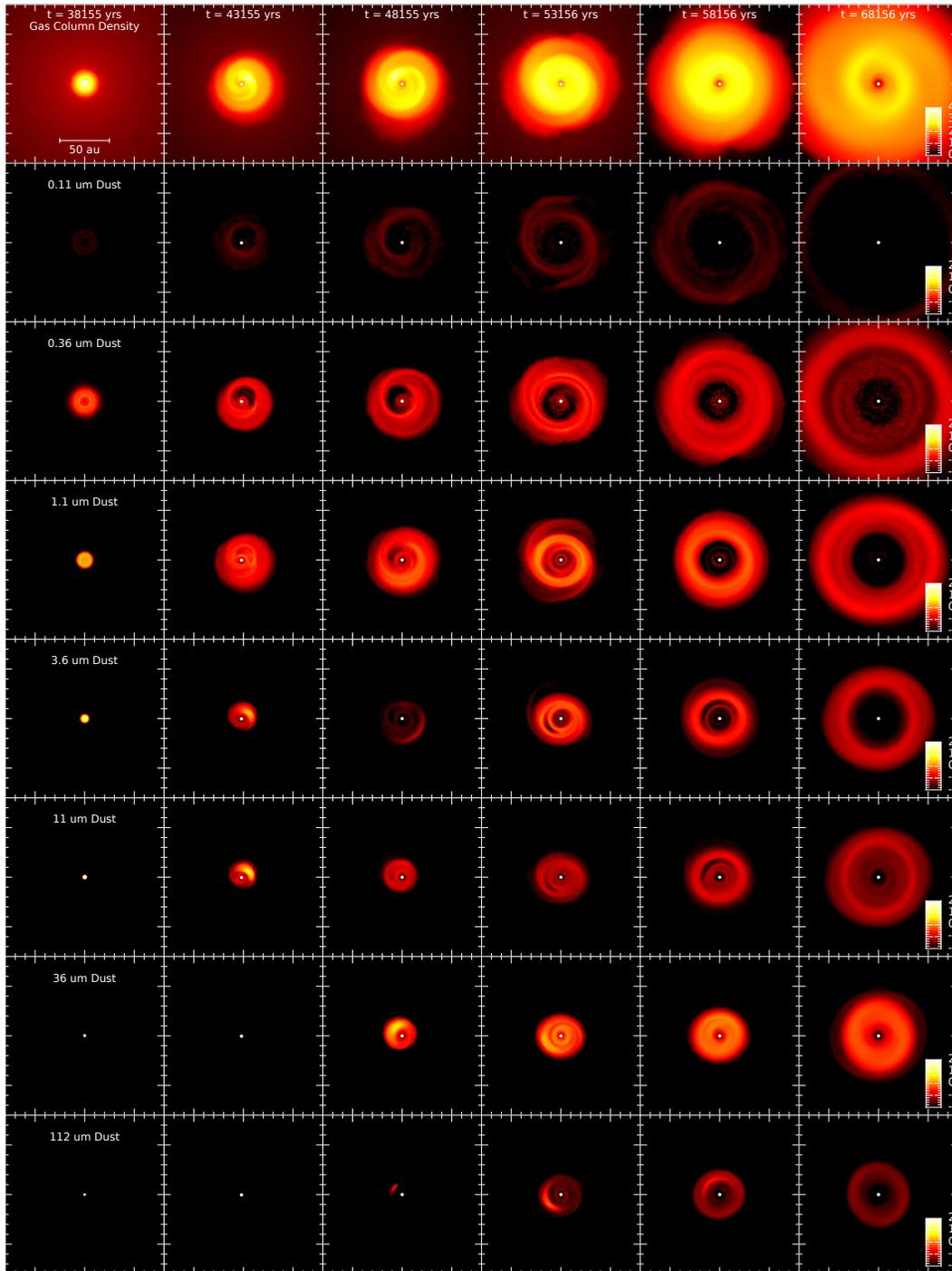


Figure 2: The evolution of the protostellar disc produced from the collapse of a rotating Bonnor-Ebert molecular cloud core, using all three dust evolutionary processes (i.e., dust coagulation, dust-gas drag, and turbulent diffusion) and assuming  $\alpha_{SS} = 10^{-4}$  for the dust coagulation and dust turbulent diffusion. Each panel shows the logarithm of the column density (in  $\text{g cm}^{-2}$ ), viewed down the rotation axis, of either the gas (top row) or the dust contained in a particular dust bin (the other rows, with dust sizes 0.11, 0.36, 1.1, 3.6, 11, 36, or 112  $\mu\text{m}$  from the second row down to the bottom row). Each column shows the state of calculation at a different time. The first column shows the calculation just before the sink particle is inserted (i.e., just before stellar core formation). Subsequent columns show the states 5000, 10,000, 15,000, 20,000 and 30,000 years later, with the sink particle plotted as a white dot.

## Uniform Forward-Modeling Analysis of Ultracool Dwarfs. IV. Benchmarking the Sonora Diamondback and Saumon & Marley (2008) Atmospheric Models Across Late-M, L, and T types with Low-Resolution 0.8–2.5 $\mu\text{m}$ Spectroscopy

*E. Mader*<sup>1,2</sup>, *Z. Zhang*<sup>1,3</sup>, *J. Fortney*<sup>1</sup>, *C. Morley*<sup>4</sup>, *M. Bossett*<sup>1</sup>, *M. Marley*<sup>5</sup>, *S. Mukherjee*<sup>1</sup>, *B. Bowler*<sup>6</sup>, *M. Liu*<sup>7</sup>

<sup>1</sup> Department of Astronomy & Astrophysics, University of California, Santa Cruz, CA 95064, USA

<sup>2</sup> School of Information, University of California, Berkeley, CA 94720, USA

<sup>3</sup> Department of Physics & Astronomy, University of Rochester, Rochester, NY 14627, USA

<sup>4</sup> Department of Astronomy, The University of Texas at Austin, Austin, TX 78712, USA

<sup>5</sup> Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721, USA

<sup>6</sup> Department of Physics, University of California, Santa Barbara, Santa Barbara, CA 93106, USA

<sup>7</sup> Institute for Astronomy, University of Hawai'i at Mānoa, 2680 Woodlawn Drive, Honolulu, HI 96822, USA

*The Astronomical Journal*, in press (arXiv: 2601.18866)

We present a systematic assessment of two major cloudy atmospheric model grids — SM08 (Saumon & Marley 2008) and Sonora Diamondback (Morley et al. 2024) — when applied to low-resolution near-infrared (0.8–2.5  $\mu\text{m}$ ) spectroscopy. Our analysis focuses on a uniform sample of 142 age-benchmark brown dwarfs and planetary-mass objects spanning late-M, L, and T spectral types, with independently determined ages from 10 Myr to 10 Gyr. We perform forward-model spectral fitting for all benchmarks' IRTF/SpeX spectra ( $R \sim 80\text{--}250$ ) using both SM08 and Sonora Diamondback atmospheric models to infer effective temperatures, surface gravities, metallicities, radii, and cloud sedimentation efficiencies. The two model grids yield broadly consistent results. Among L4–L9 dwarfs, we identify a statistically significant, population-level age dependence of the cloud parameter  $f_{\text{sed}}$ , with young benchmarks ( $< 300$  Myr) exhibiting systematically lower  $f_{\text{sed}}$  values than older counterparts. This trend is absent across L0–T5 and T0–T5, demonstrating that cloud properties vary with age and surface gravity and offering explanations for the observed gravity-dependent photometric properties at the late-L end of the L/T transition. By comparing spectroscopically inferred parameters with predictions from evolution models, we quantify systematic errors in the fitted atmospheric parameters and establish empirical calibrations to anchor future studies using these atmospheric models. Stacked residuals across the sample reveal wavelength-dependent data-model mismatches associated with key atomic and molecular absorption bands, highlighting the need for improved opacities and rainout chemistry. In particular, persistent residuals in FeH bands likely contribute to the difficulty of robustly constraining  $\log(g)$  and mass from spectral fitting for late-M and L dwarfs. Finally, we show that including an interstellar-medium-like extinction term significantly improves the spectral fits, confirming and broadening previous findings and suggesting missing opacity sources in current cloudy models.

*Download/Website:* <https://ui.adsabs.harvard.edu/abs/2026arXiv260118866M/abstract>,  
<https://doi.org/10.5281/zenodo.18375777>

*Contact:* zjzhang@rochester.edu

## Dynamical constraints on the S2 (S0-2) star possible companions

R.P. Silva<sup>1,2,3</sup>, A.C.M. Correia<sup>1,4</sup>, T.C.N. Boekholt<sup>5</sup>, P.J.V. Garcia<sup>2,3</sup>

<sup>1</sup> CFisUC, Departamento de Física, Universidade de Coimbra, 3004-516 Coimbra, Portugal

<sup>2</sup> Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal

<sup>3</sup> CENTRA - Centro de Astrofísica e Gravitação, IST, Universidade de Lisboa, 1049-001 Lisboa, Portugal

<sup>4</sup> LTE, Observatoire de Paris, Université PSL, Sorbonne Université, CNRS, 75014 Paris, France

<sup>5</sup> Anton Pannekoek Institute for Astronomy, University of Amsterdam, 1090 GE Amsterdam, The Netherlands

*Astronomy & Astrophysics, published (2026A&A...706A..63S)*

The centre of the Galaxy harbours a supermassive black hole, Sgr A\*, which is surrounded by a massive star cluster known as the S-cluster. The most extensively studied star in this cluster is the B-type main-sequence S2 star (also known as S0-2). These types of stars are commonly found in binary systems in the Galactic field, but observations do not seem to detect a companion to S2. This absence may be attributed to observational biases or to a dynamically hostile environment caused by phenomena such as tidal disruption or mergers. Using a  $N$ -body code with first-order post-Newtonian corrections, we investigate whether S2 can host a stellar or planetary companion. We perform  $10^5$  simulations adopting uniform distributions for the orbital elements of the companion. Our results show that companions may exist for orbital periods shorter than 100 days, eccentricities below 0.8, and across the full range of mutual inclinations. The number of surviving companions increases with shorter orbital periods, lower eccentricities, and nearly coplanar orbits. We also find that the disruption mechanisms include mergers driven by Lidov-Kozai cycles and breakups that occur when the companion surpasses the Hill radius of its orbit. Finally, we find that the presence of a companion would alter S2's astrometric signal by no more than  $5 \mu\text{as}$ . Current radial-velocity detection limits constrain viable stellar binary configurations to approximately 4.4% of the simulated cases. Including astrometric limits reduces to 4.3%. Imposing an additional constraint that any companion must have a mass  $\leq 2 M_{\odot}$  (otherwise it would be visible) narrows the fraction of undetectable stellar binaries to just 3.0%.

*Download/Website:* <https://arxiv.org/abs/2512.11046>

*Contact:* alexandre.correia@uc.pt

## Discovery and characterisation of two exoplanets orbiting the metal-poor, solar-type star TOI-5788 with TESS, CHEOPS, and HARPS-N

B. S. Lakeland<sup>1,2</sup>, A. Mortier<sup>1</sup>, R. D. Haywood<sup>2</sup>, S. Ulmer-Moll<sup>3,4</sup>, Z. Garai<sup>5,6</sup>, A. Vanderburg<sup>16</sup>, J. A. Egger<sup>7,8</sup>, D. A. Turner<sup>1</sup>, D. Kublyshkina<sup>7,9</sup>, A. C. M. Correia<sup>10</sup>, H. P. Osborn<sup>11,12</sup>, L. A. Buchhave<sup>13</sup>, L. Malavolta<sup>14,15</sup> et al.

<sup>1</sup> School of Physics and Astronomy, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK

<sup>2</sup> Astrophysics Group, University of Exeter, Exeter, EX4 2QL, UK

<sup>3</sup> Leiden Observatory, University of Leiden, Einsteinweg 55, 2333 CA Leiden, The Netherlands

<sup>4</sup> Space sciences, Technologies and Astrophysics Research (STAR) Institute, Université de Liège, Allée du 6 Août 19C, 4000 Liège, Belgium

<sup>5</sup> Astronomical Institute, Slovak Academy of Sciences, 059 60 Tatranská Lomnica, Slovakia

<sup>6</sup> ELTE Gothard Astrophysical Observatory, Szent Imre h. u. 112, 9700 Szombathely, Hungary

<sup>7</sup> Space Research and Planetary Sciences, Physics Institute, University of Bern, Gesellschaftsstrasse 6, 3012 Bern, Switzerland

<sup>8</sup> European Space Agency (ESA), European Space Research and Technology Centre (ESTEC), Keplerlaan 1, 2201 AZ Noordwijk, The Netherlands

<sup>9</sup> Space Research Institute, Austrian Academy of Sciences, Schmiedlstrasse 6, A-8042 Graz, Austria

<sup>10</sup> CFisUC, Department of Physics, University of Coimbra, 3004-516 Coimbra, Portugal

<sup>11</sup> Center for Space and Habitability, University of Bern, Gesellschaftsstraße 6, 3012 Bern, Switzerland

<sup>12</sup> ETH Zurich, Department of Physics, Wolfgang-Pauli-Straße 2, CH-8093 Zurich, Switzerland

<sup>13</sup> DTU Space, Technical University of Denmark, Elektrovej 328, DK-2800 Kgs. Lyngby, Denmark

<sup>14</sup> Dipartimento di Fisica e Astronomia “Galileo Galilei”, Università degli Studi di Padova, Vicolo dell’Osservatorio 3, Padova, IT-35122, Italy

<sup>15</sup> INAF - Osservatorio Astronomico di Padova, Vicolo dell’Osservatorio 5, Padova, IT-35122, Italy

<sup>16</sup> Center for Astrophysics | Harvard & Smithsonian, 60 Garden Street, Cambridge, MA 02138, USA

*MNRAS*, in press (arXiv:2601.14045)

We present the discovery and characterisation of two transiting exoplanets orbiting the metal-poor, solar-type star TOI-5788. From our analysis of six *TESS* sectors and a dedicated *CHEOPS* programme, we identify an inner planet (TOI-5788 b;  $P = 6.340758 \pm 0.000030$  d) with radius  $1.528 \pm 0.075 R_{\oplus}$  and an outer planet (TOI-5788 c;  $P = 16.213362 \pm 0.000026$  d) with radius  $2.272 \pm 0.039 R_{\oplus}$ . We obtained 125 radial-velocity spectra from HARPS-N and constrain the masses of TOI-5788 b and c as  $3.72 \pm 0.94 M_{\oplus}$  and  $6.4 \pm 1.2 M_{\oplus}$ , respectively. Although dynamical analyses indicate that a third planet could exist in a stable orbit between 8 and 14 days, we find no evidence of additional planets. Since the TOI-5788 system is one of the few systems with planets straddling the radius gap, and noting that there are even fewer such systems around metal poor stars, it is a promising system to constrain planet formation theories. We therefore model the interior structures of both planets. We find that TOI-5788 b is consistent with being a rocky planet with almost no envelope, or having an atmosphere of a high mean molecular weight. We find that TOI-5788 c is consistent with both gas-dwarf and water-world hypotheses of mini-Neptune formation. We model the atmospheric evolution history of both planets. Whilst both scenarios are consistent with the atmospheric evolution of TOI-5788 c, the gas-dwarf model is marginally preferred. The results of the atmospheric evolution analysis are not strongly dependent on stellar evolution. This makes the system a promising target to test internal structure and atmospheric evolution models.

Download/Website: <https://arxiv.org/abs/2601.14045>

Contact: b.s.lakeland@bham.ac.uk

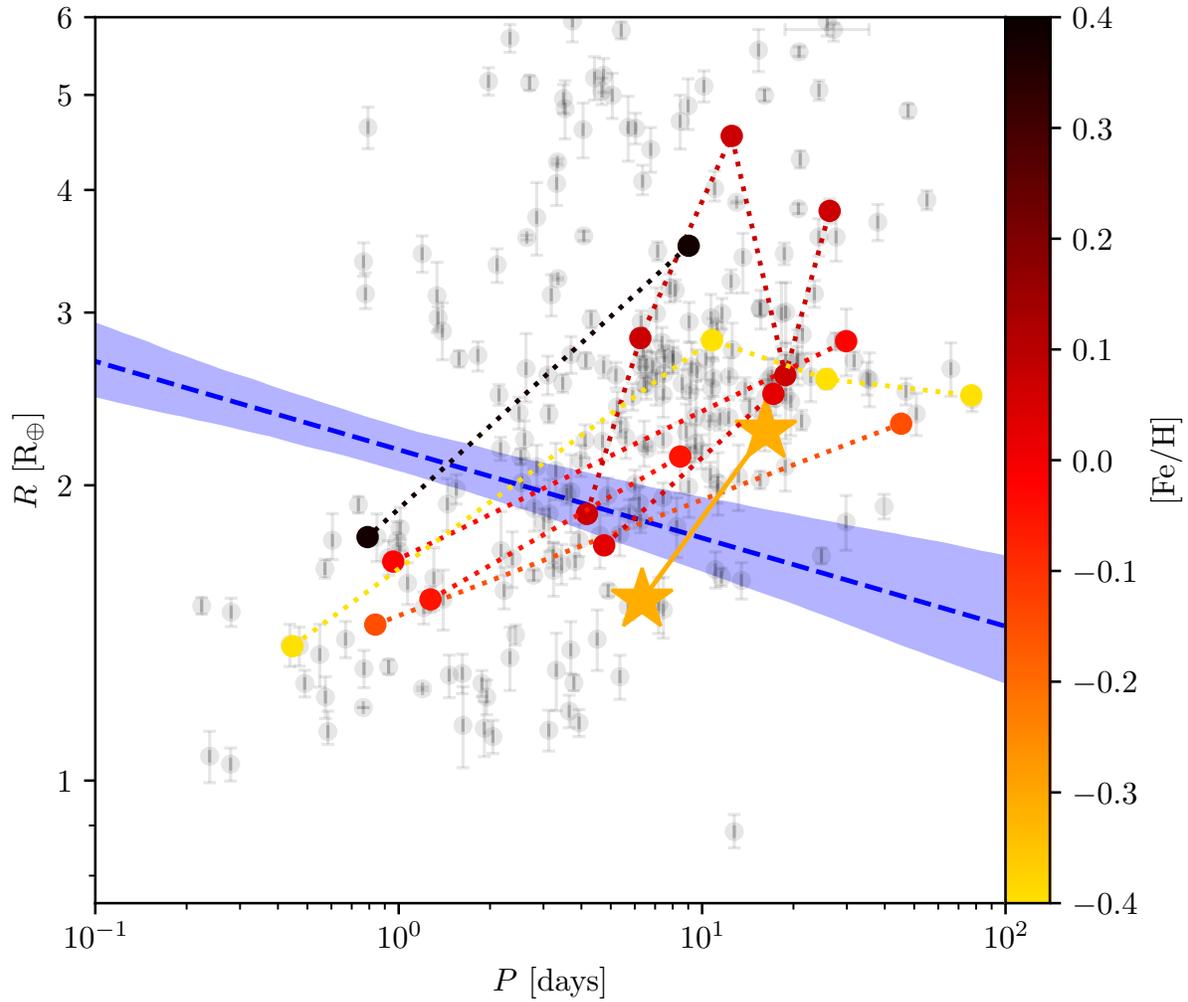


Figure 3: The period–radius relationship of known exoplanets. Grey points show planets with  $10\text{-}\sigma$  measurement on radius and radial-velocity masses to at least a  $3\text{-}\sigma$  detection. The radius valley is shown in blue. Points joined by dotted lines show planets in multi-planet systems, with at least one planet either side of the radius valley, and are coloured by host-star metallicity. The TOI-5788 planets are shown by the stars. Of these systems, the TOI-5788 planets straddle the radius valley the closest, and are only the second most metal-poor. This makes the TOI-5788 system a vital system for exoplanet formation studies.

## 3 Exoplanet Archives

### January 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, February 10, 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.

#### January 30, 2026

##### **INCOMING: 468 New Spectra!**

This week's release features a massive haul of new spectra: **468!** This update increases the archive's spectral holdings by 43% and includes JWST data for PSR J2322-2650 b, a lemon-shaped exoplanet orbiting a pulsar that appears to have a new type of planet atmosphere. Read the NASA media release and the discovery paper for details. You can find all of this week's new spectra in the Atmospheric Spectroscopy Table.

We also have seven new planets this week: KMT-2022-BLG-1818L b & c, TOI-5422 b, TOI-5789 b, c, d, & e.

#### January 15, 2026

##### **Nine New Planets, Including a "Super-Puff" Sub-Neptune**

This week's update features TOI-4507 b, one of the longest-period and youngest "super-puff" planets confirmed to date. The other new planets are KMT-2024-BLG-1005L b, NGTS-34 b, NGTS-35 b, TOI-3288 b, TOI-4666 b, TOI-4940 b, TOI-5349 b, and TOI-7166 b.

There are also six new JWST spectra for LTT 3780 b added to the Atmospheric Spectroscopy Table.

#### January 8, 2026

##### **A New Year of New Exoplanet Data**

We're kicking off 2026 with seven new planets, one demotion, one spectrum, and a gaggle of parameters that were submitted using our new template, now available through the Published Data Upload service!

The new planets are HD 128717 b, V2376 Ori b, TOI-5489 b & c, TOI-5716 b, TOI-5728 b, and TOI-5736 b. There are also new parameters for HD 143811 b, HAT-P-5 b, HAT-P-8 b, HAT-P-13 b, HAT-P-15 b, HAT-P-16 b, HAT-P-17 b, HAT-P-21 b, HAT-P-26 b, HAT-P-29 b, KELT-16 b, TIC 118798035 b, c & d, WASP-4 b, WASP-19 b, WASP-21 b, WASP-44 b, WASP-52 b, and WASP-103 b.

Kepler-1658 b's disposition had been updated to False Positive Planet (FPP) based on a published refutation. FPP data are removed from the Planetary Systems and Planetary Systems Composite Parameters tables, but are still

available on the System Overview pages.

We've also added a new HD 143811 b spectrum taken by the Gemini Planet Imager (GPI) to the Atmospheric Spectroscopy Table.

*Download/Website:* <https://exoplanetarchive.ipac.caltech.edu>

*Contact:* mharbut@caltech.edu

## 4 Jobs and Positions

### Postdoctoral Scholars in Exoplanets and/or Substellar Objects

*Prof. Ray Jayawardhana*

*Pasadena, California, between July-December 2026*

Applications are invited for two Postdoctoral Scholar positions at the California Institute of Technology. The successful candidate will work with Professor Ray Jayawardhana and his collaborators on observational studies of exoplanets and/or sub-stellar objects. Candidates with expertise and interests in ground-based high-resolution exoplanet spectroscopy and/or imaging and spectroscopy of exoplanets, brown dwarfs, and young star clusters with the James Webb Space Telescope (JWST) are particularly encouraged to apply. Group members lead a Large and Long Program at the Gemini Observatory targeting ultra-hot Jupiters. Prof. Jayawardhana is also a member of the JWST/NIRISS science team. In addition, with Drs. Aleks Scholz and Koraljka Muzic, he is involved in JWST GO programs targeting sub-stellar objects. Group members also use data from Keck, Subaru, VLT, and other major observatories. The position is for two years, with extensions possible for up to two additional years. The salary range is 76,000–80,000. The salary of the finalist(s) selected for this role will be set based on a variety of factors, including but not limited to, experience, qualifications, skills, education, specialty, training, and internal equity. Funds for research expenses will be provided. Start date is flexible, with a preference for summer or fall 2026.

Applicants should submit their curriculum vitae, a description of research interests and plans and a list of publications, and should arrange for three letters of recommendation. Applications are accepted until the positions are filled, and those received before February 15, 2026 will receive full consideration. Early expressions of interest and inquiries are encouraged, and should be made to rayjay@caltech.edu

As one of the largest employers in Pasadena, CA, Caltech is committed to providing comprehensive benefits to eligible employees and their eligible dependents. Our benefits package includes competitive compensation, health, dental, and vision insurance, retirement savings plans, generous paid time off (vacation, holidays, sick time, parental leave, bereavement, etc.), tuition reimbursement, and more. Learn more about our benefits and who is eligible.

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity, or national origin, disability status, protected veteran status, or any other characteristic protected by law. Caltech is a VEVRAA Federal Contractor. To read more Equal Employment Opportunity (EEO) go to [eeoc\\_self\\_print\\_poster.pdf](#). If you would like to request an accommodation in completing this application, interviewing, or otherwise participating in the employee selection process, please direct your inquiries to the contact on the job posting.

*Download/Website:* <http://www.pma.caltech.edu/about/job-opportunities>

*Contact:* rayjay@caltech.edu

## 5 Conferences and Workshops

### 'Discs on the Exe' conference 2026

*Sebastian Marino (Conference chair)*

*Exeter, UK, 27th - 31st July 2026*

We are pleased to announce that registration and abstract submission are now open for the international conference "Discs on the Exe". The conference will cover observations and theory of circumstellar discs, ranging from the formation of discs during star formation, to the processes involved in the formation of planetary systems and shaping of debris discs. Particular topics will include:

- Protoplanetary disc formation, clusters and Class 0/I discs.
- Protoplanetary disc structures and their evolution.
- Planets in discs and how they shape them
- Disc chemistry
- Protoplanetary disc dispersal and debris discs

#### **Important dates:**

- Abstract submission deadline: 17 March 2026
- Early bird registration deadline: 5 May 2026
- Programme announced: Late April / Early May 2026
- Registration closes: Early July 2026

*Download/Website: <https://discsontheexe.org/>*

*Contact: [discs-exe-conference@exeter.ac.uk](mailto:discs-exe-conference@exeter.ac.uk)*

## EPSC2026 Call for Sessions

Noah Jäggi (*EPSC Executive Committee Chair*)

*The Hague, Netherlands, 6th - 11th September 2026*

The Call for Sessions for the Europlanet Science Congress (EPSC) 2026 is now open!

EPSC2026 will be held at AMARE in The Hague, Netherlands, from 6–11 September 2026.

The success of EPSC is founded on the excellence of the scientific sessions organised by the session conveners. The community is therefore encouraged to submit session proposals through the conference website by 4 March 2026.

Please suggest new sessions, with conveners and a description, within the programme group (PG) that is most closely aligned with the proposed session's subject area. Co-organisations with other PGs can be requested in the session proposal.

- Terrestrial Planets (TP)
- Outer Planet Systems (OPS)
- Missions, Instrumentation, Techniques, Modelling (MITM)
- Small Bodies (comets, KBOs, rings, asteroids, meteorites, dust) (SB)
- Exoplanets, Origins of Planetary Systems and Astrobiology (EXO)
- Outreach, Diversity, Amateur Astronomy, and Community (ODAC)

From 2026, EPSC actively encourages the proposal of sessions on community-based topics (e.g. early-career activities, sustainability and/or environmental impact, capacity-building, interdisciplinary and cross-community collaborations) as part of the renamed ODAC PG.

*Download/Website:* <https://meetingorganizer.copernicus.org/EPSC2026/provisionalprogramme/>

*Contact:* [epsc@copernicus.org](mailto:epsc@copernicus.org)

## 6 As seen on astro-ph

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

### January 2026

- astro-ph/2601.00057: **A free-floating-planet microlensing event caused by a Saturn-mass object** by *Subo Dong et al.*
- astro-ph/2601.00059: **Sub-Neptune Memories I: Implications of Inefficient Mantle Cooling and Silicate Rain** by *Roberto Tejada Arevalo et al.*
- astro-ph/2601.00462: **The Solar Neighborhood LV: Spectral Characterization of an Equatorial Sample of 580 K Dwarfs** by *Hodari-Sadiki Hubbard-James et al.*
- astro-ph/2601.00412: **The Persistent Thermal Anomalies in Rocky Worlds** by *Zifan Lin, Tansu Daylan*
- astro-ph/2601.00786: **Callisto's Nonresonant Orbit as an Outcome of Circum-Jovian Disk Substructure** by *Teng Ee Yap, Konstantin Batygin*
- astro-ph/2601.00949: **Observable Metal Pollution in Main-Sequence Stars: Simulations of Rocky Planets Engulfed by Stars in the 0.5 to 1.4  $M_{\odot}$  Range** by *Kaitlyn T. Lane et al.*
- astro-ph/2601.00962: **A comprehensive study of the relations between the properties of planetary systems and the chemical compositions of their host stars** by *Luan Ghezzi et al.*
- astro-ph/2601.00640: **Evidence for a Nonzero Eccentricity Superpuff Exoplanet WASP-107 b Using JWST Occultation Observation** by *Yunke Wu et al.*
- astro-ph/2601.01177: **Exo-Geoscience Perspectives Beyond Habitability** by *Tilman Spohn et al.*
- astro-ph/2601.01468: **Trajectory-Based Dust Evolution in Disks: First Results from the RAPID Simulation Code** by *D. Tarczay-Nehéz*
- astro-ph/2601.01628: **The MUSCLES Extension for Atmospheric Transmission Spectroscopy: Spectral energy distributions for 20 exoplanet host stars that JWST observed in Cycle 1** by *David J. Wilson et al.*
- astro-ph/2601.02593: **Isotopic Ratios in the Disk of HD 163296** by *Chunhua Qi et al.*
- astro-ph/2601.02324: **Hunting for "Oddballs" with Machine Learning: Detecting Anomalous Exoplanets Using a Deep-Learned Low-Dimensional Representation of Transit Spectra with Autoencoders** by *Alexander Roman et al.*
- astro-ph/2601.02344: **Protoplanetary disk cavities with JWST-MIRI: a dichotomy in molecular emission** by *Patrick Mallaney et al.*
- astro-ph/2601.02479: **Towards a global model for planet formation in layered MHD wind-driven discs: A population synthesis approach to investigate the impact of low viscosity and accretion layer thickness** by *Jesse Weder, Christoph Mordasini*
- astro-ph/2601.02486: **Models and Observational Predictions of Dust Traps in Protoplanetary Discs** by *Paola Pinilla*
- astro-ph/2601.02545: **Tracing Pebble Drift History in Two Protoplanetary Disks with CO Enhancement** by *Tayt Armitage et al.*
- astro-ph/2601.02548: **Dearth of Photosynthetically Active Radiation Suggests No Complex Life on Late M-Star Exoplanets** by *Joseph J. Soliz, William F. Welsh*
- astro-ph/2601.02556: **The Lazuli Space Observatory: Architecture & Capabilities** by *Arpita Roy et al.*
- astro-ph/2601.02156: **JWST/MIRI coronagraphic search for planets in systems with gapped exoKuiper belts and proper motion anomalies** by *R. Bendahan-West et al.*
- astro-ph/2601.02621: **Where does the simplified Stellar Contamination Model fail in Exoplanet Transmission Spectroscopy?** by *Viktor Y. D. Sumida et al.*

- astro-ph/2601.03350: **The SOL (*Solar Origin and Life*) Project: Detailed characterization of candidates for the ZAMS and Subgiant stages** by *C. Eduardo-Oliveira S. et al.*
- astro-ph/2601.03820: **Disc fragmentation. II. Ejection of low mass Free Floating Planets from growing binary systems** by *Sergei Nayakshin et al.*
- astro-ph/2601.03932: **The uncertainty in water mass fraction of wet planets** by *Michael Lozovsky*
- astro-ph/2601.03951: **Broadband spectroscopy of astrophysical ice analogues: IV. Optical constants of N<sub>2</sub> ice in the terahertz and mid-infrared ranges** by *F. Kruczkiewicz et al.*
- astro-ph/2601.03963: **Formation of multi-planetary systems via pebble accretion in externally photoevaporating discs in stellar clusters** by *Lin Qiao et al.*
- astro-ph/2601.04032: **Two-source terrestrial planet formation with a sweeping secular resonance** by *Max Goldberg et al.*
- astro-ph/2601.04091: **Dissecting the dust distribution and polarization around two B213 young stellar objects with ALMA** by *Asako Sato et al.*
- astro-ph/2601.04140: **Secular Excitation of Polar Neptune Orbits in Pure Disk-Planet Systems** by *Luke B. Handley, Konstantin Batygin*
- astro-ph/2601.04315: **Self-consistent Dynamical and Chaotic Tides in the REBOUNDx framework** by *Donald J. Liveoak et al.*
- astro-ph/2601.04484: **Transit Photometry and Ephemeris Refinement of WASP-12 b Using TESS Data** by *Chinedu Jude Nnaji*
- astro-ph/2601.04593: **Investigating the High-energy Radiation Environment of Planets in Sun-like Binary Systems** by *Patrick R. Behr et al.*
- astro-ph/2601.05060: **Energetic particles accelerated via turbulent magnetic reconnection in protoplanetary discs – I. Ionisation rates** by *Valentin Brunn et al.*
- astro-ph/2601.05387: **Paving the Road to the Habitable Worlds Observatory with High-Resolution Imaging I: New and Archival Speckle Observations of Potential HWO Target Stars** by *Zachary D. Hartman et al.*
- astro-ph/2601.06263: **Ultraviolet observations of atmospheric escape in exoplanets with the Habitable Worlds Observatory** by *Leonardo A. Dos Santos, Eric D. Lopez*
- astro-ph/2601.05976: **Distinct Rotational Evolution of Giant Planets and Brown Dwarf Companions** by *Chih-Chun Hsu et al.*
- astro-ph/2601.05932: **On the orbital evolution of binaries with polar circumbinary disks** by *Cheng Chen et al.*
- astro-ph/2601.05799: **Two temperate Earth- and Neptune-sized planets orbiting fully convective M dwarfs** by *Madison G. Scott et al.*
- astro-ph/2601.06233: **Exoplanet characterization with NASA's Habitable Worlds Observatory** by *Joanna K. Barstow et al.*
- astro-ph/2601.06236: **Transiting exoplanets as the immediate future for population-level atmospheric science** by *Joanna K. Barstow et al.*
- astro-ph/2601.05480: **Stellar control on atmospheric carbon chemistry, CO runaway, and organic synthesis on lifeless Earth-like planets** by *Yoshiaki Endo et al.*
- astro-ph/2601.06386: **NASA Decadal Astrobiology Research and Exploration Strategy (NASA-DARES 2025) White Paper – Habitable Worlds Observatory Living Worlds Science Cases: Research Gaps and Needs** by *Niki Parenteau et al.*
- astro-ph/2601.07088: **On the 3D time evolution of the dust size distribution in protostellar envelopes** by *Maxime Lombart et al.*
- astro-ph/2601.07414: **Characterization of two new transiting sub-Neptunes and a terrestrial planet around M-dwarf hosts** by *E. Poultourtzidis et al.*
- astro-ph/2601.07465: **Exoplanet transit search at the detection limit: detection and false alarm vetting pipeline** by *Jakob Robnik et al.*
- astro-ph/2601.08883: **Habitable Worlds Observatory Living Worlds Working Group: Surface Biosignatures**

- on Potentially Habitable Exoplanets** by *Niki Parenteau et al.*
- astro-ph/2601.08227: **Jupiter-like uniform metal enrichment in a system of multiple giant exoplanets** by *Jean-Baptiste Ruffio et al.*
- astro-ph/2601.08397: **Anatomy of Empirical Transit Spectra of Mars based on TGO/NOMAD** by *Shohei Aoki et al.*
- astro-ph/2601.08890: **Planet-Host Stars Across the Galaxy in the 2040s** by *M. Tsantaki et al.*
- astro-ph/2601.08916: **Numerical Insights into Disk Accretion, Eccentricity, and Kinematics in the Class 0 phase** by *Adnan Ali Ahmad et al.*
- astro-ph/2601.08938: **Can photoevaporation open gaps in protoplanetary discs?** by *Michael L. Weber et al.*
- astro-ph/2601.08952: **Formation and evolution of planetary systems** by *S. I. Ipatov*
- astro-ph/2601.09492: **Demographics of Close-In TESS Exoplanets Orbiting FGK Main-sequence Stars** by *Kaiming Cui et al.*
- astro-ph/2601.09070: **Ring-Gap Structures in the Class I Circumstellar Disk of CrA IRS 2 Associated with Magnetic Flux-Driven Bubble** by *Ayumu Shoshi et al.*
- astro-ph/2601.09766: **Habitable Worlds Observatory (HWO): Living Worlds Community Working Group: The Search for Life on Potentially Habitable Exoplanets** by *Giada Arney et al.*
- astro-ph/2601.10285: **How disc initial conditions sculpt the atmospheric composition of giant planets** by *Angie Daniela Guzmán Franco et al.*
- astro-ph/2601.10450: **TOI-3862 b: A dense super-Neptune deep in the hot Neptune desert** by *Ilaria Carleo et al.*
- astro-ph/2601.10508: **sponchpop II: Population Synthesis to Investigate Volatile Sulfur as a Fingerprint of Gas Giant Formation Histories** by *Anna Sommerville-Thomas et al.*
- astro-ph/2601.10598: **A young progenitor for the most common planetary systems in the Galaxy** by *John H. Livingston et al.*
- astro-ph/2601.10631: **Circumplanetary Disk Candidate in the Disk of HD 163296 Traced by Localized Emission from Simple Organics** by *Andres F. Izquierdo et al.*
- astro-ph/2601.10794: **Metal Pipe: A Broadly-Applicable Stellar Abundance Pipeline Using Isochronal Parameters** by *Jared R. Kolecki, Lauren M. Weiss*
- astro-ph/2601.10811: **The impact of disc photoevaporation on the long-term evolution of giant planets in mean motion resonances** by *Emmanuel J. Greenfield, James E. Owen*
- astro-ph/2601.11280: **Detection of four cold Jupiters through combined analyses of radial velocity and astrometry data** by *Yiyun Wu et al.*
- astro-ph/2601.11695: **Exoplanet atmospheres and demographics in the 2040s** by *Jens Kammerer et al.*
- astro-ph/2601.11469: **KMT-2025-BLG-1616Lb: First Microlensing Bound Planet From DREAMS** by *Hongjing Yang et al.*
- astro-ph/2601.11709: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) IX: Gas-driven origin for the continuum arc in the debris disc of HD 121617** by *Philipp Weber et al.*
- astro-ph/2601.11708: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) I: Motivation, sample, data reduction, and results overview** by *S. Marino et al.*
- astro-ph/2601.11711: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) VIII: A dust arc and non-Keplerian gas kinematics in HD 121617** by *S. Marino et al.*
- astro-ph/2601.11732: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS). X. Interpreting the peculiar dust rings around HD 131835** by *M. R. Jankovic et al.*
- astro-ph/2601.11766: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS): VI. Asymmetries and offsets** by *J. B. Lovell et al.*
- astro-ph/2601.11767: **A Multi-Wavelength Study of Comet C/2022 E3 (ZTF): Complementary ALMA and JWST Investigations of Water and Methanol in Cometary Comae** by *K. D. Foster et al.*
- astro-ph/2601.11824: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) VII: Optically thick gas with broad CO gaussian local line profiles in the HD 121617 disc** by *A. Brennan et al.*

- astro-ph/2601.11712: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) IV: CO gas imaging and overview** by *S. Mac Manamon et al.*
- astro-ph/2601.12026: **Stability of equilibrium points in modified elliptic restricted three-body problem with various perturbation sources** by *M. B. Saputra et al.*
- astro-ph/2601.12074: **Interior dynamics of envelopes around disk-embedded planets** by *Ayumu Kuwahara, Michiel Lambrechts*
- astro-ph/2601.12128: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) III: The vertical structure of debris disks** by *Brianna Zawadzki et al.*
- astro-ph/2601.12396: **Revisiting the exoplanet radius valley with host stars from SWEET-Cat** by *Juma Kamulali et al.*
- astro-ph/2601.12501: **Observational Signatures of Planetary Tidal Disruption Events Around Solar-Mass Stars** by *Matías Montesinos et al.*
- astro-ph/2601.12578: **On the accuracy of mass and size measurements of young protoplanetary disks** by *Eduard I. Vorobyov et al.*
- astro-ph/2601.12586: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) V: Comparison between scattered light and thermal emission** by *J. Milli et al.*
- astro-ph/2601.13391: **Turbulence Can Persist in the Inner Regions of Weakly-Ionized Planet Forming Disks** by *David G. Rea, Jacob B. Simon*
- astro-ph/2601.13302: **The Occurrence Rate of Nearby Planetary Companions to Hot Jupiters** by *Lizhou Sha et al.*
- astro-ph/2601.13450: **Four Cold Super-Jupiters Revealed by Extended and Complex Microlensing Signals** by *Cheongho Han et al.*
- astro-ph/2601.13176: **Toward Reliable Interpretations of Small Exoplanet Compositions: Comparisons and Considerations of Equations of State and Materials Used in Common Rocky Planet Models** by *Joseph Schulze et al.*
- astro-ph/2601.13104: **BOWIE-ALIGN: Sub-solar C/O ratio and metallicity atmosphere of the misaligned hot Jupiter HAT-P-30b** by *Alastair B. Claringbold et al.*
- astro-ph/2601.13200: **Timescales diagnostics for saving viscous and MHD-driven dusty discs from external photoevaporation** by *Gabriele Pichierri et al.*
- astro-ph/2601.14215: **The PAIRS project: a global formation model for planets in binaries. II. Gravitational perturbation effects from secondary stars** by *Arianna Nigioni et al.*
- astro-ph/2601.14214: **The PAIRS project: a global formation model for planets in binaries. I. Effect of disc truncation on the growth of S-type planets** by *Julia Venturini et al.*
- astro-ph/2601.14177: **Pre-computed aerosol extinction, scattering and asymmetry grids for scalable atmospheric retrievals** by *Maël M. Voyer, Quentin Changeat*
- astro-ph/2601.14367: **Most Hot Jupiters Were Cool Giant Planets for More Than 1 Gyr** by *Stephen P. Schmidt, Kevin C. Schlaufman*
- astro-ph/2601.14045: **Discovery and characterisation of two exoplanets orbiting the metal-poor, solar-type star TOI-5788 with TESS, CHEOPS, and HARPS-N** by *Ben S. Lakeland et al.*
- astro-ph/2601.13670: **The ALMA survey to Resolve exoKuiper belt Substructures (ARKS) II. The radial structure of debris discs** by *Yinuo Han et al.*
- astro-ph/2601.13480: **Architectures of Exoplanetary Systems. IV: A Multi-planet Model for Reproducing the Radius Valley and Intra-system Size Similarity of Planets around Kepler's FGK Dwarfs** by *Matthias Y. He, Eric B. Ford*
- astro-ph/2601.14076: **RV×TESS I: Modeling Asteroseismic Signals with Simultaneous Photometry and RVs** by *Jiaxin Tang et al.*
- astro-ph/2601.14877: **ExoMiner++ 2.0: Vetting TESS Full-Frame Image Transit Signals** by *Miguel J. S. Martinho et al.*
- astro-ph/2601.15152: **A Theory of transmission spectroscopy of planetary winds: Spectral-line saturation and**

**limits on mass-loss inference** by *Leonardos Gkouvelis*

- astro-ph/2601.15176: **A nomenclature for individual exocomets** by *Alain Lecavelier des Etangs et al.*
- astro-ph/2601.15216: **Transit distances and composition of low-velocity exocomets in the  $\beta$  Pic system** by *Théo Vrignaud, Alain Lecavelier des Etangs*
- astro-ph/2601.15262: **The Circumbinary Disk of HD 34700A: I. CO gas kinematics indicate spirals, infall, and vortex motions** by *J. Stadler et al.*
- astro-ph/2601.15285: **A radially broad collisional cascade in the debris disk of  $\gamma$  Ophiuchi observed by JWST** by *Yinuo Han et al.*
- astro-ph/2601.16268: **proto-Lightspeed: a high-speed, ultra-low read noise imager on the Magellan Clay Telescope** by *Christopher Layden et al.*
- astro-ph/2601.16253: **Accretion Rate Changes Detected in a Polluted White Dwarf** by *Jay Farihi et al.*
- astro-ph/2601.15927: **Hot and cloudy: High temperature clouds in super-Earths and sub-Neptunes** by *Leoni J. Janssen et al.*
- astro-ph/2601.15948: **A 2 au resolution view by ALMA of the planet-hosting WISPIT 2 disk** by *Stefano Facchini et al.*
- astro-ph/2601.15704: **Evidence for stellar contamination and water absorption in NGTS-5b's transmission spectra with GTC/OSIRIS** by *Wan-Hao Wang et al.*
- astro-ph/2601.16202: **A multiwavelength ALMA view of gas and dust in binary protoplanetary system AS 205: Evidence of dust asymmetric distribution** by *Nguyen Thi Phuong, Nguyen Tat Thang*
- astro-ph/2601.16791: **Mercury-Archés: a high-performance n-body code for planet formation studies** by *Diego Turrini et al.*
- astro-ph/2601.16828: **Six New Circumbinary Disk Occultation (CBO) Candidates from the Zwicky Transient Facility** by *Zhecheng Hu et al.*
- astro-ph/2601.16841: **The Origins of Planets for Ariel (OPAL) Key Science Project: the end-to-end planet formation campaign for the ESA space mission Ariel** by *Danae Polychroni et al.*
- astro-ph/2601.17278: **Evolution of dust in a protoplanetary disc driven by stellar flybys: implications for the streaming instability** by *Wei-Shan Su et al.*
- astro-ph/2601.18965: **The MIRI Excess around Degenerates (MEAD) Survey II: A Probable Planet detected via IR Excess around WD 0644+025** by *Sabrina Poulsen et al.*
- astro-ph/2601.18884: **Physical and Chemical Characterization of GY 91's Multi-ringed Protostellar Disk with ALMA** by *Sally D. Jiang et al.*
- astro-ph/2601.18877: **Evidence for a Peak at  $\sim 0.3$  in the Eccentricity Distribution of Typical Super-Jovian Exoplanets** by *Sarah Blunt et al.*
- astro-ph/2601.18841: **Towards a Comprehensive Understanding of Planetary Systems through Population-Level, Large-Scale Surveys** by *Francisco J. Pozuelos et al.*
- astro-ph/2601.18606: **Atmospheric Circulation of High-Obliquity Mini-Neptunes** by *Yanhong Lai et al.*
- astro-ph/2601.18324: **Possible favored Great Oxidation Event scenario on exoplanets around M-Stars with the example of TRAPPIST-1e** by *Adam Y. Jaziri et al.*
- astro-ph/2601.18112: **Effects of Stellar X-ray Photoevaporation on Planetesimal Formation via the Streaming Instability** by *Xuchu Ying et al.*
- astro-ph/2601.18776: **Col-OSSOS: Investigating the Origins of Different Surfaces in the Primordial Kuiper Belt** by *Laura E. Buchanan et al.*
- astro-ph/2601.20096:  **$\text{H}_2^{18}\text{O}$  in the terrestrial planet-forming regions of protoplanetary disks** by *Colette Salyk et al.*
- astro-ph/2601.19985: **The CO snow line favours strong clumping by the streaming instability in protoplanetary discs with porous grains** by *Jean-François Gonzalez, Stéphane Michoulier*
- astro-ph/2601.19584: **Beyond solar metallicity: How enhanced solid content in disks re-shape low-mass planet torques** by *Zs. Regaly, A. Nemeth*
- astro-ph/2601.19123: **Spiral Density Waves and Torque Balance in the Kerr Geometry** by *Conor Dyson, Daniel*

*J. D'Orazio*

- astro-ph/2601.19870: **A Cool Earth-sized Planet Candidate Transiting a Tenth Magnitude K-dwarf From K2** by *Alexander Venner et al.*
- astro-ph/2601.20146: **Spatial distribution of organics in the Horsehead nebula: signposts of chemistry driven by atomic carbon** by *Claudio Hernández-Vera et al.*
- astro-ph/2601.20348: **Self-consistent  $N$ -body simulation of Planetesimal-Driven Migration. II. The effect of PDM on planet formation from a planetesimal disk** by *Tenri Jinno et al.*
- astro-ph/2601.20902: **The power of polarimetry for characterising exoplanet atmospheres, clouds, and surfaces with NASA's Habitable Worlds Observatory** by *Katy L. Chubb et al.*
- astro-ph/2601.20620: **Climates of Terrestrial Exoplanets and Biosignatures** by *Siddharth Bhatnagar et al.*
- astro-ph/2601.20966: **The Third Option: Color Phase Curves to Characterize the Atmospheres of Temperate Rocky Exoplanets** by *Drake Deming et al.*
- astro-ph/2601.21020: **Balancing Variety and Sample Size: Optimal Parameter Sampling for Ariel Target Selection** by *Emilie Panek et al.*
- astro-ph/2601.21685: **PERTURB-c: Correlation Aware Perturbation Explainability for Regression Techniques to Understand Retrieval Black-boxes** by *Jools D. Clarke et al.*
- astro-ph/2601.22223: **Warps survive beyond fly-by encounters in protoplanetary disks. RW Aur A as a case study** by *C. N. Kimmig et al.*
- astro-ph/2601.22815: **The SPIRou Legacy Survey: Detection of a nearby world orbiting in the habitable zone of G1725B achieved by correcting strong telluric contamination in near-infrared radial velocities with WAPITI** by *M. Ould-Elhkim et al.*
- astro-ph/2601.23069: **Quantifying the C/O ratio in the planet-forming environments around very-low-mass stars** by *Javiera K. Díaz-Berríos et al.*
- astro-ph/2601.23176: **HEP digital micromirror devices for precision solar spectroscopy** by *Christian Robles, Suvrath Mahadevan*