ExoPlanet News
An Electronic Newsletter

No. 182, 13 August 2024

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Contents

1 Editorial

Welcome to Edition 182 of the ExoPlanet News!

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

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

The next issue will appear on 10 September 2024.

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

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

2 Abstracts of refereed papers

Super-Earth formation with slow migration from a ring in an evolving peaked disk compatible with terrestrial planet formation

Masahiro Ogihara[1,2], *Alessandro Morbidelli*[3,4], *Masanobu Kunitomo*[5,4]

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The Astrophysical Journal, in press (arXiv:2407.15386)

For the origin of the radially concentrated solar system's terrestrial planets, planet formation from a ring of solids at about 1 au from the Sun with convergent/suppressed type I migration is preferred. On the other hand, many super-Earths and sub-Neptunes are found in the close-in region with orbital periods of 10–100 days, so that planet formation from rings in the 1-au region would require some degree of inward migration. One way to realize these different formation scenarios is to use different gas disk models. In this study we investigate whether different scenarios can be realized within a single framework. We consider a disk model that evolves via disk winds and develops a density peak, and study planet formation and orbital evolution using *N*-body simulations. Planets with masses less than an Earth mass formed from a low-mass ring resembling the solar system do not migrate inward even in the evolving disk and remain near 1-au orbits, maintaining a high radial mass concentration. On the other hand, planets with masses greater than an Earth mass formed from a massive ring slowly migrate inward above the outward migration region. As a result, the innermost planet can move to an orbit of about 10 days. The simulation results also reproduce the characteristics (e.g., mass distribution, eccentricity, orbital separation) of the solar system and super-Earth/sub-Neptune systems. Our model predicts that Earths and sub-Earths formed by migration from rings at near the 1-au region are less abundant in the close-in region.

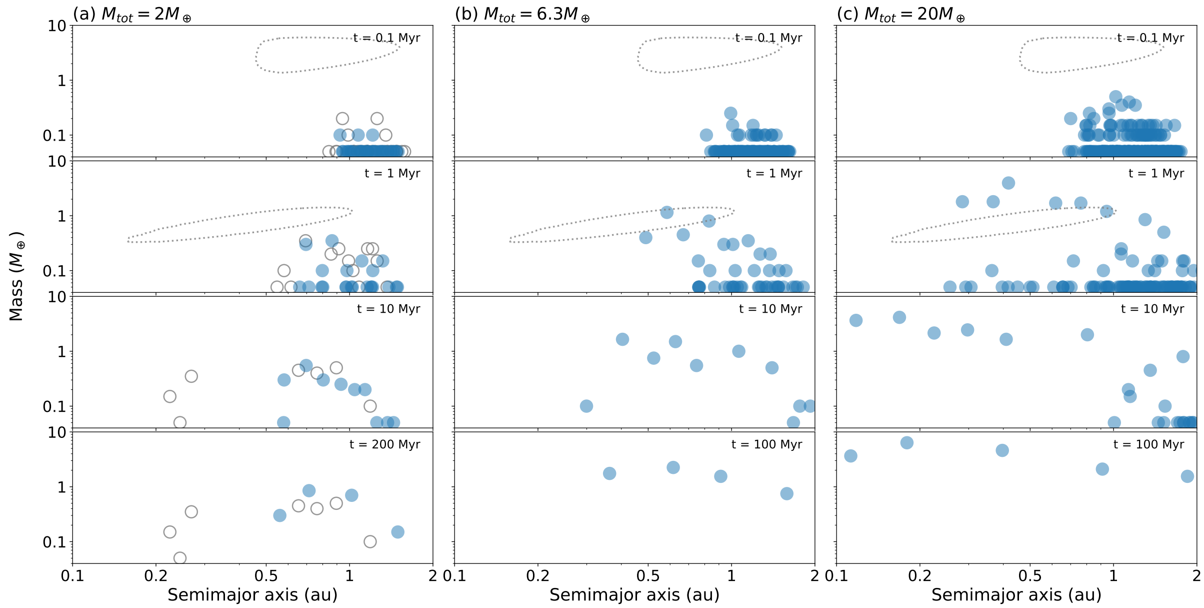

Figure 1: Snapshots of the system from typical simulations. Blue filled circles represent the planets at each time. (a) The total solid mass is $2\,M_\oplus$ and for solar system formation. The result for the simulation in the power-law disk is shown in gray circles. (b)(c) The total solid mass is larger and for SEN system formation. In each panel, the zero-migration curve is also shown in gray dotted lines.

Download/Website: `https://arxiv.org/abs/2407.15386`

Contact: `ogihara@sjtu.edu.cn`

The mean longitudinal magnetic field and its uses in radial-velocity surveys

F. Rescigno[1], A. Mortier[2], X. Dumusque[3], B. S. Lakeland[1], R. Haywood[1], N. Piskunov[4], B. A. Nicholson[5], M. Löpez-Morales[6], S. Dalal[1], M. Cretignier[7], B. Klein[7], A. Collier Cameron[8,9], A. Ghedina[10], M. Gonzalez[10], R. Cosentino[10], A. Sozzetti[11] & S. H. Saar[6]

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[5] Centre for Astrophysics, University of Southern Queensland, West St, Toowoomba, QLD 4350, Australia
[6] Center for Astrophysics — Harvard & Smithsonian, 60 Garden Street, Cambridge, MA 02138, USA
[7] Department of Physics, Sub-department of Astrophysics, University of Oxford, Oxford OX1 3RH, UK
[8] SUPA, School of Physics & Astronomy, University of St Andrews, North Haugh, St Andrews KY169SS, UK
[9] Centre for Exoplanet Science, University of St Andrews, North Haugh, St Andrews KY169SS, UK
[10] Fundación Galileo Galilei - INAF (Telescopio Nazionale Galileo), Rambla J. A. F. Perez 7, E-38712 Breña Baja (La Palma), Canary Islands, Spain
[11] INAF – Osservatorio Astrofisico di Torino, Strada Osservatorio, 20 I-10025 Pino Torinese (TO), Italy

Monthly Notices of the Royal Astronomical Society, published (2024MNRAS.532.2741R)

This work focuses on the analysis of the mean longitudinal magnetic field as a stellar activity tracer in the context of small exoplanet detection and characterisation in radial-velocity (RV) surveys. We use SDO/HMI filtergrams to derive Sun-as-a-star magnetic field measurements, and show that the mean longitudinal magnetic field is an excellent rotational period detector and a useful tracer of the solar magnetic cycle. To put these results into context, we compare the mean longitudinal magnetic field to three common activity proxies derived from HARPS-N Sun-as-a-star data: the full-width at half-maximum, the bisector span and the S-index. The mean longitudinal magnetic field does not correlate with the RVs and therefore cannot be used as a one-to-one proxy. However, with high cadence and a long baseline, the mean longitudinal magnetic field outperforms all other considered proxies as a solar rotational period detector, and can be used to inform our understanding of the physical processes happening on the surface of the Sun. We also test the mean longitudinal magnetic field as a "stellar proxy" on a reduced solar dataset to simulate stellar-like observational sampling. With a Gaussian Process regression analysis, we confirm that the solar mean longitudinal magnetic field is the most effective of the considered indicators, and is the most efficient rotational period indicator over different levels of stellar activity. This work highlights the need for polarimetric time series observations of stars.

Download/Website: `https://doi.org/10.1093/mnras/stae1634`

Contact: `f.rescigno@bham.ac.uk`

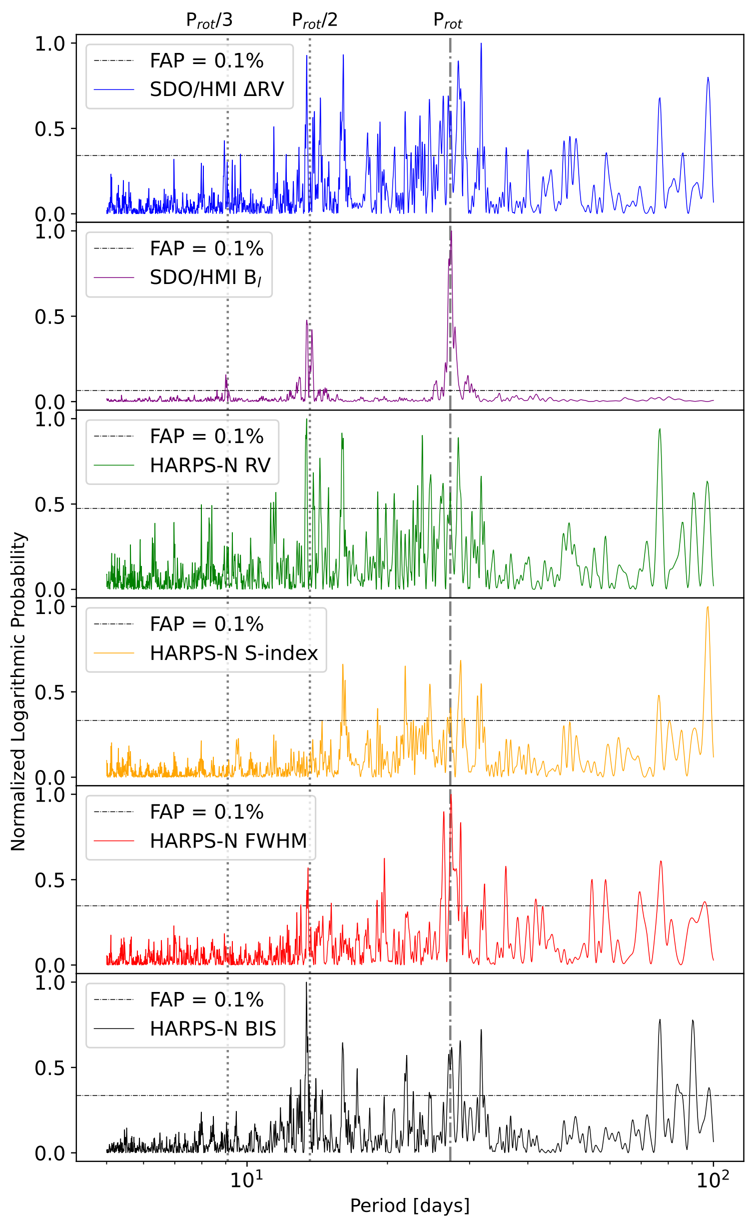

Figure 2: Generalised Lomb-Scargle Periodogram of the matched time series. On the x-axis the period in days, on the y-axis the normalised logarithmic Zechmeister-Kürster power (or probability). From top to bottom, the matched time series of SDO/HMI ΔRVs, and mean longitudinal magnetic field, HARPS-N RVs, S-index, FWHM, and bisector span. The Carrington Solar rotation period is indicated by a gray dash-dotted line. Its half- and third-period harmonics are also highlighted by dotted lines. The False Alarm Probability (FAP) equal to 0.1% are included as dashed gray horizontal lines.

3 Exoplanet Archives

July 2024 Updates at the NASA Exoplanet Archive

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

Pasadena CA USA, August 11, 2024

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 within the news text.

July 25, 2024

Dozens of Planets from the TESS-Keck Survey

We've added 52 new planets this week, 39 of them from the TESS-Keck Survey Catalog, which catalogs exoplanets by size and categorizes them in groups according to the radius of planets in our solar system. The catalog has also contributed new parameter sets for 77 planets that are already in the archive.

The TESS-Keck Survey Catalog is the product of three years of work by a global team of astronomers who comprise the TESS-Keck Survey research consortium. Learn more in the media release and published paper.

This week's new planets are TIC 241249530 b, TIC 46432937 b, TOI-260 b, TOI-329 b, TOI-480 b, TOI-1173 b, TOI-1174 b, TOI-1180 b, TOI-1184 b, TOI-1244 b, TOI-1248 b, TOI-1249 b, TOI-1269 b, TOI-1279 b, TOI-1294 b & c, TOI-1410 c, TOI-1437 b, TOI-1439 b, TOI-1443 b, TOI-1451 b, TOI-1472 b, TOI-1669 c, TOI-1691 b, TOI-1723 b, TOI-1742 b, TOI-1753 b, TOI-1758 b, TOI-1775 b, TOI-1776 b, TOI-1794 b, TOI-1799 b, TOI-1823 b, TOI-1824 b, TOI-1836 b & c, TOI-1855 b, TOI-1898 b, TOI-2019 b, TOI-2088 b, TOI-2107 b, TOI-2128 b, TOI-2368 b, TOI-3261 b, TOI-3321 b, TOI-3894 b, TOI-3919 b, TOI-4153 b, TOI-5232 b, TOI-5301 b, and TOI-762 A b.

We have also added new spectra for LHS 1140 b & c to the Atmospheric Spectroscopy Table.

July 15, 2024

Thirteen Planets, Including One in the Goldilocks Zone

We've added 13 new planets, including the multi-planet system HD 48948 that hosts three potential super-Earths, one of which is in the Goldilocks zone. Learn more about the system in the media release and discovery paper.

The other new planets are HD 6061 b, HD 135694 b, HD 25463 b & c, HIP 8152 b & c, OGLE-2014-BLG-0221L b, TOI-669 b, and TOI-1224 b & c.

We've also updated the status of K2-256 b to False Positive Planet based on a published refutation. The object and its data remain on the K2-256 System Overview page and the K2 Planets and Candidates Table, but are no longer included in the Planetary Systems tables.

Spectra for 36 Planets

We've added new spectra for 36 planets, including a new transmission spectrum by JWST for HD 209458 b——the first exoplanet that had its atmosphere detected more than two decades ago. Browse, download, and plot all of the archive's spectra with our Atmospheric Spectroscopy Table.

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

Contact: `mharbut@caltech.edu`

4 Others

CHEOPS Approved AO-5 Guest Observers programmes

European Space Agency (ESA)

The 5th Announcement of Opportunity (AO-5) for the CHEOPS Guest Observers (GO) Programme opened on 12 March 2024 and closed on 25 April 2024. It is the second call of the first extended mission and covers observing time in the period from 1 October 2024 until 30 September 2025. The available GO share of the science observing time was recently increased from 20% (in the Nominal Mission) to 30% (in the first Extended Mission).

A total of 35 proposals were received in response to AO-5, requesting 2415 orbits (with each orbit circa 99 minutes in duration). The requests represented 160% of the available science observing time foreseen in the AO-5 observing cycle (circa 1505.5 orbits).

The CHEOPS Time Allocation Committee (TAC) met on June 2024. Based on the TAC's recommendations, the Director of Science awarded CHEOPS observing time to the proposals listed in the table below. In the end, 20 proposals were awarded observing time totaling 1640 orbits. Of these, 18 proposals were on exoplanet science and 2 on stellar science. The recommended time by TAC represents up to 109% of the available GO science observing time planned in the AO-5 observing cycle.

Succesful proposals will be implemented as GO programmes. Targets that are part of these GO programmes can generally not be included in other observing programmes unless in specific cases. All programmes have been assigned a priority from Priority 1, or P1 (high), to Priority 3, or P3, (low). This priority is taken into account by the automated planning tool used in the weekly/biweekly planning, and is a strong indicator of the likelihood that observations will be scheduled.

ESA congratulates the scientists who have been awarded time, wish them very successful scientific endeavors and reminds all other scientists that they can apply for more CHEOPS observations at any time using the CHEOPS Discretionary Programme.
https://www.cosmos.esa.int/web/cheops-guest-observers-programme/ao-5-approved-programmes

Contact: `cheops-support@cosmos.esa.int`

ID	PI name (country)	Proposal title	Nr. of orbits (priority)
2	Olga Balsalobre-Ruza (ES)	Seeking Earths in the shadows: visiting the Lagrangian points of two co-orbital candidates	40.0 (P2)
4	Julien Poyatos (ES)	Measuring the nanoflaring activity of bright M dwarfs	300.0 (P3)
6	Jorge Lillo-Box (ES)	A second transit for a radial velocity detected temperate sub-Neptune in a multi-planetary system	19.6 (P1)
7	Fan Yang (CN)	Abnormally Rapid Transit Timing Variations of WASP-161b: Evidence for Tidal Evolution or the Existence of an Earth-Sized Planet?	21.0 (P2)
8	Matthew Standing (ES)	Validation of candidate TESS Neptune Desert Planets	197.0* (P2)
12	Carlos del Burgo (ES)	What is the orbital period of the most massive very young transiting exoplanet, HD 114082 b?	86.1 (P1)
13	Victoria DiTomasso (US)	Detecting the Second Transit of a Temperate sub-Neptune to Enable Atmospheric Studies	52.0 (P1)
15	Alejandro Suárez Mascareño (ES)	Characterization of the system K2-155 with CHEOPS	64.5 (P2)
16	Daniel J. Stevens (US)	A High-Precision Primary Eclipse of a “Benchmark” Hierarchical Triple Star System	32.0 (P1)
17	Rachael Roettenbacher (US)	A CHEOPS Light Curve of ε Eridani with Contemporaneous Long-Baseline Optical Interferometry and Extreme Precision Radial Velocity Observations	200.0 (P2)

18	Anne Dattilo (US)	Transit Timing Variation Monitoring of 2 planets around a very young star	118.0 (P1)
20	Sydney Vach (AU)	Confirmation of two transiting planets around pre-main sequence stars with CHEOPS	42.0 (P2)
22	Nicholas Scarsdale (US)	Characterizing The Brightest-Host Transiting Habitable Zone Terrestrial Exoplanet	28.0 (P1)
24	Gaia Lacedelli (ES)	CHEOPS' scrutiny of long-period planets: characterization of a warm Jupiter orbiting a Sun-like star	38.0 (P2)
26	Hritam Chakraborty (CH)	Measuring precise masses and radii of two key young exoplanets in the same system	205.9 (P1)
27	Isabel Rebollido (ES)	A highly disruptive event in ASASSN-21qj: exocomets or planetary collision?	60.0 (P2)
31	Prune Camille August (DK)	Measuring Albedos for Different Hot Jupiters	70.0 (P1)
32	Alison Duck (US)	Characterizing Albedos and Eccentricities of 3 Ultra Hot Jupiters with Multi-bandpass Observations	14.0** (P2)
33	Pietro Leonardi (IT)	Transit timing variations of V1298 Tau b: a step forward to decipher the elusive architecture of the infant multi-planet system V1298 Tau	60.0 (P1)
35	Hinna Shivkumar (NL)	Fresh out of the oven: A comprehensive survey of transiting young sub-Neptune planets	78.0 (P2)

* Only the four targets in RV follow-up programmes, one of them shared with another programme.

** Only the target not in common with a higher ranked proposal.

5 As seen on astro-ph

The following list contains exoplanet related entries appearing on astro-ph in July 2024.
Disclaimer: The hyperlinks to the astro-ph articles are provided for the convenience of the reader, but the ExoPlanet News cannot be responsible for their accuracy and perpetuity.

July 2024

astro-ph/2407.07097: **Do SETI Optimists Have a Fine-Tuning Problem?** *by David Kipping, Geraint Lewis*
astro-ph/2407.00504: **Using A One-Class SVM To Optimize Transit Detection** *by Jakob Roche*
astro-ph/2407.00349: **Formation of planetary atmospheres: Analytical estimation of vapor production via planetary impacts** *by Ryushi Miyayama, Hiroshi Kobayashi*
astro-ph/2407.01177: **Towards characterising rocky worlds: Trends in chemical make-ups of M dwarfs versus GK dwarfs** *by Haiyang S. Wang et al.*
astro-ph/2407.01266: **Evidence of Water Vapor in the Atmosphere of a Metal-Rich Hot Saturn with High-Resolution Transmission Spectroscopy** *by Sayyed A. Rafi et al.*
astro-ph/2407.01413: **AtLAST Science Overview Report** *by Mark Booth et al.*
astro-ph/2407.01480: **How Land-Mass Distribution Influences the Atmospheric Dynamics of Tidally Locked Terrestrial Exoplanets** *by F. Sainsbury-Martinez et al.*
astro-ph/2407.01679: **Constraints on the gas-phase C/O ratio of DR Tau's outer disk from CS, SO, and C_2H observations** *by Jane Huang et al.*
astro-ph/2407.01694: **Retrieving Young Cloudy L-Dwarfs: A Nearby Planetary-Mass Companion BD+60 1417B and Its Isolated Red Twin W0047** *by Caprice L. Phillips et al.*
astro-ph/2407.01728: **Early stages of gap opening by planets in protoplanetary discs** *by Amelia J. Cordwell, Roman R. Rafikov*
astro-ph/2407.01757: **Distributed Instruments for Planetary Surface Science: Scientific Opportunities and Technology Feasibility** *by Federico Rossi et al.*
astro-ph/2407.02571: **Adaptive Habitability of Exoplanets: Thriving Under Extreme Environmental Change** *by Itay Weintraub, Hagai B. Perets*
astro-ph/2407.02568: **Probing Dust and Gas Properties Using Ringed Disks** *by Eve J. Lee*
astro-ph/2407.02444: **Asymmetries in the simulated ozone distribution on TRAPPIST-1e due to orography** *by Anand Bhongade et al.*
astro-ph/2407.02166: **Energetic proton losses reveal Io's extended and longitudinally asymmetrical atmosphere** *by H. L. F. Huybrighs et al.*
astro-ph/2407.02103: **Rossby wave instability in weakly ionized protoplanetary disks. I. azimuthal or vertical B-fields** *by Can Cui et al.*
astro-ph/2407.11026: **Precise and Efficient Orbit Prediction in LEO with Machine Learning using Exogenous Variables** *by Francisco Caldas, Cláudia Soares*
astro-ph/2407.03198: **BOWIE-ALIGN: A JWST comparative survey of aligned vs misaligned hot Jupiters to test the dependence of atmospheric composition on migration history** *by James Kirk et al.*
astro-ph/2407.03199: **BOWIE-ALIGN: How formation and migration histories of giant planets impact atmospheric compositions** *by Anna B. T. Penzlin et al.*
astro-ph/2407.03284: **Aligning Planet-Hosting Binaries via Dissipative Precession in Circumstellar Disks** *by Konstantin Gerbig et al.*
astro-ph/2407.03520: **Planet Formation and Disk Chemistry: Dust and Gas Evolution during Planet Formation** *by G. Perotti et al.*
astro-ph/2407.03620: **Sensitivity and Performance of LBTI/NOMIC Spectroscopy: Prospects for 10- and 30-meter class Mid-IR Exoplanet Science** *by Brittany E. Miles et al.*
astro-ph/2407.03709: **Measuring stellar surface rotation and activity with the PLATO mission – I. Strategy and application to simulated light curves** *by S. N. Breton et al.*

astro-ph/2407.03871: **Interior transit orbits in the planar bicircular restricted four-body problem: classification and application** *by Shuyue Fu et al.*

astro-ph/2407.04813: **FAUST XVII: Super deuteration in the planet forming system IRS 63 where the streamer strikes the disk** *by L. Podio et al.*

astro-ph/2407.04763: **TESS Investigation – Demographics of Young Exoplanets (TI-DYE) II: a second giant planet in the 17-Myr system HIP 67522** *by Madyson G. Barber et al.*

astro-ph/2407.04765: **Resonant and Ultra-short-period Planet Systems are at Opposite Ends of the Exoplanet Age Distribution** *by Stephen P. Schmidt et al.*

astro-ph/2407.04685: **The miscibility of hydrogen and water in planetary atmospheres and interiors** *by Akash Gupta et al.*

astro-ph/2407.04261: **Dynamics of Binary Planets within Star Clusters** *by Yukun Huang et al.*

astro-ph/2407.04669: **Two methods to analyse radial diffusion ensembles: the peril of space- and time- dependent diffusion** *by Sarah N. Bentley et al.*

astro-ph/2407.04661: **MIRI MRS Observations of Beta Pictoris II. The Spectroscopic Case for a Recent Giant Collision** *by Christine H. Chen et al.*

astro-ph/2407.04225: **Surviving in the Hot Neptune Desert: The Discovery of the Ultra-Hot Neptune TOI-3261b** *by Emma Nabbie et al.*

astro-ph/2407.04677: **The TROY project III. Exploring co-orbitals around low-mass stars** *by O. Balsalobre-Ruza et al.*

astro-ph/2407.05070: **MINDS. The DR Tau disk II: probing the hot and cold H_2O reservoirs in the JWST-MIRI spectrum** *by Milou Temmink et al.*

astro-ph/2407.05122: **Irregular Fixation: I. Fixed points and librating orbits of the Brown Hamiltonian** *by Evgeni Grishin*

astro-ph/2407.05479: **The Radio Continuum Source Projected Near HR 8799** *by Luis F. Rodriguez, Luis A. Zapata*

astro-ph/2407.06300: **Assessing Exoplanetary System Architectures with DYNAMITE Including Observational Upper Limits** *by Jamie Dietrich*

astro-ph/2407.06272: **ALMA high-resolution observations unveil planet formation shaping molecular emission in the PDS 70 disk** *by L. Rampinelli et al.*

astro-ph/2407.06163: **Hydrogen sulfide and metal-enriched atmosphere for a Jupiter-mass exoplanet** *by Guangwei Fu et al.*

astro-ph/2407.06097: **Characterisation of the Warm-Jupiter TOI-1130 system with CHEOPS and photo-dynamical approach** *by L. Borsato et al.*

astro-ph/2407.05992: **Predicting the Galactic population of free-floating planets from realistic initial conditions** *by Gavin A. L. Coleman, William DeRocco*

astro-ph/2407.05853: **Giant planet interiors and atmospheres** *by Ravit Helled, Saburo Howard*

astro-ph/2407.05838: **A novel metric for assessing climatological surface habitability** *by Hannah L. Woodward et al.*

astro-ph/2407.05673: **A deep analysis for New Horizons' KBO search images** *by Fumi Yoshida et al.*

astro-ph/2407.06035: **Argon in beta Pictoris – entrapment and release of volatile in disks** *by Yanqin Wu et al.*

astro-ph/2407.07187: **TOI 762 A b and TIC 46432937 b: Two Giant Planets Transiting M Dwarf Stars** *by Joel D. Hartman et al.*

astro-ph/2407.07154: **Hierarchical Three-Body Problem at High Eccentricities = Simple Pendulum** *by Ygal Y. Klein, Boaz Katz*

astro-ph/2407.07243: **Viscous circumbinary protoplanetary discs – I. Structure of the inner cavity** *by Anna B. T. Penzlin et al.*

astro-ph/2407.06707: **Peering above the clouds of the warm Neptune GJ 436b with CRIRES+** *by Natalie Grasser et al.*

astro-ph/2407.06932: **NEMESISPY: A Python package for simulating and retrieving exoplanetary spectra** *by*

Jingxuan Yang et al.

astro-ph/2407.07238: **Chemistry in the GG Tau A Disk: Constraints from H2D+, N2H+, and DCO+ High Angular Resolution ALMA Observations** *by Parashmoni Kashyap et al.*

astro-ph/2407.06689: **Finding planets via gravitational microlensing** *by Natalia E. Rektsini, Virginie Batista*

astro-ph/2407.08032: **Rossby Wave Instability and Substructure Formation in 3D Non-Ideal MHD Wind-Launching Disks** *by Chun-Yen Hsu et al.*

astro-ph/2407.07869: **High-resolution Elemental Abundance Measurements of Cool JWST Planet Hosts Using AutoSpecFit: An Application to the Sub-Neptune K2-18b's Host M dwarf** *by Neda Hejazi et al.*

astro-ph/2407.07678: **The ESO SupJup Survey II: The ^{12}C/^{13}C ratios of three young brown dwarfs with CRIRES+** *by D. González Picos et al.*

astro-ph/2407.07965: **Sulphur dioxide in the mid-infrared transmission spectrum of WASP-39b** *by Diana Powell et al.*

astro-ph/2407.07649: **From traffic jams to roadblocks: The outer regions of TW Hya with ALMA Band 8** *by Sreejita Das et al.*

astro-ph/2407.07590: **Quantitative Criteria for Defining Planets** *by Jean-Luc Margot et al.*

astro-ph/2407.07398: **Structure of crystalline water ice formed through neon matrix sublimation under cryogenic and vacuum conditions** *by Reo Sato et al.*

astro-ph/2407.08832: **Searching for Protoplanets around MWC 758 and MWC 480 in Br-γ using Kernel Phase and SCExAO/CHARIS** *by Alexander Chaushev et al.*

astro-ph/2407.08556: **Enhancing 3D Planetary Atmosphere Simulations with a Surrogate Radiative Transfer Model** *by Tara P. A. Tahseen et al.*

astro-ph/2407.08518: **Precise Bolometric Luminosities and Effective Temperatures of 23 late-T and Y dwarfs Obtained with JWST** *by Samuel A. Beiler et al.*

astro-ph/2407.08397: **L-band nulling interferometry at the VLTI with Asgard/NOTT: status and plans** *by Denis Defrère et al.*

astro-ph/2407.08533: **There is no disk mass budget problem of planet formation** *by Sofia Savvidou, Bertram Bitsch*

astro-ph/2407.09670: **Outstanding questions and future research of magnetic reconnection** *by R. Nakamura et al.*

astro-ph/2407.09627: **A JWST/MIRI analysis of the ice distribution and PAH emission in the protoplanetary disk HH 48 NE** *by J. A. Sturm et al.*

astro-ph/2407.09397: **A grid of self-consistent MSG (MARCS-StaticWeather-GGchem) cool stellar, sub-stellar, and exoplanetary model atmospheres** *by Uffe G. Jørgensen et al.*

astro-ph/2407.09643: **PEPSI Investigation, Retrieval, and Atlas of Numerous Giant Atmospheres (PI-RANGA). I. The Ubiquity of Fe I Emission and Inversions in Ultra Hot Jupiter Atmospheres** *by Sydney Petz et al.*

astro-ph/2407.09341: **Convective mixing in giant planets and the connection to atmospheric measurements** *by Henrik Knierim, Ravit Helled*

astro-ph/2407.08960: **Hot Spot Offset Variability from Magnetohydrodynamical Thermoresistive Instability in Hot Jupiters** *by Raphaël Hardy et al.*

astro-ph/2407.09009: **Probing Cold-to-Temperate Exoplanetary Atmospheres: The Role of Water Condensation on Surface Identification with JWST** *by Ziyu Huang et al.*

astro-ph/2407.09613: **Shadows Wreak Havocs in Transition Disks** *by Yansong Qian, Yanqin Wu*

astro-ph/2407.09194: **The JWST Weather Report from the Nearest Brown Dwarfs I: multi-period JWST NIRSpec + MIRI monitoring of the benchmark binary brown dwarf WISE 1049AB** *by Beth A. Biller et al.*

astro-ph/2407.09296: **The effect of spectroscopic binning on atmospheric retrievals** *by Jack J. Davey et al.*

astro-ph/2407.09968: **The radiative torque spin-up efficiency of ballistic dust grain aggregates** *by Jonathan A. Jäger et al.*

astro-ph/2407.10025: **Badminton Birdie-Like Aerodynamic Alignment of Drifting Dust Grains by Subsonic Gaseous Flows in Protoplanetary Disks** *by Zhe-Yu Daniel Lin et al.*

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