ExoPlanet News
An Electronic Newsletter

No. 112, 15. October 2018

Editors: S. P. Quanz,Y. Alibert, A. Leleu, C. Mordasini
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Contents

1 Editorial

Welcome to edition 112 of the ExoPlanet News!

A big thank you to our contributors for this issue of the newsletter. We are very happy to have a nice compilation of abstracts of scientific papers, job ads, conference announcements, as well as the monthly update from the NASA exoplanet archive and the overview of the articles that appeared on astro-ph in September. In addition there is a call for applications for the Fizeau exchange visitors program - please have a look.

In the unlikely case you missed it, we would like to point out that the Committee on Exoplanet Science Strategy of the National Academies of Sciences, Engineering and Medicine in the U.S. released a comprehensive report in preparation for and as an input to the upcoming decadal surveys. The document can be found here:

`http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_180659`

If you have any feedback or suggestions concerning the newsletter or its webpage, please do not hesitate to contact us. We would like to ensure that the newsletter remains a useful resource for the community. The Latex template for submitting contributions of any kind, as well as all previous editions of ExoPlanet News, can be found on the ExoPlanet News webpage (http://nccr-planets.ch/exoplanetnews/).

Please send everything to exoplanetnews@nccr-planets.ch. The next issue will appear November 12, 2018.

Thanks for all your support and best regards from Switzerland,

Sascha P. Quanz
Yann Alibert
Christoph Mordasini
Adrien Leleu

2 Abstracts of refereed papers

Stellar Surface Magneto-Convection as a Source of Astrophysical Noise II. Center-to-Limb Parameterisation of Absorption Line Profiles and Comparison to Observations

H. M. Cegla[1,2,3], *C. A. Watsonr*[3], *S. Shelyagr*[4], *W. J. Chaplin*[5,6], *G. R. Davies*[5,6], *M. Mathioudakis*[3], *M. L. Palumbo III*[7], *S. H. Saar*[8], *R. D. Haywood*[8,9]

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[9] NASA Sagan Fellow

The Astrophysical Journal, published (doi: 10.3847/1538-4357/aaddfc)

Manifestations of stellar activity (such as star-spots, plage/faculae, and convective flows) are well known to induce spectroscopic signals often referred to as astrophysical noise by exoplanet hunters. For example, setting an ultimate goal of detecting true Earth-analogs demands reaching radial velocity (RV) precisions of $\sim$9 cm s^{-1}. While this is becoming technically feasible with the latest generation of highly stabilised spectrographs, it is astrophysical noise that sets the true fundamental barrier on attainable RV precisions. In this paper we parameterise the impact of solar surface magneto-convection on absorption line profiles, and extend the analysis from the solar disc centre (Paper I) to the solar limb. Off disc-centre, the plasma flows orthogonal to the granule tops begin to lie along the line-of-sight and those parallel to the granule tops are no longer completely aligned with the observer. Moreover, the granulation is corrugated and the granules can block other granules, as well as the intergranular lane components. Overall, the visible plasma flows and geometry of the corrugated surface significantly impact the resultant line profiles and induce centre-to-limb variations in shape and net position. We detail these herein, and compare to various solar observations. We find our granulation parameterisation can recreate realistic line profiles and induced radial velocity shifts, across the stellar disc, indicative of both those found in computationally heavy radiative 3D magnetohydrodynamical simulations and empirical solar observations.

Download/Website: `https://doi.org/10.3847/1538-4357/aaddfc` or `https://arxiv.org/abs/1807.11423`

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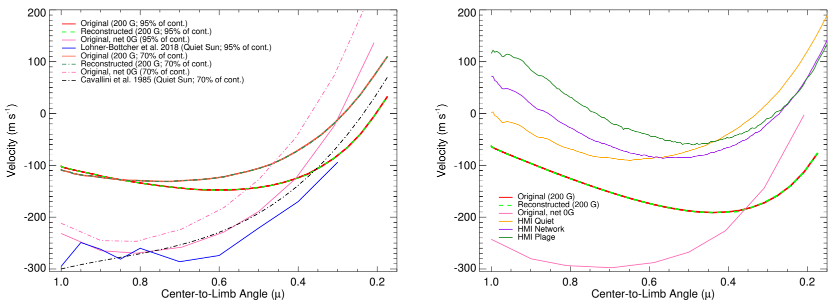

Figure 1: Comparison of the net convective blueshift across the solar limb from our simulations to empirical solar data; calculated via the mean bisector (left; dot-dashed lines when calculated up to 70% of the continuum) and the first moment (right). HMI observations (right) are separated into the quiet photosphere, facular network, and plage regions, and are relative to the quiet Sun. Thick lines indicate the 200 G simulation that is used for the main analysis in the paper; 'original' indicates data directly from our MHD simulation and 'reconstructed' indicates data reconstructed from our granulation parameterisation.

Atmospheric characterization of directly imaged exoplanets with JWST/MIRI.

C.Danielski[1,2,3], *J-L. Baudino*[4], *P-O. Lagage*[1], *A. Boccaletti*[5], *R. Gastaud*[1], *A. Coulais*[6,1] *& B. Bézard*[5]

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The Astronomical Journal, accepted (arXiv:1810.00894)

The Mid-Infrared instrument (MIRI) on board the *James Webb Space Telescope* will perform the first ever characterization of young giant exoplanets observed by direct imaging in the 5-28 μm spectral range. This wavelength range is key for both determining the bolometric luminosity of the cool known exoplanets and for accessing the strongest ammonia bands. In conjunction with shorter wavelength observations, MIRI will enable a more accurate characterization of the exoplanetary atmospheric properties.
Here we consider a subsample of the currently known exoplanets detected by direct imaging and we discuss their detectability with MIRI, either using the coronagraphic or the spectroscopic modes. By using the Exo-REM atmosphere model we calculate the mid-infrared emission spectra of fourteen exoplanets, and we simulate MIRI coronagraphic or spectroscopic observations. Specifically we analyze four coronagraphic observational setups, which depend on (i) the target-star and reference-star offset (0, 3, 14 mas), (ii) the wave-front-error (130, 204 nm rms), (iii) the telescope jitter amplitude (1.6, 7 mas). We then determine the signal-to-noise and integration time values for the coronagraphic targets whose planet-to-star contrasts range from 3.9 to 10.1 mag.
We conclude that all the MIRI targets should be observable with different degrees of difficulty, which depends on the final in-flight instrument performances.
Furthermore, we test for detection of ammonia in the atmosphere of the coolest targets. Finally, we present the case of HR 8799 b to discuss what MIRI observations can bring to the knowledge of a planetary atmosphere, either alone or in combination with shorter wavelength observations.

Download/Website: `https://arxiv.org/abs/1810.00894`

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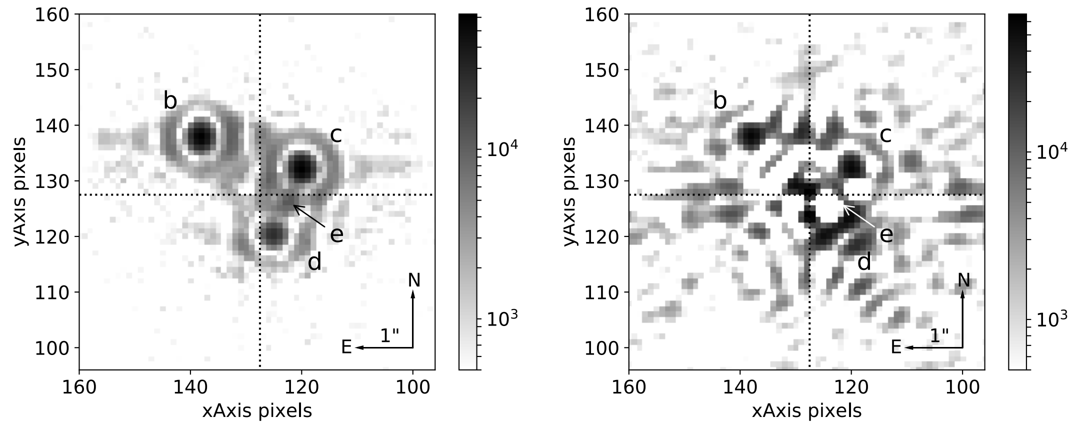

Figure 2: Zoom-in of the HR 8799 system final scientific image (optimistic case, k_A *left*, and pessimistic case, k_D *right*, equilibrium case, filter F1065C, t_{int} = 1800 s) after the reference image subtraction. The color scale unit is electrons, pixel size is 0.11 arcsec.

Revisiting the potassium feature of WASP-31b at high-resolution

N. P. Gibson[1], *E. J. W. de Mooij*[2], *T. M. Evans*[3,4], *S. Merritt*[1], *N. Nikolov*[4], *D. K. Sing*[5,4], *C. Watson*[1]

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Monthly Notices of the Royal Astronomical Society, in press (arXiv:1810.03693)

The analysis and interpretation of exoplanet spectra from time-series observations remains a significant challenge to our current understanding of exoplanet atmospheres, due to the complexities in understanding instrumental systematics. Previous observations of the hot Jupiter WASP-31b using transmission spectroscopy at low-resolution have presented conflicting results. *Hubble Space Telescope (HST)* observations detected a strong potassium feature at high significance (4.2σ), which subsequent ground-based spectro-photometry with the Very Large Telescope (VLT) failed to reproduce. Here, we present high-resolution observations ($R > 80,000$) of WASP-31b with the UVES spectrograph, in an effort to resolve this discrepancy. We perform a comprehensive search for potassium using differential transit light curves, and integration over the planet's radial velocity. Our observations do not detect K absorption at the level previously reported with *HST*, consistent with the VLT observations. We measure a differential light curve depth $\Delta F = 0.00031 \pm 0.00036$ using 40 Å bins centred on the planet's K feature, and set an upper limit on the core line depth of $\Delta F \leq 0.007$ (3σ) at a few times the resolution limit (≈ 0.24 Å). These results demonstrate that there are still significant limitations to our understanding of instrumental systematics even with our most stable space-based instrumentation, and that care must be taken when extracting narrow band signatures from low-resolution data. Confirming exoplanet features using alternative instruments and methodologies should be a priority, and confronting the limitations of systematics is essential to our future understanding of exoplanet atmospheres.

Download/Website: `https://arxiv.org/abs/1810.03693`

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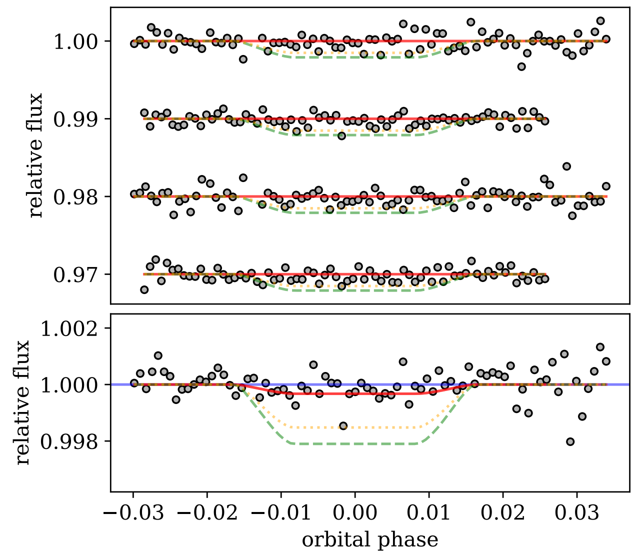

Figure 3: UVES differential light curves of WASP-31b centred around the potassium lines using a bin width of 40 Å. Top panel: light curves with airmass trends removed. The top two light curves show the 7699 Å potassium line for the first and second transit, respectively, and the bottom two are for the 7665 Å potassium line. The red line shows the best-fit models, the blue shows a null eclipse, and the green and orange lines show the projected detection with STIS using both the linear-basis and GP models. Bottom panel: Phase folded light curve after removing airmass and systematic trends. The differential K feature detected with STIS is clearly ruled out by the UVES data.

The habitable zone for Earthlike exomoons orbiting Kepler-1625b

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MNRAS, submitted (arXiv:1810.02712)

The recent announcement of a Neptune-sized exomoon candidate orbiting the Jupiter-sized object Kepler-1625b has forced us to rethink our assumptions regarding both exomoons and their host exoplanets. In this paper I describe calculations of the habitable zone for Earthlike exomoons in orbit of Kepler-1625b under a variety of assumptions. I find that the candidate exomoon, Kepler-1625b-i, does not currently reside within the exomoon habitable zone, but may have done so when Kepler-1625 occupied the main sequence. If it were to possess its own moon (a "moon-moon") that was Earthlike, this could potentially have been a habitable world. If other exomoons orbit Kepler-1625b, then there are a range of possible semimajor axes/eccentricities that would permit a habitable surface during the main sequence phase, while remaining dynamically stable under the perturbations of Kepler-1625b-i. This is however contingent on effective atmospheric CO_2 regulation.

Download/Website: `https://arxiv.org/abs/1810.02712`

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Three Pathways for Observed Resonant Chains

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The Astronomical Journal, in press (arXiv:1809.06443)

A question driving many studies is whether the thousands of exoplanets known today typically formed where we observe them or formed further out in the disk and migrated in. Early discoveries of giant exoplanets orbiting near their host stars and exoplanets in or near mean motion resonances were interpreted as evidence for migration and its crucial role in the beginnings of planetary systems. long-scale migration has been invoked to explain systems of planets in mean motion resonant chains consisting of three or more planets linked by integer period ratios. However, recent studies have reproduced specific resonant chains in systems via short-scale migration, and eccentricity damping has been shown to capture planets into resonant chains. We investigate whether the observed resonant chains in Kepler-80, Kepler-223, Kepler-60, and TRAPPIST-1 can be established through long-scale migration, short-scale migration, and/or only eccentricity damping by running suites of N-body simulations. We find that, for each system, all three mechanisms are able to reproduce the observed resonant chains. Long-scale migration is not the only plausible explanation for resonant chains in these systems, and resonant chains are potentially compatible with in situ formation.

Download/Website: `https://arxiv.org/abs/1809.06443`

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The Fate of Formamide in a Fragmenting Protoplanetary Disc

Quenard[1], *Ilee*[2,3], *Jimenez-Serra*[4,1] *et al.*

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The Astrophysical Journal, in press (arXiv:1809.09900)

Recent high-sensitivity observations carried out with ALMA have revealed the presence of complex organic molecules (COMs) such as methyl cyanide (CH_3CN) and methanol (CH_3OH) in relatively evolved protoplanetary discs. The behaviour and abundance of COMs in earlier phases of disc evolution remains unclear. Here we combine a smoothed particle hydrodynamics simulation of a fragmenting, gravitationally unstable disc with a gas-grain chemical code. We use this to investigate the evolution of formamide (NH_2CHO), a pre-biotic species, in both the disc and in the fragments that form within it. Our results show that formamide remains frozen onto grains in the majority of the disc where the temperatures are $<$100 K, with a predicted solid-phase abundance that matches those observed in comets. Formamide is present in the gas-phase in three fragments as a result of the high temperatures ($\geq$200 K), but remains in the solid-phase in one colder ($\leq$150 K) fragment. The timescale over which this occurs is comparable to the dust sedimentation timescales, suggesting that any rocky core which is formed would inherit their formamide content directly from the protosolar nebula.

Download/Website: `http://adsabs.harvard.edu/abs/2018arXiv180909900Q`

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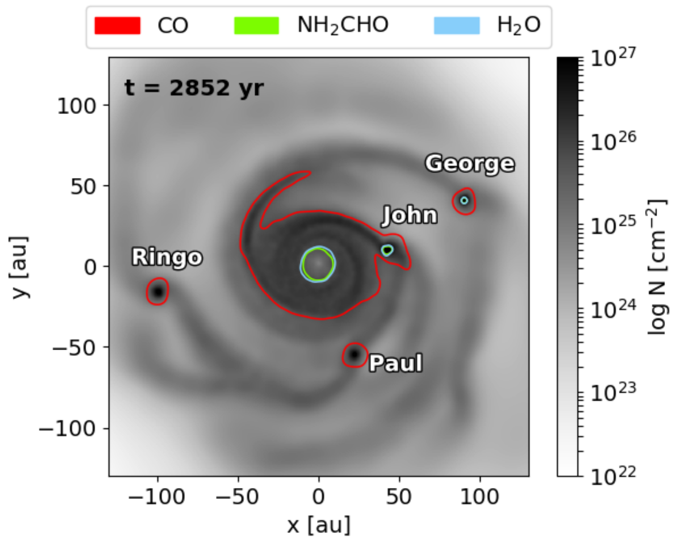

Figure 4: Ice lines of CO, NH_2CHO and H_2O in the fragmenting disc.

A lagrangian model for dust evolution in protoplanetary disks: Formation of wet and dry planetesimals at different stellar masses

D. Schoonenberg[1], *C.W. Ormel*[1], *S. Krijt*[2,3]

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[2] Department of the Geophysical Sciences, The University of Chicago, USA
[3] Hubble Fellow

Astronomy & Astrophysics, in press (arXiv:1810.02370)

We introduce a new Lagrangian smooth-particle method to model the growth and drift of pebbles in protoplanetary disks. The Lagrangian nature of the model makes it especially suited to following characteristics of individual (groups of) particles, such as their composition. In this work we focus on the water content of solid particles. Planetesimal formation via streaming instability is taken into account, partly based on previous results on streaming instability outside the water snowline that were presented in a recent publication. We validate our model by reproducing earlier results from the literature and apply our model to steady-state viscous gas disks (with constant gas accretion rate) around stars with different masses. We also present various other models where we explore the effects of pebble accretion, the fragmentation velocity threshold, the global metallicity of the disk, and a time-dependent gas accretion rate.

We find that planetesimals preferentially form in a local annulus outside the water snowline, at early times in the lifetime of the disk ($\lesssim 10^5$ yr), when the pebble mass fluxes are high enough to trigger the streaming instability. During this first phase in the planet formation process, the snowline location hardly changes due to slow viscous evolution, and we conclude that assuming a constant gas accretion rate is justified in this first stage.

The efficiency of converting the solids reservoir of the disk to planetesimals depends on the location of the water snowline. Cooler disks with a closer-in water snowline are more efficient at producing planetesimals than hotter disks where the water snowline is located further away from the star. Therefore, low-mass stars tend to form planetesimals more efficiently, but any correlation may be overshadowed by the spread in disk properties.

Download/Website: `https://arxiv.org/abs/1810.02370`

Contact: `d.schoonenberg@uva.nl`

3 Jobs and Positions

Postdoctoral Fellowship in exoplanet observations with CHEOPS.

Y.Alibert
[1] NCCR PlanetS, University of Bern, Switzerland

Bern, Switzerland, Nov. 2018

The Theoretical Astrophysics and Planetary Science Group (led by Prof. Willy Benz and Yann Alibert) and the SAINT-EX research group (led by Prof. Brice-Olivier Demory) both at the University of Bern, Switzerland, seek qualified candidates for a Postdoctoral position in CHEOPS exoplanet observations.

The Characterising ExoPlanets Satellite (CHEOPS) is a joint mission between ESA and Switzerland to be launched during the first half of 2019. ESA's Science Programme has selected CHEOPS in 2012 as the first small mission (S-mission) in its Programme. The goal of the CHEOPS mission is to characterise the structure of exoplanets with typical sizes ranging from Neptune down to Earth diameters orbiting bright star. This will be achieved by measuring high-precision photometric sequences to detect variation in the stellar brightness induced by a transiting planet. For details about the mission's science goals and technical implementation, see the CHEOPS website at http://cheops.unibe.ch.

The successful applicant will hold a PhD in astrophysics with previous expertise in ground- and/or space-based exoplanet observations (data reduction, analysis and scheduling). The Postdoctoral researcher will be expected to contribute to the search and characterisation of transiting exoplanets using CHEOPS. The successful applicant will also be expected to conduct competitive research programmes in exoplanets. She/he will also have privileged access to CHEOPS GTO data by collaboration with CHEOPS science team members. A high-degree of interaction with the CHEOPS engineering team is also expected. In addition, the successful applicant will benefit from interactions with researchers from the Centre for Space and Habitability (e.g. Prof. Christoph Mordasini and Kevin Heng, see www.csh.unibe.ch) and with members of the NCCR PlanetS (see www.nccr-planets.ch).

This Postdoctoral Fellowship is for 2 years at the University of Bern, with possible extension depending on results and available funding. The annual salary is between 75,000 and 97,000 CHF, depending upon experience (years after Ph.D) and is set by a predetermined matrix from the University and Canton of Bern.

Each prospective candidate will submit a research proposal with a maximum length of 5 pages. The candidate will use a maximum of 3 pages to explain her/his existing research expertise and interests performed either during the PhD or previous postdoctoral position(s). Additional application materials include a 2-page CV, a list of peer-reviewed publications (no page limit) and a cover letter (1 page) listing the names of 3 referees/references.

The entire application should be submitted as a single PDF file to Mrs Janine Jungo (janine.jungo@space.unibe.ch) by the application deadline of 18 November 2018. Applications sent as multiple files will not be processed. Please state ≪ Postdoctoral Fellowship in exoplanet observations with CHEOPS ≫ as the title of your email.

It is the responsibility of the applicant to ensure that three letters of recommendation are sent directly and separately to Mrs Janine Jungo by the letter writers themselves.

The starting date of the position is negotiable, but not later than 31st March 2019.

For inquiries about the job, contact Brice-Olivier Demory (brice.demory@csh.unibe.ch) and Yann Alibert (yann.alibert@space.unibe.ch).

Contact: `alibert@space.unibe.ch,brice.demory@csh.unibe.ch`

Trottier Postdoctoral Fellow

Prof. René Doyon
Université de Montréal, Montréal, QC, Canada

Montréal, Canada, Starting date: May to September 2019

The Institute for Research on Exoplanets (iREx), affiliated with the physics department of the University of Montreal (UdeM), invites applications for a postdoctoral fellowship in experimental, observational or theoretical astrophysics applied to the study of exoplanets. A number of iREx projects are described below for reference.

Applicants should submit a curriculum vitae, a list of publications, and a statement of research interests (max 2 pages), and should arrange to have three referees send a letter of reference. All application materials including letters of reference must be received electronically at the following address: **irex@astro.umontreal.ca**, by **November 30th, 2018 for full consideration. This position will, however, remain open until filled.**

A PhD in physics, astronomy or related discipline is required at the time when the position starts. Preference will be given to applicants within 3 years of obtaining their PhD.

The iREx consists of a growing team of over 40 people (professors, postdocs, research assistants and students) mostly from UdeM and McGill University all working on various research programs focused on the study of exoplanets and related fields of stellar astrophysics. Members of iREx are actively involved in large international projects related to the detection and characterisation of exoplanets, notably the future James Webb Space Telescope (JWST), the Gemini Planet Imager, SPIRou and NIRPS. In addition, iREx researchers will have access to guaranteed observing time with JWST, SPIRou and NIRPS. More information on iREx research programs can be found here: http://www.exoplanetes.umontreal.ca/research/?lang=en.

The successful applicant is expected to start between **May and September 2019**. The position is for two years, renewable for a third year subject to performance and availability of funds.

Social Benefits:
Postdoctoral researchers at iREx at UdeM enjoy a comprehensive benefits package, see: http://www.fesp.umontreal.ca/fileadmin/Documents/PDF/GuideStagiairePostdoctoral_Eng.pdf

Download/Website: `http://www.exoplanets.ca/trottier-postdoctoral-fellowship-at-irex-2019-in-astrophysics-applied-to-the-study-of-exoplanets/?lang=en`

Contact: `nathalie@astro.umontreal.ca`

4 Conferences

3rd Advanced School on Exoplanetary Science:
"Demographics of Exoplanetary Systems"

Katia Biazzo [1], *Valerio Bozza* [2], *Luigi Mancini* [3,4], *Alessandro Sozzetti* [5]
[1] INAF – Catania Astrophysical Observatory, Via S. Sofia 78 – 95123 Catania, Italy
[2] Department of Physics, University of Salerno, Via Giovanni Paolo II 132, 84084 – Fisciano (SA), Italy
[3] Department of Physics, University of Rome Tor Vergata, Via della Ricerca Scientifica 1, 00133 – Rome, Italy
[4] Max Planck Institute for Astronomy, Königstuhl 17, 69117 – Heidelberg, Germany
[5] INAF – Turin Astrophysical Observatory, via Osservatorio 20, 10025 – Pino Torinese, Italy

Vietri sul Mare (Salerno), Italy, from 27 to 31 May, 2019

Rationale:
The Advanced School on Exoplanetary Science – taking place close to the enchanting Amalfi Coast – is aimed at providing a comprehensive, state-of-the-art picture of the rich variety of relevant aspects of the fast-developing, highly interdisciplinary field of exoplanet research (both from an observational and theoretical viewpoint). The School is addressed to graduate students and young post-doctoral researchers, and offers the fascinating possibility to interact with world-class experts engaged in different areas of the astrophysics of planetary systems. The 3rd edition of the School will be focused on the Demographics of Exoplanetary Systems, covering both the theoretical and observational perspectives.

Organizing Committee:
K. Biazzo (INAF - Catania Astrophysical Observatory), V. Bozza (University of Salerno), L. Mancini (University of Rome 2, Max Planck Institute for Astronomy, Heidelberg), A. Sozzetti (INAF - Turin Astrophysical Observatory)

Confirmed School Lecturers:
Planet formation : Prof. A. Morbidelli, Observatoire de la Cote d'Azur, Nice, France
Dynamical evolution: Prof. Sean N. Raymond, Laboratoire d'Astrophysique de Bordeaux, France
Wide-separation Exoplanets: Prof. Scott Gaudi, Ohio State University, USA
Close-in Exoplanets: Prof. Andrew W. Howard, California Institute of Technology, USA
Star–Planet interactions: Prof. Antonino F. Lanza, INAF – Catania Astrophysical Observatory

Lecture Notes: The Lecture Notes of the 3rd Advanced School on Exoplanetary Science will be published by Springer in its Astrophysics and Space Science Library series. A copy of the book will be given to each participant. The first two books of the series are available on www.springer.com/gp/book/9783319274560 and www.springer.com/gp/book/9783319897004, respectively.

Fee:
The registration fee is 350 Euro, and includes a copy of the Lecture Notes, conference kit, coffee breaks and social dinner. A limited number of grants, covering the registration fee, will be available for selected participants. Justified requests for economic support (addressed via email to the Organizing Committee) will have to be accompanied by the submission of a Curriculum Vitae (deadline: February 1, 2019).

Registration, abstract submission:
Registration will open on November 1, 2018 and close on 1 March, 2019.
There is a limited number of time slots for brief seminars of participants to present their own research. Title/Abstract submission is possible at any later moment after registration by sending an email to the Organizing Committee (deadline: April 1, 2019). All participants are allowed and encouraged to bring a poster.

Important Dates:
1^{st} November 2018: First Announcement, Registration opens
15^{th} January 2019: Second and Final Announcement
1^{st} February 2019: Accommodation Subsidy Deadline
1^{st} March 2019: Registration Deadline
1^{st} April 2019: Oral contribution Deadline
1^{st} May 2019: Final School programme
$27^{th} - 31^{st}$ May 2019: The School

Download/Website: `http://www.mpia.de/ases3`

Contact: `ases3@mpia.de - facebook.com/ases2019 - twitter.com/ases2019 - #ases3`

National Astronomy Meeting (NAM) 2019

SOC: Chair: Sarah Badman (Lancaster), Silvia Dalla (Central Lancashire), Steve Longmore (Liverpool John Moores), Ian McCrea (Rutherford Appleton Laboratory), Victoria Scowcroft (Bath), Adrianne Slyz (Oxford), John Stott (Lancaster), John Veitch (Glasgow), Dimitri Veras (Warwick), Anthony Yeates (Durham)

Lancaster University, 30 June 2019 - 4 July 2019

The SOC for the 2019 UK National Astronomy Meeting (NAM) is now accepting proposals for parallel sessions, and we invite you to apply; a submission form along with basic logistical information about the conference is located at the associated website. Note in particular that the deadline for submission for a parallel session is Monday 7th Jan 2019 at 17:30 UTC.
With about 600 attendees per year, the UK NAM includes astrophysics, solar system science and space physics, and is open to attendees from around the world.
The SOC aims to ensure that the conference is representative of the community's diversity and scientific breadth (and so that includes exoplanetary science!).

Download/Website: `https://nam2019.org/science/call-for-parallel-sessions`

Contact: `nam2019soc@lancaster.ac.uk.`

5 Exoplanet Archive Updates

September 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, October 15, 2018

September 27, 2018

KOI DR25 Supplemental Data: The Kepler mission has released a supplemental KOI DR25 data set with updated dispositions for 9,564 planet candidates and false positives. Where the DR25 dispositions were automatically generated, and should continue to be used for statistical analyses of the data set, the supplemental dispositions have been manually updated to reflect the project's latest information on a given candidate, and should therefore be used to assess the validity of a given planet candidate.

The release also includes a small set of "orphaned" KOIs that were excluded from the initial Q1—Q17 DR25 release because they were not found by that version of the pipeline. For details, see the KOI delivery documentation (`http://bit.ly/2R4wHw0`). For the data, consult the Q1—Q17 DR25 KOI Supplemental interactive table (`http://bit.ly/2NMeSDK`), or download the data using our API. Use the table name q1_q17_dr25_sup_koi in your queries. Here is a pre-built query to get you started: `https://exoplanetarchive.ipac.caltech.edu/cgi-bin/nstedAPI/nph-nstedAPI?` `/cgi-bin/nstedAPI/nph-nstedAPI?table=q1_q17_dr25_sup_koi`

Note: In the Kepler Objects of Interest (KOI) DR 25 Supplemental release, seven confirmed planets were dispositioned as false positives by the Kepler False Positive Working Group. In the absence of a peer-reviewed, published refutation, the objects remain listed as confirmed planets in the Exoplanet Archive. The planets are: Kepler-468 b, Kepler-469 b, Kepler-470 b, Kepler-628 b, Kepler-840 b, Kepler-854 b, and Kepler-1415 b.

Twelve New Planets, 47 New Parameter Sets: We've added 12 new planets to the archive, including nine radial velocity planets and 47 additional sets of parameters found by the N2K project and published in Ment et al. 2018. The new planets are: K2-263 b, K2-264 b & c, HD 55696 b, HD 98736 b, HD 148164 b & c, HD 203473 b, HD 211810 b, HD 148284 b, HD 217850 b, and HD 75784 c. View the planets' data in the Confirmed Planets, Composite Planet Data, and Extended Planet Data tables.

September 20, 2018

We've updated various stellar parameters for 2,705 confirmed planet host stars with data from Gaia's second data release (DR2). The updated parameters include: parallax, distance, proper motion, stellar effective temperature, stellar radius, stellar luminosity, systemic radial velocity, and photometry.

Specific Gaia data columns are included in the Confirmed Planets interactive table for photometry (G-band), proper motion, parallax, and distance; in the Composite Planet Data table, updated values have "Gaia DR2" references. The values can also be found on the objects' Planet Host and Confirmed Planet Overview pages.

September 6, 2018

Mind the Fulton Gap: We've added data for Wolf 503 b, which is the new close-in planet that gives us new opportunities to learn more about why there is a significant drop in planets within the 1-4 Earth radii range (a.k.a. the Fulton gap). See its star or planet overview pages, or find it in the Confirmed Planets and Composite Planet Data tables.

An Influx of Insolation Fluxes: We've added data from Berger et al. 2018 for 2,123 Kepler planets and 1,519 Kepler stellar hosts to the Extended Planet Data table. If you use the Composite Planet Data table, you'll notice these updates increase the number of insolation fluxes by almost 600%!

44 New Microlensing Parameter Sets: We've also added new parameter sets for 44 microlensing planets in the Microlensing table (`http://bit.ly/2JQr180`).

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

6 Announcements

Fizeau exchange visitors program in optical interferometry - call for applications

European Interferometry Initiative

www.european-interferometry.eu, application deadline: Nov. 15

The Fizeau exchange visitors program in optical interferometry funds (travel and accommodation) visits of researchers to an institute of his/her choice (within the European Community) to perform collaborative work and training on one of the active topics of the European Interferometry Initiative. The visits will typically last for one month, and strengthen the network of astronomers engaged in technical, scientific and training work on optical/infrared interferometry. The program is open for all levels of astronomers (Ph.D. students to tenured staff), with priority given to PhD students and young postdocs. Non-EU based missions will only be funded if considered essential by the Fizeau Committee. Applicants are strongly encouraged to seek also partial support from their home or host institutions.

The deadline for applications is November 15. Fellowships can be awarded for missions to be carried out between mid January 2019 and July 2019!

Note: the next call will be issued in May 2019!
Further informations and application forms can be found at: www.european-interferometry.eu
The program is funded by OPTICON/H2020.

Please distribute this message also to potentially interested colleagues outside of your community!

Looking forward to your applications,
Josef Hron & Péter Ábrahám
(for the European Interferometry Initiative)

Download/Website: `http://www.european-interferometry.eu`

Contact: `fizeau@european-interferometry.eu`

7 As seen on astro-ph

The following list contains all the entries relating to exoplanets that we spotted on astro-ph during September 2018.

September 2018

astro-ph/1809.00002: **A Universal Nightside Temperature on Hot Jupiters due to Nocturnal Clouds** by *Dylan Keating, Nicolas B. Cowan*

astro-ph/1809.00007: **Kepler-730b is probably a hot Jupiter with a small companion** by *Wei Zhu , Fei Dai, Kento Masuda*

astro-ph/1809.00314: **Stellar Obliquities & Planetary Alignments (SOPA) I. Spin-Orbit measurements of Three Transiting Hot Jupiters: WASP-72b, WASP-100b, & WASP-109b** by *B. C. Addison et al.*

astro-ph/1809.00472: **Orbital evolution of Saturn's mid-sized moons and the tidal heating of Enceladus** by *Ayano Nakajima et al.*

astro-ph/1809.00492: **On quasi-satellite periodic motion in asteroid and planetary dynamics** by *G. Voyatzis, K. I. Antoniadou*

astro-ph/1809.00572: **A Hexagon in Saturn's Northern Stratosphere Surrounding the Emerging Summertime Polar Vortex** by *L.N. Fletcher et al.*

astro-ph/1809.00645: **Is there really a debris disc around ζ2Reticuli ?** by *V. Faramaz et al.*

astro-ph/1809.00678: **NGTS-4b: A sub-Neptune Transiting in the Desert** by *Richard G. West*

astro-ph/1809.01001: **High-Contrast study of the candidate planets and protoplanetary disk around HD 100546** by *E. Sissa et al.*

astro-ph/1809.01027: **Activity induced variation in spin-orbit angles as derived from Rossiter-McLaughlin measurements** by *M. Oshagh et al.*

astro-ph/1809.01048: **HATS-60b - HATS-69b: Ten Transiting Planets From HATSouth** by *J. D. Hartman et al.*

astro-ph/1809.01082: **Shadows and asymmetries in the T Tauri disk HD 143006: Evidence for a misaligned inner disk** by *M. Benisty et al.*

astro-ph/1809.01150: **Continuous reorientation of synchronous terrestrial planets controlled by mantle convection** by *Jérémy Leconte*

astro-ph/1809.01156: **Detecting isotopologues in exoplanet atmospheres using ground-based high-dispersion spectroscopy** by *P. Mollière, I. A. G. Snellen*

astro-ph/1809.01157: **Effects of non-Kozai mutual inclinations on two-planet system stability through all phases of stellar evolution** by *Dimitri Veras et al.*

astro-ph/1809.01189: **A Search for Refraction in Kepler Photometry of Gas Giants** by *Holly Sheets et al.*

astro-ph/1809.01228: **Radial velocities from the N2K Project: 6 new cold gas giant planets orbiting HD 55696, HD 98736, HD 148164, HD 203473, and HD 211810** by *Kristo Ment et al.*

astro-ph/1809.01288: **KMT-2017-BLG-0165Lb: A Super-Neptune mass planet Orbiting a Sun-like Host Star** by *Youn Kil Jung et al.*

astro-ph/1809.01295: **Analysis of Methods for Computing the Trajectories of Dust Particles in a Gas-Dust Circumstellar Disk** by *Olga P. Stoyanovskaya, Valeriy N. Snytnikov, Eduard I. Vorobyov*

astro-ph/1809.01310: **Modeling Circumstellar Disc Fragmentation and Episodic Protostellar Accretion with Smoothed Particle Hydrodynamics in Cell** by *Olga P. Stoyanovskaya, Nikolay V. Snytnikov, Valeriy N. Snytnikov*

astro-ph/1809.01376: **Idealized Wind-driven Ocean Circulations On Exoplanets** by *Weiwen Ji, Ru Chen, Jun Yang*

astro-ph/1809.01397: **Differences in water vapor radiative transfer among 1D models can significantly affect the inner edge of the habitable zone** by *Jun Yang et al.*

astro-ph/1809.01418: **Abrupt climate transition of icy worlds from snowball to moist or runaway greenhouse** by *Jun Yang et al.*

astro-ph/1809.01629: **Magma oceans as a critical stage in the tectonic development of rocky planets** by *Laura Schaefer, Linda T. Elkins-Tanton*

astro-ph/1809.01648: **Radial and vertical dust transport inhibit refractory carbon depletion in protoplanetary disks** by *L. Klarmann, C. W. Ormel, C. Dominik*

astro-ph/1809.01789: **Exoplanets in the Antarctic sky. II. 116 Transiting Exoplanet Candidates found by AST3-II (CHESPA) within the Southern CVZ of TESS** by *Hui Zhang et al.*

astro-ph/1809.01925: **Chemical Signatures of the FU Ori Outbursts** by *Tamara Molyarova et al.*

astro-ph/1809.01968: **EPIC 211964830: A transiting multi-planet system in the Praesepe open cluster** by *John H. Livingston et al.*

astro-ph/1809.02036: **Modeling the albedo of Earth-like magma ocean planets with H2O-CO2 atmospheres** by *William Pluriel, Emmanuel Marcq, Martin Turbet*

astro-ph/1809.02184: **The Albedos, Sizes, Colors and Satellites of Dwarf Planets Compared with Newly Measured Dwarf Planet 2013 FY27** by *Scott Sheppard, Yanga Fernandez, Arielle Moullet*

astro-ph/1809.02200: **Forming Gliese 876 Through Smooth Disk Migration** by *Adam M. Dempsey, Benjamin E. Nelson*

astro-ph/1809.02296: **A simple exact series representation for relativistic perihelion advance** by *Stephen J Walters*

astro-ph/1809.02548: **The Influence of H2O Pressure Broadening in High Metallicity Exoplanet Atmospheres** by *Ehsan Gharib-Nezhad, Michael R. Line*

astro-ph/1809.02571: **A Fruit of a Different Kind: 2015 BP519 as an Outlier among the Extreme Trans-Neptunian Objects** by *C. de la Fuente Marcos, R. de la Fuente Marcos*

astro-ph/1809.02594: **Feasibility of a resonance-based Planet Nine search** by *Elizabeth Bailey, Michael E. Brown, Konstantin Batygin*

astro-ph/1809.02625: **Secular Evolution Driven by Massive Eccentric Disks/Rings: An Apsidally Aligned Case** by *Irina Davydenkova et al.*

astro-ph/1809.02654: **WFIRST Exoplanet Mass Measurement Method Finds a Planetary Mass of $39\pm8M_\oplus$ for OGLE-2012-BLG-0950Lb** by *A. Bhattacharya et al.*

astro-ph/1809.03510: **Secular transport during disk dispersal: the case of Kepler-419** by *Cristobal Petrovich, Yanqin Wu, Mohamad Ali-Dib*

astro-ph/1809.03730: **Prospecting for exo-Earths in multiple planet systems with a gas giant** by *Matthew T. Agnew, Sarah T. Maddison, Jonathan Horner*

astro-ph/1809.03775: **Physical properties and optical-infrared transmission spectrum of the giant planet XO-1b** by *John Southworth et al.*

astro-ph/1809.03848: **K2 targets observed with SPHERE/VLT. A M4-7 dwarf companion resolved around EPIC206011496** by *Roxanne Ligi et al.*

astro-ph/1809.04007: **Evidence for Very Early Migration of the Solar System Planets from the Patroclus-Menoetius binary Jupiter Trojan** by *David Nesvorny et al.*

astro-ph/1809.04013: **3D Simulations of Planet Trapping at Disc-Cavity Boundaries** by *M. M. Romanova et al.*

astro-ph/1809.04102: **Spatial and Seasonal Variations in C3Hx Hydrocarbon Abundance in Titan's Stratosphere from Cassini CIRS Observations** by *Nicholas A Lombardo et al.*

astro-ph/1809.04107: **Dynamical Constraints on the HR 8799 Planets with GPI** by *Jason J. Wang et al.*

astro-ph/1809.04160: **Evidence for a massive dust-trapping vortex connected to spirals: a multi-wavelength analysis of the HD 135344B protoplanetary disk** by *P. Cazzoletti et al.*

astro-ph/1809.04545: **Photochemical Oxygen in Non-1 Bar CO2 Atmospheres of Terrestrial Exoplanets** by *Tre'Shunda James, Renyu Hu*

astro-ph/1809.04609: **Pyaneti: a fast and powerful software suite for multi-planet radial velocity and transit fitting** by *O. Barragán, D. Gandolfi, G. Antoniciello*

astro-ph/1809.04657: **Magnetically induced termination of giant planet formation** by *A.J. Cridland*

astro-ph/1809.04897: **WASP-189b: an ultra-hot Jupiter transiting the bright A star HR 5599 in a polar or-**

bit by *D. R. Anderson et al.*

astro-ph/1809.04959: **Kozai-Lidov Mechanism inside Retrograde Mean Motion Resonances** by *Yukun Huang et al.*

astro-ph/1809.05181: **Modeling the evection resonance for trojan satellites: application to the Saturn system** by *C. A. Giuppone, F. Roig, X. Saad-Olivera*

astro-ph/1809.05307: **Interaction of infalling solid bodies with primordial atmospheres of disk-embedded planets** by *Florian Ragossnig et al.*

astro-ph/1809.05383: **The formation of Jupiter by hybrid pebble-planetesimal accretion** by *Yann Alibert et al.*

astro-ph/1809.05490: **Improving Orbit Estimates for Incomplete Orbits with a New Approach to Priors - with Applications from Black Holes to Planets** by *K. Kosmo O'Neil et al.*

astro-ph/1809.05517: **The hot Jupiter period-mass distribution as a signature of in situ formation** by *Elizabeth Bailey, Konstantin Batygin*

astro-ph/1809.05615: **Ground- and Space-based Detection of the Thermal Emission Spectrum of the Transiting Hot Jupiter KELT-2Ab** by *Danielle Piskorz et al.*

astro-ph/1809.05639: **Survivability of Moon Systems Around Ejected Gas Giants** by *Ian Rabago, Jason H. Steffen*

astro-ph/1809.05683: **Stellar pulsation and granulation as noise sources in exoplanet transit spectroscopy in the ARIEL space mission** by *Subhajit Sarkar et al.*

astro-ph/1809.05967: **TESS Discovery of a Transiting Super-Earth in the** Π **Mensae System** by *Chelsea X. Huang et al.*

astro-ph/1809.05981: **Disentangling Blended K2 Photometry: Determining the Planetary Host Star** by *Alan Payne et al.*

astro-ph/1809.06389: **Spin Evolution and Cometary Interpretation of the Interstellar Minor Object 1I/2017 'Oumuamua** by *Roman R. Rafikov*

astro-ph/1809.06403: **Dust growth and dust trapping in protoplanetary disks** by *Nienke van der Marel et al.*

astro-ph/1809.06443: **Three Pathways for Observed Resonant Chains** by *Mariah G. MacDonald, Rebekah I. Dawson*

astro-ph/1809.06645: **A grid of upper atmosphere models for 1–40 MEARTH planets: application to CoRoT-7 b and HD219134 b,c** by *Daria Kubyshkina et al.*

astro-ph/1809.06733: **Collisional Growth of Icy Dust Aggregates in Disk Formation Stage: Difficulties for Planetesimal Formation via Direct Collisional Growth outside the Snowline** by *Kenji Homma, Taishi Nakamoto*

astro-ph/1809.06810: **Atmospheric mass loss due to giant impacts: the importance of the thermal component for hydrogen-helium envelopes** by *John B. Biersteker, Hilke E. Schlichting*

astro-ph/1809.06894: **Retrieval analysis of 38 WFC3 transmission spectra and resolution of the normalisation degeneracy** by *Chloe Fisher, Kevin Heng*

astro-ph/1809.06907: **Evaluating the effect of immeasurable parameters of exoplanets on their habitability using latitudinal energy balance model** by *Majid Bahraminasr, Seyed Javad Jafarzadeh, Fatemeh Montazeri*

astro-ph/1809.06941: **A deep search for planets in the inner 15 au around Vega** by *Tiffany Meshkat et al.*

astro-ph/1809.06960: **Strange messenger: A new history of hydrogen on Earth, as told by Xenon** by *Kevin J. Zahnle, Marko Gacesa, David C. Catling*

astro-ph/1809.06978: **A Large Ground-Based Observing Campaign of the Disintegrating Planet K2-22b** by *Knicole D. Colón et al.*

astro-ph/1809.07001: **Identifying Anticyclonic Vortex Features Produced by the Rossby Wave Instability in Protoplanetary Disks** by *Pinghui Huang et al.*

astro-ph/1809.07242: **TESS Discovery of an ultra-short-period planet around the nearby M dwarf LHS 3844** by *Roland Vanderspek et al.*

astro-ph/1809.07281: **Triboelectrification of KCl and ZnS particles in approximated exoplanet environ-**

ments by *Joshua Méndez Harper, Christiane Helling, Josef Dufek*

astro-ph/1809.07374: **Why do protoplanetary disks appear not massive enough to form the known exoplanet population?** by *C.F. Manara et al.*

astro-ph/1809.07391: **Observational diagnostics of elongated planet-induced vortices with realistic planet formation timescales** by *Michael Hammer et al.*

astro-ph/1809.07498: **Evolved Climates and Observational Discriminants for the TRAPPIST-1 Planetary System** by *Andrew P. Lincowski et al.*

astro-ph/1809.07573: **TESS's first planet: a super-Earth transiting the naked-eye star** Π **Mensae** by *D. Gandolfi et al.*

astro-ph/1809.07709: **A low-density hot Jupiter in a near-aligned, 4.5-day orbit around a V = 10.8, F5V star** by *D. R. Anderson et al.*

astro-ph/1809.07898: **MOA-2016-BLG-319Lb: Microlensing Planet Subject to Rare Minor-Image Perturbation Degeneracy in Determining Planet Parameter** by *Cheongho Han et al.*

astro-ph/1809.08008: **Mass, radius, and composition of the transiting planet 55 Cnc e : using interferometry and correlations — A quick update** by *Aurélien Crida et al.*

astro-ph/1809.08147: **High resolution millimetre imaging of the CI Tau protoplanetary disc - a massive ensemble of protoplanets from 0.1 - 100 au** by *Cathie J. Clarke et al.*

astro-ph/1809.08166: **Planet-Planet Tides in the TRAPPIST-1 System** by *Jason T. Wright*

astro-ph/1809.08210: **Dynamical evolution and stability maps of the Proxima Centauri system** by *Tong Meng, Jianghui Ji, Yao Dong*

astro-ph/1809.08230: **Observability of molecular species in a nitrogen dominated atmosphere for 55 Cancri e** by *Yamila Miguel*

astro-ph/1809.08261: **A Bayesian Framework for Exoplanet Direct Detection and Non-Detection** by *Jean-Baptiste Ruffio et al.*

astro-ph/1809.08266: **Paleo-Rock-Hosted Life on Earth and the Search on Mars: a Review and Strategy for Exploration** by *T.C. Onstott et al.*

astro-ph/1809.08354: **beta Pictoris b post conjunction detection with VLT/SPHERE** by *A.-M. Lagrange et al.*

astro-ph/1809.08385: **Properties and occurrence rates of Kepler exoplanet candidates as a function of host star metallicity from the DR25 catalog** by *M. Narang et al.*

astro-ph/1809.08435: **Polarimetry of Water Ice Particles Providing Insights on Grain Size and Degree of Sintering on Icy Planetary Surfaces** by *Olivier Poch et al.*

astro-ph/1809.08436: **Kepler-1656b: a Dense Sub-Saturn With an Extreme Eccentricity** by *Madison T. Brady et al.*

astro-ph/1809.08499: **Dynamical instability and its implications for planetary system architecture** by *Dong-Hong Wu et al.*

astro-ph/1809.08501: **Col-OSSOS: The Colours of the Outer Solar System Origins Survey** by *Megan E. Schwamb et al.*

astro-ph/1809.08832: **The Vegetation Red Edge Biosignature Through Time on Earth and Exoplanets** by *Jack T. O'Malley-James, Lisa Kaltenegger*

astro-ph/1809.08844: **The Ophiuchus DIsc Survey Employing ALMA (ODISEA) - I : project description and continuum images at 28 au resolution** by *Lucas A. Cieza et al.*

astro-ph/1809.08869: **K2-265 b: A Transiting Rocky Super-Earth** by *K. W. F. Lam et al.*

astro-ph/1809.08879: **EPIC 249451861b: an Eccentric Warm Saturn transiting a G-dwarf** by *Andrés Jordán et al.*

astro-ph/1809.09009: **Plausible home stars of the interstellar object 'Oumuamua found in Gaia DR2** by *C.A.L. Bailer-Jones , D. Farnocchia , K.J. Meech , R. Brasser , M. Micheli , S. Chakrabarti , M.W. Buie , O.R. Hainaut*

astro-ph/1809.09080: **Detecting Water In the atmosphere of HR 8799 c with L-band High Dispersion Spectroscopy Aided By Adaptive Optics** by *Ji Wang et al.*

astro-ph/1809.09099: **A Planetary Mass and Stellar Radius Relationship for Exoplanets Orbiting Red Giants** by *Jonathan H. Jiang, Sheldon Zhu*

astro-ph/1809.09118: **Dependence of Biological Activity on the Surface Water Fraction of Planets** by *Manasvi Lingam, Abraham Loeb*

astro-ph/1809.09185: **Submillimetre dust polarisation and opacity in the HD163296 protoplanetary ring system** by *W.R.F. Dent et al.*

astro-ph/1809.09629: **From cold to hot irradiated gaseous exoplanets: A classification scheme with four classes** by *Karan Molaverdikhani, Thomas Henning, Paul Mollière*

astro-ph/1809.09638: **New HARPS and FEROS observations of GJ1046** by *Trifon Trifonov et al.*

astro-ph/1809.09663: **Follow-up Imaging of Disk Candidates from the Disk Detective Citizen Science Project: New Discoveries and False-Positives in WISE Circumstellar Disk Surveys** by *Steven M. Silverberg et al.*

astro-ph/1809.09779: **Meteoritic Abundances of Fatty Acids and Potential Reaction Pathways in Planetesimals** by *James C.-Y. Lai et al.*

astro-ph/1809.09914: **Extrasolar planets and brown dwarfs around AF-type stars. X.The SOPHIE northern sample. Combining the SOPHIE and HARPS surveys to compute the close giant planet mass-period distribution around AF-type stars** by *S. Borgniet et al.*

astro-ph/1809.10042: **First-order mean motion resonances in two-planet systems: general analysis and observed systems** by *Caroline Terquem, John Papaloizou*

astro-ph/1809.10209: **Gap Formation in Planetesimal Disks Via Divergently Migrating Planets** by *Sarah J. Morrison, Kaitlin M. Kratter*

astro-ph/1809.10211: **MOPSS II: Extreme Optical Scattering Slope for the Inflated Super-Neptune HATS-8b** by *E. M. May et al.*

astro-ph/1809.10230: **Microlensing path parametrization for Earth-like Exoplanet detection around solar mass stars** by *L. de Almeida, J.-D. do Nascimento Jr*

astro-ph/1809.10687: **Single site observations of *TESS* single transit detections** by *Benjamin F. Cooke et al.*

astro-ph/1809.10688: **A Discrete Set of Possible Transit Ephemerides for Two Long Period Gas Giants Orbiting HIP 41378** by *Juliette C. Becker et al.*

astro-ph/1809.10744: **Studying the solar system with the International Pulsar Timing Array** by *R. N. Caballero et al.*

astro-ph/1809.10849: **Global or Local Pure-Condensible Atmospheres: Importance of Horizontal Latent Heat Transport** by *Feng Ding, Raymond T. Pierrehumbert*

astro-ph/1809.10873: **Abundance Measurements of Titan's Stratospheric HCN, HC3N, C3H4, and CH3CN from ALMA Observations** by *A. E. Thelen et al.*

astro-ph/1809.10891: **Spatial Variations in Titan's Atmospheric Temperature: ALMA and Cassini Comparisons from 2012 to 2015** by *A. E. Thelen et al.*

astro-ph/1809.10900: **Transiting Planets with LSST IV: Detecting Planets around White Dwarfs** by *Michael B. Lund et al.*

astro-ph/1809.11116: **Revisiting the HIP41378 system with K2 and Spitzer** by *David Berardo et al.*

astro-ph/1809.00353: **The ice composition in the protoplanetary disk V883 Ori revealed by its stellar outburst** by *Jeong-Eun Lee et al.*

astro-ph/1809.01548: **Measuring precise radial velocities on individual spectral lines. I. Validation of the method and application to mitigate stellar activity** by *Xavier Dumusque*

astro-ph/1809.01689: **EPIC 203868608: A low-mass quadruple star system in the Upper Scorpius OB association** by *Ji Wang et al.*

astro-ph/1809.02742: **Classifying Signatures of Sudden Ionospheric Disturbances** by *Sahil Hegde, Monica G. Bobra, Philip H. Scherrer*

astro-ph/1809.02834: **Surface waves in protoplanetary disks induced by outbursts: Concentric rings in scattered light** by *A.D. Schneider, C.P. Dullemond, B. Bitsch*

astro-ph/1809.05031: **Exoplanet Terra Incognita** by *Svetlana V. Berdyugina et al.*
astro-ph/1809.06279: **Exoplanet Modulation of Stellar Coronal Radio Emission** by *Ofer Cohen et al.*
astro-ph/1809.06467: **Atmospheric variability driven by radiative cloud feedback in brown dwarfs and directly imaged extrasolar giant planets** by *Xianyu Tan, Adam P. Showman*
astro-ph/1809.06483: **Efficient spectroscopy of exoplanets at small angular separations with vortex fiber nulling** by *Garreth Ruane et al.*
astro-ph/1809.07052: **PlanetPack3: a radial-velocity and transit analysis tool for exoplanets** by *Roman V. Baluev*
astro-ph/1809.07342: **Far-Ultraviolet Activity Levels of F, G, K, and M dwarf Exoplanet Host Stars** by *Kevin France et al.*
astro-ph/1809.07351: **The Origins Space Telescope** by *Cara Battersby et al.*
astro-ph/1809.07403: **TESS in the Solar System** by *András Pál*
astro-ph/1809.07963: **Complete bolometric treatment of irradiation effects** by *Martin Horvat et al.*
astro-ph/1809.08243: **First Resolution of Microlensed Images** by *Subo Dong et al.*
astro-ph/1809.08789: **White dwarf collisions and the meteoritic Ne-E annomaly** by *Jordi Isern, Eduardo Bravo*
astro-ph/1809.09181: **Extending Gaia DR2 with HST narrow-field astrometry: the WISE J154151.65-225024.9 test case** by *L. R. Bedin et al.*
astro-ph/1809.09722: **TSARDI: a Machine Learning data rejection algorithm for transiting exoplanet light curves** by *D. Mislis, S. Pyrzas, K.A. Alsubai*
astro-ph/1809.11104: **Transit Timing Variations and linear ephemerides of confirmed Kepler transiting exoplanets** by *Pavol Gajdos, Martin Vanko, Stefan Parimucha*
astro-ph/1809.02523: **Generalised Quasilinear Approximation of the Interaction of Convection and Mean Flows in a Thermal Annulus** by *S.M. Tobias, J. Oishi, J.B. Marston*
astro-ph/1809.06857: **Recommendations from the Ad Hoc Committee on SETI Nomenclature** by *Jason T. Wright et al.*
astro-ph/1809.06915: **Hyperfine-resolved rotation-vibration line list of ammonia (NH3)** by *Phillip A. Coles et al.*