ExoPlanet News
An Electronic Newsletter

No. 108, 20. June 2018

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Contents

1 Editorial

Welcome to edition 108 of the ExoPlanet News!

Thanks a lot to all of you who contributed to this issue of the newsletter! We would like to apologize for the slight delay in sending our email, but we were having some non-negligible technical problems most of which have by now been resolved.
While the number of refereed papers is relatively low this time around, we have a relatively high number of interesting job ads at basically all levels. We also have, like last time, a short summary of recent updates at the NASA exoplanet archive. You may have seen that we have been updating the information available on the ExoPlanet News webpage (http://nccr-planets.ch/exoplanetnews/). If you have suggestions for additional links to be added or further information to be included there, please get in touch with us.

The current Latex template for submitting contributions of any kind, as well as all previous editions of ExoPlanet News, can also be found on the webpage mentioned above. As usual, we would be happy to receive feedback concerning the newsletter.

The next issue of will appear July 16, 2018.

Thanks for all your support and best regards from Switzerland

Sascha P. Quanz
Yann Alibert
Adrien Leleu
Christoph Mordasini

2 Abstracts of refereed papers

The GTC exoplanet transit spectroscopy survey IX. Detection of haze, Na, K, and Li in the super-Neptune WASP-127b

G. Chen[1,2,3], E. Pallé[1,2], L. Welbanks[4], J. Prieto-Arranz[1,2], N. Madhusudhan[4], S. Gandhi[4], N. Casasayas-Barris[1,2], F. Murgas[1,2], L. Nortmann[1,2], N. Crouzet[1,2], H. Parviainen[1,2], D. Gandolfi[5]

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Astronomy & Astrophysics, in press (arXiv:1805.11744)

Exoplanets with relatively clear atmospheres are prime targets for detailed studies of chemical compositions and abundances in their atmospheres. Alkali metals have long been suggested to exhibit broad wings due to pressure broadening, but most of the alkali detections only show very narrow absorption cores, probably because of the presence of clouds. We report the strong detection of the pressure-broadened spectral profiles of Na, K, and Li absorption in the atmosphere of the super-Neptune WASP-127b, at 4.1σ, 5.0σ, and 3.4σ, respectively. We performed a spectral retrieval modeling on the high-quality optical transmission spectrum newly acquired with the 10.4 m Gran Telescopio Canarias (GTC), in combination with the re-analyzed optical transmission spectrum obtained with the 2.5 m Nordic Optical Telescope (NOT). By assuming a patchy cloudy model, we retrieved the abundances of Na, K, and Li, which are super-solar at 3.7σ for K and 5.1σ for Li (and only 1.8σ for Na). We constrained the presence of haze coverage to be around 52%. We also found a hint of water absorption, but cannot constrain it with the global retrieval owing to larger uncertainties in the probed wavelengths. WASP-127b will be extremely valuable for atmospheric characterization in the era of James Webb Space Telescope.

Download/Website: `https://arxiv.org/abs/1805.11744`

Contact: `gchen@iac.es`

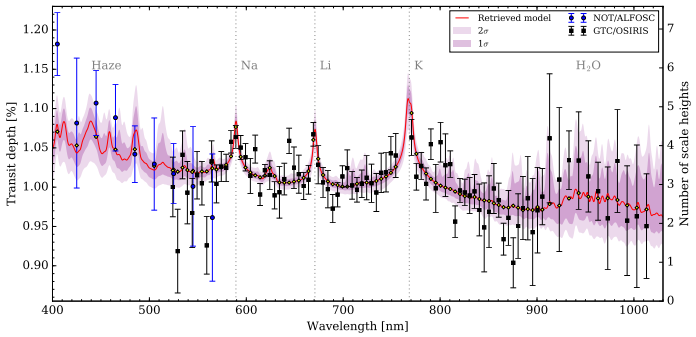

Figure 1: Chen et al.: Transmission spectrum of WASP-127b and retrieved models. The blue circles and black squares with error bars are the observed spectrum by NOT/ALFOSC and GTC/OSIRIS, respectively. This spectrum shows an enhanced slope at the blue optical, strong absorption peaks at 589.3 nm, 670.8 nm, and 768.2 nm, and another bump at the red optical. These features can be explained by the model spectrum when including opacities resulting from haze, Na, Li, K, and H_2O, respectively. The red curve shows the retrieved median model while the shaded areas show the 1σ and 2σ confidence regions. The yellow diamonds show the binned version for the retrieved median model.

Exocomet Orbit Fitting: Accelerating Coma Absorption During Transits of β Pictoris

G. M. Kennedy[1,2]

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Monthly Notices of the Royal Astronomical Society, in press (arXiv:1806.01284)

Comets are a remarkable feature in our night sky, visible on their passage through the inner Solar system as the Sun's energy sublimates ices and liberates surface material, generating beautiful comae, dust, and ion tails. Comets are also thought to orbit other stars, and are the most promising interpretation of sporadic absorption features (i.e. transits) seen in spectra of stars such as β Pictoris and 49 Ceti. These "exocomets" are thought to form and evolve in the same way as in the Solar system, and as in the Solar system we may gain insight into their origins by deriving their orbits. In the case of β Pictoris, orbits have been estimated indirectly, using the radial velocity of the absorption features coupled with a physical evaporation model to estimate the stellocentric distance at transit $d_{\rm tr}$. Here, we note that the inferred $d_{\rm tr}$ imply that some absorption signatures should accelerate over several hours, and show that this acceleration is indeed seen in HARPS spectra. This new constraint means that orbital characteristics can be obtained directly, and the pericentre distance and longitude constrained when parabolic orbits are assumed. The results from fitting orbits to 12 accelerating features, and a handful of non-accelerating ones, are in broad agreement with previous estimates based on an evaporation model, thereby providing some validation of the exocomet hypothesis. A prediction of the evaporation model, that coma absorption is deeper for more distant transits, is also seen here.

Download/Website: `http://adsabs.harvard.edu/abs/2018arXiv180601284K`

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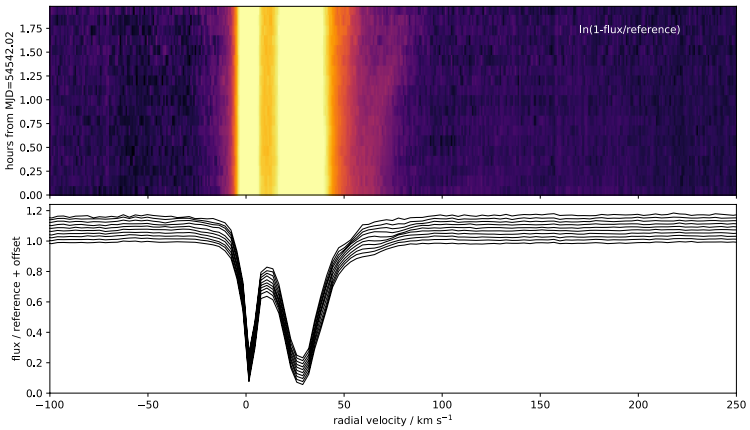

Figure 2: Kennedy: Example of an accelerating Ca K line absorption feature, seen at 60-80 km s^{-1}. The *upper panel* shows the level of absorption on a log stretch, and the *lower panel* shows 1d spectra that have been divided by the reference and offset vertically for clarity. The 1d spectra have been binned by a factor of two in time, and four in velocity, relative to the image in the upper panel. Two strong lines at $v_r \approx 0$ and 25 km s^{-1}, plus a weaker one moving from 60 to 80 km s^{-1}, are visible, and the latter is the accelerating absorption feature. In the image this moving feature is seen as a faint stripe moving up and to the right over time. In the series of spectra the feature appears as a series of small absorptions that move up and to the right over time. Both panels illustrate clearly that this absorption feature is moving over the observation sequence.

Self-Stirring of Debris Discs by Planetesimals Formed by Pebble Concentration

Alexander V. Krivov & Mark Booth
Astrophysikalisches Institut und Universitätssternwarte, FSU Jena, Schillergäßchen 2–3, 07745 Jena, Germany

Monthly Notices of the Royal Astronomical Society, in press (arXiv:1806.05431)

When a protoplanetary disc loses gas, it leaves behind planets and one or more planetesimal belts. The belts get dynamically excited, either by planets ("planet stirring") or by embedded big planetesimals ("self-stirring"). Collisions between planetesimals become destructive and start to produce dust, creating an observable debris disc. Following Kenyon & Bromley (2008), it is often assumed that self-stirring starts to operate as soon as the first ~ 1000 km-sized embedded "Plutos" have formed. However, state-of-the-art pebble concentration models robustly predict planetesimals between a few km and ~ 200 km in size to form in protoplanetary discs rapidly, before then slowly growing into Pluto-sized bodies. We show that the timescale, on which these planetesimals excite the disc sufficiently for fragmentation, is shorter than the formation timescale of Plutos. Using an analytic model based on the Ida & Makino (1993) theory, we find the excitation timescale to be $T_{\rm excite} \approx 100\ x_{\rm m}^{-1}\ M_\star^{-3/2}\ a^3$ Myr, where $x_{\rm m}$ is the total mass of a protoplanetary disc progenitor in the units of the Minimum-Mass Solar Nebula, a its radius in the units of 100 AU, and $M_\star$ is the stellar mass in solar masses. These results are applied to a set of 23 debris discs that have been well resolved with ALMA or SMA. We find that the majority of these discs are consistent with being self-stirred. However, three large discs around young early-type stars do require planets as stirrers. These are 49 Cet, HD 95086, and HR 8799, of which the latter two are already known to have planets.

Download/Website: `https://arxiv.org/abs/1806.05431`

Contact: `krivov@astro.uni-jena.de`

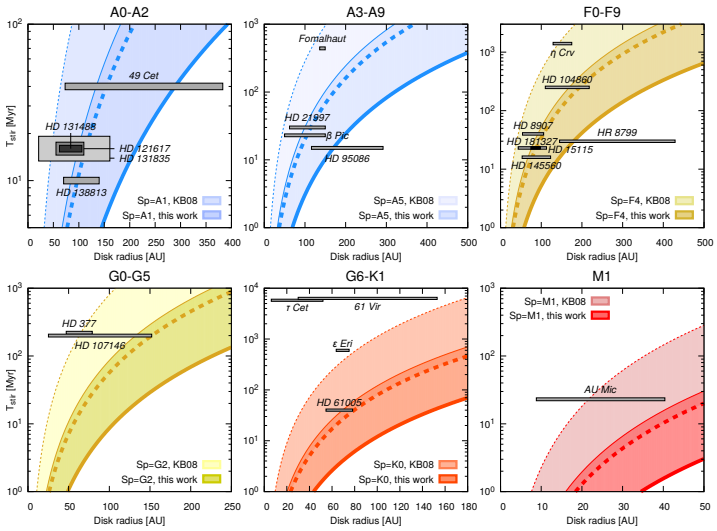

Figure 3: Krivov & Booth: Expected stirring timescales (filled areas with lines) in comparison with selected prominent debris discs (bars showing the radial disc extent and having an arbitrary vertical thickness). Darker filling colours bordered by solid lines: this work, lighter filling colours bordered by dashed lines: Kenyon & Bromley (2008). Thin and thick lines correspond to density scalings $x_{\rm m}$ of 1 and 10, respectively. Panels from top left to bottom right correspond to different stellar type ranges. The discs with outer regions lying below the filled areas are inconsistent with being self-stirred and must harbour planets.

Recovering the colour-dependent albedo of exoplanets with high-resolution spectroscopy: from ESPRESSO to the ELT.

J. H. C. Martins[1,2,3], P. Figueira[2,1], N. C. Santos[1,3], C. Melo[2], A. Garcia Muñoz[4], J. Faria[1,3], F. Pepe[5], C. Lovis[5]

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Monthly Notices of the Royal Astronomical Society, published (ADS-2018MNRAS.tmp.1298M)

The characterization of planetary atmospheres is a daunting task, pushing current observing facilities to their limits. The next generation of high-resolution spectrographs mounted on large telescopes – such as ESPRESSO@VLT and HIRES@ELT – will allow us to probe and characterize exoplanetary atmospheres in greater detail than possible to this point. We present a method that permits the recovery of the colour-dependent reflectivity of exoplanets from high-resolution spectroscopic observations. Determining the wavelength-dependent albedo will provide insight into the chemical properties and weather of the exoplanet atmospheres.

For this work, we simulated ESPRESSO@VLT and HIRES@ELT high-resolution observations of known planetary systems with several albedo configurations. We demonstrate how the cross correlation technique applied to theses simulated observations can be used to successfully recover the geometric albedo of exoplanets over a range of wavelengths. In all cases, we were able to recover the wavelength dependent albedo of the simulated exoplanets and distinguish between several atmospheric models representing different atmospheric configurations.

In brief, we demonstrate that the cross correlation technique allows for the recovery of exoplanetary albedo functions from optical observations with the next generation of high-resolution spectrographs that will be mounted on large telescopes with reasonable exposure times. Its recovery will permit the characterization of exoplanetary atmospheres in terms of composition and dynamics and consolidates the cross correlation technique as a powerful tool for exoplanet characterization.

Download/Website: `https://doi.org/10.1093/mnras/sty1355`

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Migration-driven diversity of super-Earth compositions

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MNRAS, in press, arxiv:1805.10345

A leading model for the origin of super-Earths proposes that planetary embryos migrate inward and pile up on close-in orbits. As large embryos are thought to preferentially form beyond the snow line, this naively predicts that most super-Earths should be very water-rich. Here we show that the shortest-period planets formed in the migration model are often purely rocky. The inward migration of icy embryos through the terrestrial zone accelerates the growth of rocky planets via resonant shepherding. We illustrate this process with a simulation that provided a match to the Kepler-36 system of two planets on close orbits with very different densities. In the simulation, two super-Earths formed in a Kepler-36-like configuration; the inner planet was pure rock while the outer one was ice-rich. We conclude from a suite of simulations that the feeding zones of close-in super-Earths are likely to be broad and disconnected from their final orbital radii.

Download/Website: `https://arxiv.org/abs/1805.10345`

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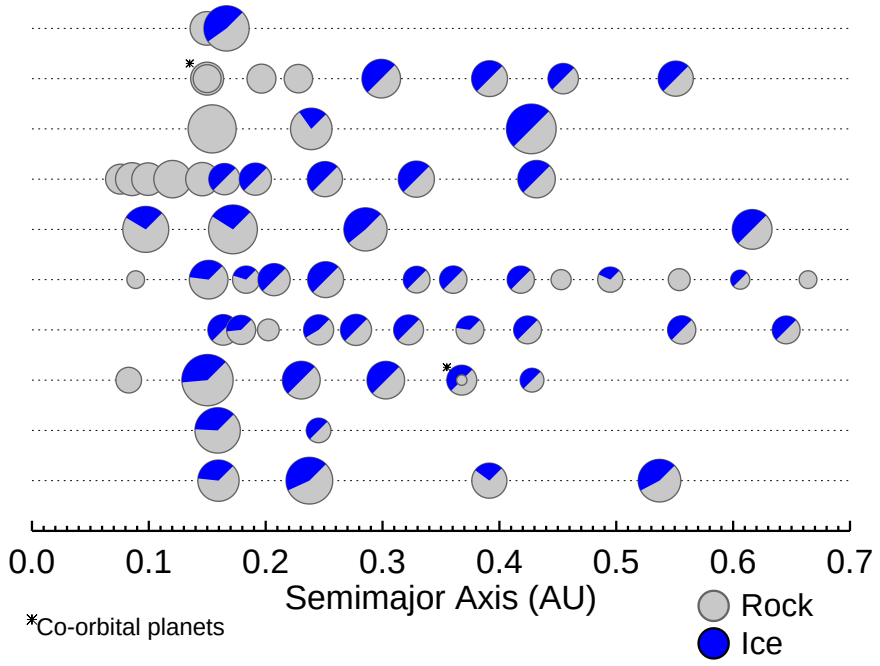

Figure 4: Raymond et al.: Final configuration of ten systems illustrating the range of outcomes of our simulations. Each planet's colors represent its rough composition: grey indicates rock and blue represents ice. Embryos that started past 5 AU started as 50-50 rock-ice mixtures and those from inside 5 AU were purely rocky. We do not account for various water loss processes and so the ice contents of simulated planets are certainly overestimates. The sizes of planets are scaled to their mass$^{1/3}$. The Kepler-36 analog system from Section 3 is at the top. Two co-orbital systems are marked with an asterisk.

Revisiting the exomoon candidate signal around Kepler-1625 b

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Astronomy & Astrophysics, (1806.04672)

Transit photometry of the exoplanet candidate Kepler-1625 b has recently been interpreted to show hints of a moon. We aim to clarify whether the exomoon-like signal is really caused by a large object in orbit around Kepler-1625 b. We explore several detrending procedures, i.e. polynomials and the Cosine Filtering with Autocorrelation Minimization (CoFiAM). We then supply a light curve simulator with the co-planar orbital dynamics of the system and fit the resulting planet-moon transit light curves to the Kepler data. We employ the Bayesian Information Criterion (BIC) to assess whether a single planet or a planet-moon system is a more likely interpretation of the light curve variations. We carry out a blind hare-and-hounds exercise using many noise realizations by injecting simulated transits into different out-of-transit parts of the original Kepler-1625 data: 100 sequences with 3 synthetic transits of a Kepler-1625 b-like planet and 100 sequences with 3 synthetic transits of this planet with a Neptune-sized moon. The statistical significance and characteristics of the exomoon-like signal strongly depend on the detrending method, and the data chosen for detrending, and on the treatment of gaps in the light curve. Our injection-retrieval experiment

shows evidence for moons in about 10 % of those light curves that do not contain an injected moon. Strikingly, many of these false-positive moons resemble the exomoon candidate. We recover up to about half of the injected moons, depending on the detrending method, with radii and orbital distances broadly corresponding to the injected values. A ΔBIC of -4.9 for the CoFiAM-based detrending indicates an exomoon around Kepler-1625 b. This solution, however, is only one out of many and we find very different solutions depending on the details of the detrending method. It is worrying that the detrending is key to the interpretation of the data.

Download/Website: `https://arxiv.org/abs/1806.04672`

Contact: `rodenbeck@mps.mpg.de`

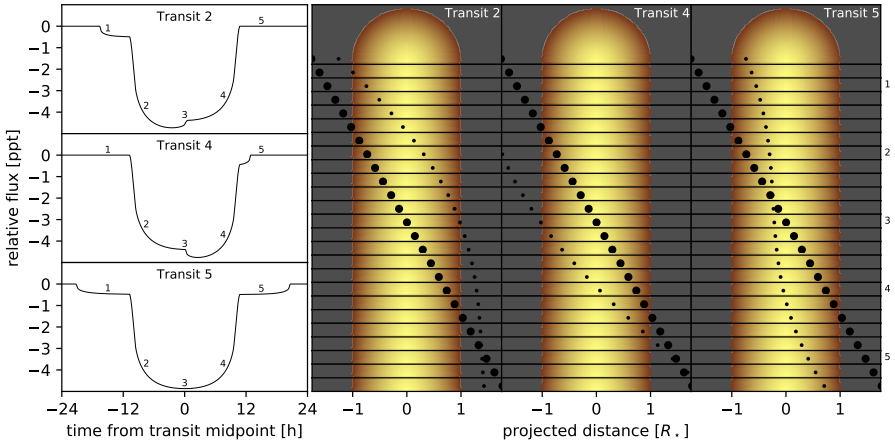

Figure 5: Rodenbeck et al.: *Left*: Example of the simulated planet-moon transit light curves for transits 2, 4, and 5 using our nominal parameterization. The relative flux is the difference to the out-of-transit model flux and is given in parts per thousand (ppt). *Right*: Visualization of the orbital configurations during transits 2 (left column), 4 (center column), and 5 (right column). Labels 1-5 in the light curves refer to configurations 1-5 (see labels along the vertical axis). An animation of this figure is available at `https://youtu.be/dyI-6AaIjRM`.

3 Jobs and Positions

Lecturer, Senior Lecturer or Reader in Exoplanet Characterisation

Matt Griffin
School of Physics and Astronomy, Cardiff University, UK

Cardiff University, Closing date 3 Aug. 2018

The School of Physics and Astronomy at Cardiff University has an immediate vacancy for an open-ended academic position, at Lecturer, Senior Lecturer, or Reader level, in the field of exoplanet characterisation.

The Cardiff Astronomy Instrumentation Group (AIG) is a member of the international consortium that will provide the science payload for the ESA ARIEL satellite. ARIEL will be dedicated to the systematic characterisation of exoplanet atmospheres and is scheduled for launch in 2028. The AIG has a long track record in space instrumentation for astrophysics, including ISO-LWS, Planck-HFI and Herschel-SPIRE, and works in close collaboration with the Cardiff Astronomy Group which has strong research programmes in extragalactic and galactic astronomy, including the development and characteristics of planetary systems.

This position is part of a long-term strategic plan of the instrumentation and astronomy groups to broaden their current research to exoplanet atmospheric characterisation with ARIEL, JWST and other ground based and space facilities. The AIG will contribute significantly to ARIEL, and the new appointee will become a key member of the Cardiff ARIEL team and of the international ARIEL Consortium.

You will have a PhD in Physics or Astrophysics from a leading university programme with an excellent track record in exoplanet research demonstrated through publications in high quality academic journals and evidence of success in gaining and enhancing research income. You will be an excellent teacher and have clearly demonstrated the ability to teach effectively at University level.

Salary (the appointment will be made at a level commensurate with experience):
Lecturer: GBP32,548 - 38,833 per annum (Grade 6); GBP41,212 - 47,722 per annum (Grade 7)
Senior Lecturer: GBP49,149 - 56,950 per annum (Grade 8)
Reader: GBP58,655 - 60,410 per annum (Grade 8, points 50 and 51)

More information about this post may be obtained by contacting Prof. Matt Griffin (Head of School, and UK ARIEL Co-PI; matt.griffin@astro.cf.ac.uk) or Prof. Walter Gear (Head of the Astronomy Instrumentation Group; walter.gear@astro.cf.ac.uk). More information about working at Cardiff University may be obtained by contacting Glesni Lloyd (lloydgw@cardiff.ac.uk).

Cardiff University and the School of Physics and Astronomy are committed to supporting and promoting equality and diversity. Our inclusive environment welcomes applications from talented people from diverse backgrounds. We strongly welcome female applicants and those from any ethnic minority group, as they are underrepresented in our School. The School of Physics and Astronomy has a Juno Practitioner accreditation that recognises good employment practice and a commitment to develop the careers of women working in science. The University is committed to ensuring that we sustain a positive working environment for all staff to flourish and achieve. As part of this commitment, the University has developed a flexible and responsive framework of procedures to support staff in managing their work and personal commitments wherever possible. Applications are welcome from individuals who wish to work part-time or full time.

Download/Website: `https://jobregister.aas.org/ad/a78b1f10`

Contact: `matt.griffin@astro.cf.ac.uk or walter.gear@astro.cf.ac.uk`

Junior Chair : Habitability studies in Astrophysics or Planetary Sciences

X.Delfosse
[1] Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France

Grenoble, France, Oct 2018

Université Grenoble Alpes invites applications for a 2.5-year junior research chair in Astrophysics or Planetary Sciences in the field of habitability study and of origin and search for life in Solar System objects and/or exoplanets. The objective is to recruit an outstanding candidate motivated in developing a research topic as part of the Université Grenoble Alpes project "Origin of Life". The position should start in October 2018. An extension beyond the initial 2.5 years contract may be possible depending on context.
We are looking for candidates that have a strong expertise at least in one of the following topics of the "Origin of Life" project :

- Initial conditions on Earth favorable to the life emergence
- Astrochemistry and possible Earth insemination from cometary molecules
- Formation and Evolution of "habitable" planets
- Habitability study of Solar System objects or/and exoplanets
- Search for exoplanets in habitable zone
- Exoplanetary atmosphere characterization; search for biomarkers

While the scientific project of the candidate must fit into one of the themes listed above, applications that can establish an inter-disciplinary connection with another discipline of the project "Origin of Life" are strongly encouraged (https://origin-life.univ-grenoble-alpes.fr).
See the the details of the job advert (and the application procedure) in the web page : https://origin-life.univ-grenoble-alpes.fr/

Download/Website: `https://origin-life.univ-grenoble-alpes.fr/`

Contact: `Xavier.Delfosse@univ-grenoble-alpes.fr`

ESA Research Fellowships in Space Science

Oliver Jennrich

ESTEC (NL) or ESAC (ES), Fall 2019

The European Space Agency awards several postdoctoral fellowships each year.
The aim of these fellowships is to provide scientists in their early career, holding a PhD or the equivalent degree, with the means of performing research in fields related to the ESA Science Programme.
Areas of research include planetary science, astronomy and astrophysics, solar and solar-terrestrial science, plasma physics and fundamental physics. The fellowships have a duration of two years, with the possible extension to three years, and are tenable at the European Space Research and Technology Centre (ESTEC) in Noordwijk, Netherlands, or at the European Space Astronomy Centre (ESAC) in Villafranca del Castillo, near Madrid, Spain.
Applications are now solicited for fellowships in space science to begin in the fall of 2019. Preference will be given to applications submitted by candidates in an early stage of their career. Candidates not holding a PhD yet are encouraged to apply, but they must provide evidence of receiving their degree before starting the fellowship.
ESA fellows are enrolled in ESA's Social Security Scheme, which covers medical expenses. A monthly deduction covers these short-term and long-term risks.
The deadline for applications is 1 October 2018.
More information on the ESA Research Fellowship programme in Space Science, on the conditions and eligibility, as well as the application form can retrieved from http://cosmos.esa.int/fellowship
Questions on the scientific aspects of the ESA Fellowship in Space Science not answered in the above pages can be sent by e-mail to the fellowship coordinators, Dr. Oliver Jennrich or Dr. Bruno Altieri at the address fellowship@cosmos.esa.int

Download/Website: `http://cosmos.esa.int/fellowship`

Contact: `fellowship@cosmos.esa.int`

Research Fellow at the PLATO Data Centre (Permanent)

R. G. West
Department of Physics, University of Warwick, Gibbet Hill Road, Coventry CV4 7AL, UK

University of Warwick, UK

Applications are invited for a full-time and permanent Research Fellow in support of ESA's PLATO M3 Mission funded by UKSpA and the University of Warwick. This position is based in the PLATO Data Centre (PDC). The successful candidate will hold a PhD degree, a proven research track record and preferably experience of working in an (international) project environment.

The PLATO duties will include working within the areas covered by the PDC work-packages assigned to Warwick (see job description for details). There will be other opportunities to become involved with the PLATO mission, both technically and scientifically.

Opportunities are also available to become scientifically involved in ESA's first S-class mission, CHEOPS, due for launch in 2018 and ground-based experiments in which Warwick has significant roles (e.g. NGTS and SuperWASP). We expect that some of the post-holder's time will be available for research, preferably in the area of extra-solar planets within the Astrophysics Group at Warwick.

An application form MUST be completed if you wish to be considered for this post. Applicants should also submit a signed covering letter, concise description of research accomplishments, relevant organisational and technical experience (including computing experience), and a CV including a full publication list.

Informal enquiries about this post can be made to: Dr R.G.West (richard.west@warwick.ac.uk).

Closing date for applications is 10th July 2018.

Download/Website: `https://tinyurl.com/pdc-job-warwick`
Contact: `richard.west@warwick.ac.uk`

St Leonard's College European Inter-University Doctoral Scholarship at the University of St Andrews and the KU Leuven

Christiane Helling[1]*, Leen Decin*[2]

[1] Centre for Exoplanet Science, University of St Andrews, UK
[2] Institute of Astronomy, KU Leuven, Belgium

https://www.st-andrews.ac.uk/exoplanets/working-with-us-PhD.html,

Applications are invited for a fully funded PhD position that will be held at KU Leuven's Institute of Astronomy and the University of St Andrews' Centre for Exoplanet Science. The project will be jointly conducted and supervised at these two universities.

One of the most complex aspects in exoplanet atmosphere modelling is the formation of clouds. This cloud formation is determined by the local atmosphere temperature and chemistry, and the clouds block the view of the (potentially habitable) planet's atmosphere. Clouds on exoplanets are made of a large variety of materials, including minerals. Understanding the chemical diversity of extrasolar planets entails understanding cloud formation in such non-terrestrial environments.

The project will focus on applying computational chemistry methods in order to study cloud formation processes. This will be achieved by using state-of-the art detailed kinetic cloud formation models.

This position requires a university degree in Astronomy, Physics, Mathematics, or Chemistry at an advanced level (e.g. a MPhys or MSc degree or equivalent) completed by the time of employment. The applicant must be eligible for studies at the graduate level of both universities. Employment as a PhD student is for 4 years ideally starting September/October 2018.

The first two years will be spent at KU Leuven under the supervision of Prof Decin and in close collaboration with Dr David Gobrecht. The second two years will be spent at the Centre for Exoplanet Science in St Andrews under the supervision of Dr Helling. This position is open for EU and UK nationals.

Applications are particularly welcome from those with a willingness to commit to the spirit of the Schools and University's aspirations towards equality, diversity and inclusivity.

Deadline: 15 July 2018
Details: www.st-andrews.ac.uk/exoplanets/working-with-us-PhD.html

Contact: Christiane Helling (ch80@st-and.ac.uk) and Leen Decin (leen.decin@kuleuven.be)

Postdoctoral position in planetary science

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

Bern, Switzlernad, Oct 2018

As part of its long-term strategic interest in exoplanet science, the government of Switzerland has awarded funding to a network of universities and research groups to create a Swiss-wide research framework known as "PlanetS". The scope of the framework is broad (see www.nccr-planets.ch) and includes planet origin, evolution and characterization, considering both the Solar System and exoplanets, in theory, observation and instrumentation. PlanetS already funds a large number of PhD and postdoctoral positions in the participating institutions (University of Bern, University of Geneva, University of Zurich and ETH Zurich).

In order to further support this research effort, we are offering a new postdoctoral position in the field of planetary sciences. The selected applicant will address different key problems of planet formation and will contribute to the development of planet formation models, both based on accretion of planetesimals and accretion of pebbles, as well as the analysis of the results of models. The applicants should have experience in planet formation and evolution, in particular solid-gas interaction in protoplanetary disks (for solids from pebble to planetesimal size range). In addition, experience in statistical analysis tools (e.g. machine learning and deep learning) will be a plus. The position will be based at the University of Bern, hosted by the group Yann Alibert, but frequent and regular interactions are foreseen with other groups at the University of Bern (e.g. Willy Benz, Christoph Mordasini, Kevin Heng), and with other institutes part of the NCCR. The selected applicant will have access to the high level computing facilities at the University of Bern.

Start: The starting date of the position is negotiable, and could be as early as October 2018.

Duration and salary: The length of a postdoc contract is of 2 years, with possible extension to a third and even a fourth year depending on available funds. Applicants should be less than 4 years after their PhD at the beginning of the position. Swiss postdoc salaries are extremely competitive (between 75,000 and 95,000 CHF a year) even considering local costs of living, and are set by standard local regulations based on age and experience.

How to appy: Interested applicants should contact Yann Alibert, and send a summary of their research activities, a CV, a publication list, and arrange for three letters of recommendation to be sent directly. Complete applications received by August 1st, 2018, will receive full considerations. Past this date, applications will be considered depending on availability.

The university of Bern is an equal opportunity employer, and we specially encourage the application of female researchers.

Contact: `alibert@space.unibe.ch`

PhD position in planetary science

Y.Alibert,S. Udry
[1] NCCR PlanetS, Universities of Bern and Geneva, Switzerland

Bern, Switzerland, Oct 2018

As part of its long-term strategic interest in exoplanet science, the government of Switzerland has awarded funding to a network of universities and research groups to create a Swiss-wide research framework known as ”PlanetS”. The scope of the framework is broad (see www.nccr-planets.ch) and includes planet origin, evolution and characterization, considering both the Solar System and exoplanets, in theory, observation and instrumentation. PlanetS already funds a large number of PhD and postdoctoral positions in the participating institutions (University of Bern, University of Geneva, University of Zurich and ETH Zurich).

In order to support this effort, the Bern and Geneva Universities have an opening for a shared Phd position on the statistical comparison between planet population synthesis and observations. The PhD student is expected to make the link between the theoretical efforts of planet population modeling developed in Bern and the actual observed properties of planets detected in the various surveys conducted in Geneva. Novel tools like machine learning and deep learning are foreseen for this project.

Requirements: Master in astrophysics / physics / mathematics. The successful applicant should have very good physical, computer and mathematical skills. Experience in machine learning and/or deep learning is a plus.

Start: The starting date of the position is negotiable, and could be as early as October 2018.

Duration and salary: The position is funded for 4 years (50% in Bern and 50% in Geneva). The student is expected to share his/her time between the 2 institutions. A Swiss salary for a PhD candidate is of the order of 50,000 CHF a year.

How to apply: Interested applicants should contact Yann Alibert and Stephane Udry (alibert@space.unibe.ch,stephane.udry@unige.ch), and send within a single pdf file their curriculum (including professional experience), a one page motivation letter, the contact details of up to three reference persons, and the notes obtained at the Master level. Complete applications received by August 1st, 2018, will receive full considerations. Past this date, applications will be considered depending on availability.

The universities of Bern and Geneva are equal opportunity employers, and we specially encourage the application of female researchers.

Contact: `alibert@space.unibe.ch,stephane.udry@unige.ch`

Postdoc : Characterisation of molecules in exoplanets atmospheres

P. Delorme
[1] Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France

Grenoble, France, Oct 2018

Université Grenoble Alpes invites applications for a 2-year postdoc position in Astrophysics in the field of molecular characterisation or modelisation of exoplanets atmospheres, towards the long term objective of characterising planetary habitability and the detection of biomarkers. The objective is to recruit an outstanding candidate motivated in developing a research topic as part of the Université Grenoble Alpes project ≪Origin of Life≫. The position can start as early as October 2018 and as late as early 2019, and will be hosted at the Institute of Planetology and Astrophysics of Grenoble (IPAG).
We are looking for candidates that have a strong expertise at least in one of the following topics of the "Origin of Life" project :

- Characterisation of exoplanets atmospheres: molecular content, abundances studies, physical parameter determination
- Observational or theoretical expertise in coupling high resolution spectroscopy and high angular resolution
- Study of the information content of specific wavelength ranges at moderate to high resolution for given science cases, notably to prepare future detection of biomarkers.
- Modelisation of moderate to high spectral resolution observations of future instrumentation (for instance Harmoni@ELT, a possible upgrade of SPHERE@ VLT or JWST), notably to prepare future detection of biomarkers.

Applicants must hold a PhD, with a solid background in observations, theoretical modeling or laboratory astrophysics. The successful candidate will carry out her/his research at the IPAG laboratory, in the exoplanet team. IPAG is very active in the field of exoplanet research and its significant involvement in instrumentation provides enhanced access to ongoing observation programs on SPHERE and HARPS, as well as near future exploitation of SPIRou, NIRPS, and ExTrA. Before applying, we encourage candidates to contact Philippe.Delorme@univ-grenoble-alpes.fr.
See the the details of the job advert (and the application procedure) in the web page : https://origin-life.univ-grenoble-alpes.fr/

Download/Website: `https://origin-life.univ-grenoble-alpes.fr/`

Contact: `Philippe.Delorme@univ-grenoble-alpes.fr`

4 Exoplanet Archive Updates

May 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, June 13, 2018

May 17, 2018

This week we've added one microlensing planet, OGLE-2017-BLG-1434L b, which is a super-Earth that orbits a very small and cold M-dwarf. Because the host star is so small and cold, the planet is located about twice the distance from the star's "snow line," which is where where ice forms in the system. For comparison, the snow line in our Solar System is 2.7 AU; the snow line from OGLE-2017-BLG-1434L is only 0.6 AU.

More interesting details about the planet and its host can be viewed on their respective Overview pages, and in the Confirmed Planet interactive table: `http://bit.ly/2MqFnub`.

Also, the microlensing model solutions can be found in the Microlensing Planets interactive table: `http://bit.ly/2JQr180`.

May 24, 2018

Five transiting planets have been added to the archive this week, and one planet, BD+20 1790 b, was removed based on Carleo et al. 2018. The new planets are: HATS-43 b, HATS-44 b, HATS-45 b, HATS-46 b, and HATS-7 b. View their data on their respective Planet Host or Confirmed Planet overview pages, or go to the Confirmed Planet interactive table: `http://bit.ly/2MqFnub`.

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

Contact: `mharbut@caltech.edu`

5 Announcements

The MOJO videos on planet formation

Alessandro Morbidelli[1] *& Sean Raymond*[2]

[1] Laboratoire Lagrange, UMR7293, Université Côte d'Azur, CNRS, Observatoire de la Côte d'Azur. Boulevard de l'Observatoire, 06304, Nice Cedex 4, France; morby@oca.eu

[2] Laboratoire d'Astrophysique de Bordeaux, CNRS and Université de Bordeaux, Allée Geoffroy St. Hilaire, 33165 Pessac, France; rayray.sean@gmail.com

Youtube, published

Along with our respective groups, we have just finished a project on "Modeling the Origin of JOvian planets" (MOJO). We made a series of short (5-10 minute) videos that, while highlighting the main results of our work, describe some main aspects of planet formation. The level is that of advanced public outreach, but the videos may be useful also as an introduction of various topics to undergrad students. The videos (with youtube links) are:

- Introduction `https://youtu.be/cVe-V_UjB28`
- Stages of planet formation: current paradigms `https://youtu.be/4Cs6qUHz3yA`
- How common are Solar Systems? `https://youtu.be/dtwyb6eQJ9Q`
- Why is Jupiter so much bigger than Earth? `https://youtu.be/QYTMZFgGdPg`
- Why is Mars smaller than Earth? `https://youtu.be/cSUrfEErhSE`
- Why is Earth so dry? `https://youtu.be/TOoUDQKCFFw`
- Where did Earth water come from? `https://youtu.be/2vHo93Kq4Ew`
- How do super-Earths form? `https://youtu.be/mG374opbH_8`
- Why super-Earths cannot have formed "in-situ" `https://youtu.be/ANj1pK74j-Q`
- Why aren there any close-in Super-Earths in the Solar System? `https://youtu.be/LKLP5IBgVWI`
- Unsolved mysteries in planet formation `https://youtu.be/m08QYRtezcQ`
- The origin of the interstellar object Oumuamua `https://youtu.be/RNIYwyhaVWY`

Download/Website: `https://planetplanet.net/2018/05/30/the-mojo-videos/`
Contact: `rayray.sean@gmail.com`

6 As seen on astro-ph

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

May 2018

astro-ph/1805.00023: **Planet Populations as a Function of Stellar Properties** by *G.D. Mulders*
astro-ph/1805.00029: **Global Climate and Atmospheric Composition of the Ultra-Hot Jupiter WASP-103b from HST and Spitzer Phase Curve Observations** by *Laura Kreidberg et al.*
astro-ph/1805.00038: **Extremely Irradiated Hot Jupiters: Non-Oxide Inversions, H- Opacity, and Thermal Dissociation of Molecules** by *Joshua D. Lothringer, Travis Barman, Tommi Koskinen*
astro-ph/1805.00049: **An ice giant exoplanet interpretation of the anomaly in microlensing event OGLE-2011-BLG-0173** by *R. Poleski et al.*
astro-ph/1805.00096: **From thermal dissociation to condensation in the atmospheres of ultra hot Jupiters: WASP-121b in context** by *Vivien Parmentier et al.*
astro-ph/1805.00231: **Revised Radii of Kepler Stars and Planets using Gaia Data Release 2** by *Travis A. Berger et al.*
astro-ph/1805.00283: **Exo-Milankovitch Cycles II: Climates of G-dwarf Planets in Dynamically Hot Systems** by *Russell Deitrick et al.*
astro-ph/1805.00288: **Origin and continuation of 3/2, 5/2, 3/1, 4/1 and 5/1 resonant periodic orbits in the circular and elliptic restricted three-body problem** by *Kyriaki I. Antoniadou, Anne-Sophie Libert*
astro-ph/1805.00424: **A HST/WFC3 Thermal Emission Spectrum of the Hot Jupiter HAT-P-7b** by *Megan Mansfield et al.*
astro-ph/1805.00458: **Dust settling and rings in the outer regions of protoplanetary discs subject to ambipolar diffusion** by *A. Riols, G. Lesur*
astro-ph/1805.00596: **Generation of a Circumstellar Gas Disk by Hot Jupiter WASP-12b** by *Alex Debrecht et al.*
astro-ph/1805.00830: **The CARMENES search for exoplanets around M dwarfs: A low-mass planet in the temperate zone of the nearby K2-18** by *Paula Sarkis et al.*
astro-ph/1805.00893: **EarthN: A new Earth System Nitrogen Model** by *Benjamin W. Johnson, Colin Goldblatt*
astro-ph/1805.00940: **Dusty disc-planet interaction with dust-free simulations** by *Jhih-Wei Chen , Min-Kai Lin*
astro-ph/1805.00956: **An Estimate of the Yield of Single-Transit Planetary Events from the Transiting Exoplanet Survey Satellite** by *Steven Villanueva Jr., Diana Dragomir, B. Scott Gaudi*
astro-ph/1805.00960: **Resolved millimeter-dust continuum cavity around the very low mass young star CIDA 1** by *Paola Pinilla et al.*
astro-ph/1805.01017: **Mapping polar atmospheric features on Titan with VIMS: from the dissipation of the northern cloud to the onset of a southern polar vortex** by *Stéphane Le Mouélic et al.*
astro-ph/1805.01281: **Multi-band high resolution spectroscopy rules out the hot Jupiter BD+20 1790b - First data from the GIARPS Commissioning** by *I. Carleo et al.*
astro-ph/1805.01298: **Helium in the eroding atmosphere of an exoplanet** by *J. J. Spake et al.*
astro-ph/1805.01378: **Unmasking the hidden NGTS-3Ab: a hot Jupiter in an unresolved binary system** by *Maximilian N. Günther et al.*
astro-ph/1805.01414: **Study of Titan's fall southern stratospheric polar cloud composition with Cassini/CIRS: detection of benzene ice** by *S. Vinatier et al.*
astro-ph/1805.01453: **The California Kepler Survey VII. Precise Planet Radii Leveraging Gaia DR2 Reveal the Stellar Mass Dependence of the Planet Radius Gap** by *Benjamin J. Fulton, Erik A. Petigura*
astro-ph/1805.01458: **The Distribution and Excitation of CH3CN in a Solar Nebula Analog** by *Ryan A. Loomis et al.*
astro-ph/1805.01468: **Formation of Silicate and Titanium Clouds on Hot Jupiters** by *Diana Powell et al.*
astro-ph/1805.01478: **Can Rocky Exoplanets with Rings Pose as Sub-Neptunes?** by *Anthony L. Piro*

astro-ph/1805.01496: **Transit time derivation for hot planet bow-shocks** by *P. Wilson Cauley, Evgenya L. Shkolnik, Joe Llama*

astro-ph/1805.01497: **A Periodogram of Every Kepler Target and a Common Artifact at 80 Minutes** by *David Kipping*

astro-ph/1805.01580: **Transiting Exoplanet Monitoring Project (TEMP). IV. Refined System Parameters, Transit Timing Variations and Orbital Stability of the Transiting Planetary System HAT-P-25** by *Xian-Yu Wang et al.*

astro-ph/1805.01860: **HD 89345: a bright oscillating star hosting a transiting warm Saturn-sized planet observed by K2** by *V. Van Eylen et al.*

astro-ph/1805.01903: **Detecting Exomoons Via Doppler Monitoring of Directly Imaged Exoplanets** by *Andrew Vanderburg, Saul A. Rappaport, Andrew W. Mayo*

astro-ph/1805.01906: **Unbiased inference of the masses of transiting planets from radial velocity followup** by *Benjamin T. Montet*

astro-ph/1805.01915: **A gap in the planetesimal disc around HD 107146 and asymmetric warm dust emission revealed by ALMA** by *S. Marino et al.*

astro-ph/1805.02208: **Study of the fluvial activity on Mars through mapping, sediment transport modelling and spectroscopic analyses** by *Giulia Alemanno*

astro-ph/1805.02252: **High-Precision Orbit Fitting and Uncertainty Analysis of (486958) 2014 MU69** by *Simon B. Porter et al.*

astro-ph/1805.02261: **First direct detection of a polarized companion outside of a resolved circumbinary disk around CS Cha** by *C. Ginski et al.*

astro-ph/1805.02385: **Estimating the porosity structure of granular bodies using the Lane-Emden equation applied to laboratory measurements of the pressure-density relation of fluffy granular samples** by *Tomomi Omura, Akiko M. Nakamura*

astro-ph/1805.02476: **Unlocking the secrets of the midplane gas and dust distribution in the young hybrid disc HD 141569** by *James Miley et al.*

astro-ph/1805.02595: **Far infrared measurements of absorptions by CH4+CO2 and H2+CO2 mixtures and implications for greenhouse warming on early Mars** by *Martin Turbet et al.*

astro-ph/1805.02660: **The Super Earth-Cold Jupiter Relations** by *Wei Zhu , Yanqin Wu*

astro-ph/1805.02721: **Giant planets around FGK stars form probably through core accretion** by *Wei Wang et al.*

astro-ph/1805.02771: **A Survey of Exoplanetary Detection Techniques** by *Jason Wei*

astro-ph/1805.02801: **A Methane Extension to the Classical Habitable Zone** by *Ramses M. Ramirez, Lisa Kaltenegger*

astro-ph/1805.03102: **Na I and Hα absorption features in the atmosphere of MASCARA-2b/KELT-20b** by *N. Casasayas-Barris et al.*

astro-ph/1805.03315: **Basalt or not? Near-infrared spectra, surface mineralogical estimates, and meteorite analogs for 33 Vp-type asteroids** by *Paul S. Hardersen et al.*

astro-ph/1805.03370: **Exploring Kepler Giant Planets in the Habitable Zone** by *Michelle L. Hill et al.*

astro-ph/1805.03466: **Evidence of a Sub-Saturn around EPIC 211945201** by *Abhijit Chakraborty et al.*

astro-ph/1805.03651: **On the Dynamics of the Inclination Instability** by *Ann-Marie Madigan et al.*

astro-ph/1805.03654: **Statistical Trends in the Obliquity Distribution of Exoplanet Systems** by *Diego J. Muñoz, Hagai B. Perets*

astro-ph/1805.03671: **A Framework for Prioritizing the TESS Planetary Candidates Most Amenable to Atmospheric Characterization** by *Eliza M.-R. Kempton et al.*

astro-ph/1805.04067: **Reassessing Exoplanet Light Curves with a Thermal Model** by *Arthur D. Adams, Gregory Laughlin*

astro-ph/1805.04121: **Two Thousand Kepler Phase Curves from Phasma** by *David Kipping, Emily Sandford, Tiffany Jansen*

astro-ph/1805.04326: **Azimuthal and Vertical Streaming Instability at High Dust-to-gas Ratios and on the Scales of Planetesimal Formation** by *Andreas Schreiber, Hubert Klahr*
astro-ph/1805.04416: **Interferometric imaging of Titan's HC3N, H13CCCN and HCCC15N** by *M. A. Cordiner et al.*
astro-ph/1805.04429: **Exoplanet recycling in massive white-dwarf debris discs** by *Rik van Lieshout et al.*
astro-ph/1805.04774: **An 8 Mearth super-Earth in a 2.2 day orbit around the K5V star K2-216** by *C.M. Persson et al.*
astro-ph/1805.04885: **Tidal Evolution of Kepler lower-mass Planets** by *Yao Dong, Jianghui Ji, Su Wang*
astro-ph/1805.05016: **Modeling Martian Atmospheric Losses over Time: Implications for Exoplanetary Climate Evolution and Habitability** by *Chuanfei Dong et al.*
astro-ph/1805.05240: **A search for transiting planets in the β Pictoris system** by *M. Mol Lous et al.*
astro-ph/1805.05594: **Two key parameters controlling particle clumping caused by streaming instability in the dead-zone dust layer of a protoplanetary disk** by *Minoru Sekiya, Isamu K. Onishi*
astro-ph/1805.05645: **Orbital and spectral analysis of the benchmark brown dwarf HD 4747B** by *S. Peretti et al.*
astro-ph/1805.05768: **On the evolution of vortices in massive protoplanetary discs** by *Arnaud Pierens, Min-Kai Lin*
astro-ph/1805.05825: **Vortex survival in 3D self-gravitating accretion discs** by *Min-Kai Lin , Arnaud Pierens*
astro-ph/1805.05834: **Using Deep Space Climate Observatory Measurements to Study the Earth as An Exoplanet** by *Jonathan H. Jiang et al.*
astro-ph/1805.05868: **Formation of S-type planets in close binaries: scattering induced tidal capture of circumbinary planets** by *Yan-Xiang Gong, Jianghui Ji*
astro-ph/1805.05921: **Measurement of the Oxidation state of Fe in the ISM using X-ray Absorption Spectroscopy** by *Andrew J. Westphal et al.*
astro-ph/1805.05925: **HATS-59b,c: A Transiting Hot Jupiter and a Cold Massive Giant Planet Around a Sun-Like Star** by *P. Sarkis et al.*
astro-ph/1805.05994: **Dynamical evolution and end states of active and inactive Centaurs** by *Julio A. Fernández, Michel Helal, Tabaré Gallardo*
astro-ph/1805.06457: **The Millimeter Continuum Size-Frequency Relationship in the UZ Tau E Disk** by *Anjali Tripathi et al.*
astro-ph/1805.06722: **Polarization of Trappist-1 by the Transit of its Planets** by *Sujan Sengupta*
astro-ph/1805.06898: **Gas-Assisted Growth of Protoplanets in a Turbulent Medium** by *M. M. Rosenthal et al.*
astro-ph/1805.06943: **Long Term Planetary Habitability and the Carbonate-Silicate Cycle** by *Andrew J. Rushby et al.*
astro-ph/1805.07089: **Automatic vetting of planet candidates from ground based surveys: Machine learning with NGTS** by *David J. Armstrong et al.*
astro-ph/1805.07094: **Impact degassing and atmospheric erosion on Venus, Earth, and Mars during the late accretion** by *Haruka Sakuraba, Hiroyuki Kurokawa, Hidenori Genda*
astro-ph/1805.07164: **Planets, candidates, and binaries from the CoRoT/Exoplanet programme: the CoRoT transit catalogue** by *M. Deleuil et al.*
astro-ph/1805.07328: **Ground-based optical transmission spectroscopy of the small, rocky exoplanet GJ 1132b** by *Hannah Diamond-Lowe et al.*
astro-ph/1805.07347: **Organic chemistry in a CO2 rich early Earth atmosphere** by *Benjamin Fleury et al.*
astro-ph/1805.07415: **Effects of dissociation/recombination on the day-night temperature contrasts of ultra-hot Jupiters** by *Thaddeus D. Komacek, Xianyu Tan*
astro-ph/1805.07498: **Probing Signatures of a Distant Planet around the Young T-Tauri Star CI Tau Hosting a Possible Hot Jupiter** by *Mihoko Konishi, Jun Hashimoto, Yasunori Hori*
astro-ph/1805.07501: **Migration of Planets Into and Out of Mean Motion Resonances in Protoplanetary Discs: Overstability of Capture and Nonlinear Eccentricity Damping** by *Wenrui Xu, Dong Lai, Alessandro*

Morbidelli

astro-ph/1805.07992: **Radiation hydrodynamics simulations of photoevaporation of protoplanetary disks II: Metallicity dependence of UV and X-ray photoevaporation** by *Riouhei Nakatani et al.*

astro-ph/1805.08021: **Recovering the colour-dependent albedo of exoplanets with high-resolution spectroscopy: from ESPRESSO to the ELT** by *J. H. C. Martins et al.*

astro-ph/1805.08211: **The Exoplanet Population Observation Simulator. I - The Inner Edges of Planetary Systems** by *Gijs D. Mulders et al.*

astro-ph/1805.08317: **The initial structure of chondrule dust rims I: electrically neutral grains** by *C. Xiang et al.*

astro-ph/1805.08391: **Populations of Extrasolar Giant Planets from Transit and Radial Velocity Surveys** by *Alexandre Santerne*

astro-ph/1805.08405: **An Earth-sized exoplanet with a Mercury-like composition** by *A. Santerne et al.*

astro-ph/1805.08686: **Circular polarization signals of cloudy (exo)planets** by *Loïc Rossi, Daphne M. Stam*

astro-ph/1805.08818: **Phantom Inflated Planets in Occurrence Rate Based Samples** by *L. C. Mayorga, Daniel P. Thorngren*

astro-ph/1805.08888: **KMT-2016-BLG-1107: A New Hollywood-Planet Close/Wide Degeneracy** by *Kyu-Ha Hwang et al.*

astro-ph/1805.09013: **An interstellar origin for Jupiter's retrograde co-orbital asteroid** by *Fathi Namouni, Maria Helena Moreira Morais*

astro-ph/1805.09171: **Radar-based Re-Entry Predictions with very limited tracking capabilities: the GOCE case study** by *Stefano Cicalò, Stijn Lemmens*

astro-ph/1805.09352: **HAT-P-11: Discovery of a Second Planet and a Clue to Understanding Exoplanet Obliquities** by *Samuel W. Yee et al.*

astro-ph/1805.09449: **Jupiter's influence on the building blocks of Mars and Earth** by *R. Brasser, N. Dauphas, S. J. Mojzsis*

astro-ph/1805.09568: **Efficient radiative transfer techniques in hydrodynamic simulations** by *Anthony Mercer, Dimitris Stamatellos, Alex Dunhill*

astro-ph/1805.10171: **Theory and simulation of spectral line broadening by exoplanetary atmospheric haze** by *Z. Felfli et al.*

astro-ph/1805.10290: **A Kinematical Detection of Two Embedded Jupiter Mass Planets in HD 163296** by *Richard Teague et al.*

astro-ph/1805.10332: **Buildup of Abiotic Oxygen and Ozone in Moist Atmospheres of Temperate Terrestrial Exoplanets and its Impact on the Spectral Fingerprint in Transit Observations** by *Armin Kleinböhl et al.*

astro-ph/1805.10345: **Migration-driven diversity of super-Earth compositions** by *Sean N. Raymond et al.*

astro-ph/1805.10449: **NGTS-2b: An inflated hot-Jupiter transiting a bright F-dwarf** by *Liam Raynard et al.*

astro-ph/1805.10488: **Photochemical Haze Formation in the Atmospheres of super-Earths and mini-Neptunes** by *Chao He et al.*

astro-ph/1805.10530: **A new ab initio equation of state of hcp-Fe and its implication on the interior structure and mass-radius relations of rocky super-Earths** by *Kaustubh Hakim et al.*

astro-ph/1805.10671: **Non-Detection of a Helium Exosphere for the Hot Jupiter WASP-12b** by *Laura Kreidberg, Antonija Oklopčić*

astro-ph/1805.10993: **Planet Formation in Highly Inclined Binary Systems. II. Orbital Alignment or Anti-alignment and Planet Growth Boost in Intermediate Separation Binaries** by *Yapeng Zhang et al.*

astro-ph/1805.11101: **Radial migration of gap-opening planets in protoplanetary disks. I. The case of a single planet** by *Kazuhiro D. Kanagawa, Hidekazu Tanaka, Ewa Szuszkiewicz*

astro-ph/1805.11117: **Zodiacal Exoplanets in Time (ZEIT) VII: A Temperate Candidate Super-Earth in the Hyades Cluster** by *Andrew Vanderburg et al.*

astro-ph/1805.11620: **Do close-in giant planets orbiting evolved stars prefer eccentric orbits?** by *Samuel K.*

Grunblatt et al.

astro-ph/1805.11744: **The GTC exoplanet transit spectroscopy survey IX. Detection of Haze, Na, K, and Li in the super-Neptune WASP-127b** by *G. Chen et al.*

astro-ph/1805.11755: **Collisional Disruption of Planetesimals in the Gravity Regime with iSALE Code: Comparison with SPH code for Purely Hydrodynamic Bodies** by *Ryo Suetsugu et al.*

astro-ph/1805.11894: **Chaotic magnetoconvection in a non-uniformly rotating electroconductive fluids** by *M.I. Kopp, A.V. Tur, V.V. Yanovsky*

astro-ph/1805.12144: **A Recommendation Algorithm to Predict Giant Exoplanet Host Stars Using Stellar Elemental Abundances** by *Natalie Hinkel et al.*

astro-ph/1805.12439: **Physical properties of MgO at deep planetary conditions** by *R. Musella, S. Mazevet, F. Guyot*

astro-ph/1805.12520: **Absolute densities in exoplanetary systems: photodynamical modelling of Kepler-138** by *J.M. Almenara et al.*

astro-ph/1805.01926: **Space-Based Coronagraphic Imaging Polarimetry of the TW Hydrae Disk: Shedding New Light on Self-Shadowing Effects** by *Charles A. Poteet et al.*

astro-ph/1805.02696: **Limb Darkening and Planetary Transits II: Intensity profile correction factors for a grid of model stellar atmospheres** by *Hilding R. Neilson, John B. Lester, Fabien Baron*

astro-ph/1805.03023: **Cm-wavelength observations of MWC758: resolved dust trapping in a vortex and intracavity signal** by *Simon Casassus et al.*

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