

2018年 9月 第3週 新着論文サーベイ

9月 17日 (月曜日)

[1] [arxiv:1809.05517](#)

Title: "The hot Jupiter period-mass distribution as a signature of in situ formation"

Author: Elizabeth Bailey, Konstantin Batygin

Comments: 5 pages, 1 figure, accepted in ApJL

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[2] [arxiv:1809.05490](#)

Title: "Improving Orbit Estimates for Incomplete Orbits with a New Approach to Priors - with Applications from Black Holes to Planets"

Author: K. Kosmo O'Neil, G. D. Martinez, A. Hees, A.M. Ghez, T. Do, G. Witzel, Q. Konopacky, E.E. Becklin, D.S. Chu, J. Lu, K. Matthews, S. Sakai

Comments: 23 pages, 14 figures. Monte Carlo chains available upon request. Submitted to ApJ

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Astrophysics of Galaxies (astro-ph.GA)

[理論/観測/実験 etc....]

Comment!!!!

[3] [arxiv:1809.05383](#)

Title: "The formation of Jupiter by hybrid pebble-planetesimal accretion"

Author: Yann Alibert, Julia Venturini, Ravit Helled, Sareh Ataiee, Remo Burn, Luc Senecal, Willy Benz, Lucio Mayer, Christoph Mordasini, Sascha P. Quanz, Maria Schönbachler

Comments: Published in Nature Astronomy on August 27, 2018

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[4] [arxiv:1809.05307](#)

Title: "Interaction of infalling solid bodies with primordial atmospheres of disk-embedded planets"

Author: Florian Ragossnig, Alexander Stökl, Ernst Dorfi, Colin P. Johnstone,
Daniel Steiner, Manuel Güdel

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:1809.05181](#)

Title: "Modeling the evection resonance for trojan satellites: application to the
Saturn system"

Author: C. A. Giuppone, F. Roig, X. Saad-Olivera

Comments: A&A Accepted. 13 pages, 15 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:1809.05133](#)

Title: "Non-Gravitational Forces and Spin Evolution of Comets"

Author: Roman R. Rafikov

Comments: 10 pages, 4 figures, submitted to AAS journals, comments welcome

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

9月18日(火曜日)

[1] [arXiv:1809.05981](#)

Title: "Disentangling Blended K2 Photometry: Determining the Planetary Host
Star"

Author: Alan Payne, David Ciardi, Stephen Kane, Brad Carter

Comments: Accepted: Astronomical Journal (AJ)

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[2] [arXiv:1809.05967](#)

Title: "TESS Discovery of a Transiting Super-Earth in the Mensae System"

Author: Chelsea X. Huang, Jennifer Burt, Andrew Vanderburg, Maximilian N.

Günther, Avi Shporer, Jason A. Dittmann, Joshua N. Winn, Rob Wittenmyer, Lizhou Sha, Stephen R. Kane, George R. Ricker, Roland Vanderspek, David W. Latham, Sara Seager, Jon Jenkins, Douglas A. Caldwell, Karen A. Collins, Natalia Guerrero, Jeffrey C. Smith, Sam Quinn, Stéphane Udry, Francesco Pepe, François Bouchy, Damien Ségransan, Christophe Lovis, David Ehrenreich, Maxime Marmier, Michel Mayor, Bill Wohler, Kari Haworth, Edward Morgan, Michael Fausnaugh, David Charbonneau, Norio Narita, TESS team

Comments: Submitted to AAS Letter. This letter makes use of the TESS Alert data, which is currently in a beta test phase

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[3] [arxive:1809.05900](#)

Title: "Optical observations of NEA 3200 Phaethon (1983 TB) during the 2017 apparition"

Author: Myung-Jin Kim, Hee-Jae Lee, Sang-Min Lee, Dong-Heun Kim, Fumi Yoshida, Przemyslaw Bartczak, Grzegorz Dudzinski, Jintae Park, Young-Jun Choi, Hong-Kyu Moon, Hong-Suh Yim, Jin Choi, Eun-Jung Choi, Joh-Na Yoon, Alexander Serebryanskiy, Maxim Krugov, Inna Reva, Kamoliddin E. Ergashev, Otabek Burkhonov, Shuhrat A. Ehgamberdiev, Yunus Turayev, Zhong-Yi Lin, Tomoko Arai, Katsuhito Ohtsuka, Takashi Ito, Seitaro Urakawa, Masateru Ishiguro

Comments: 14 pages, 4 figures, 1 figure in Appendix A. Accepted for publication in Astronomy & Astrophysics (A&A)

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[4] [arxive:1809.05790](#)

Title: "Completeness of Impact Monitoring"

Author: Alessio Del Vigna, Andrea Milani, Federica Spoto, Andrea Chessa, Giovanni B. Valsecchi

Comments: 32 pages, 10 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:1809.05683](#)

Title: "Stellar pulsation and granulation as noise sources in exoplanet transit spectroscopy in the ARIEL space mission"

Author: Subhajit Sarkar, Ioannis Argyriou, Bart Vandenbussche, Andreas Papa-georgiou, Enzo Pascale

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:1809.05639](#)

Title: "Survivability of Moon Systems Around Ejected Gas Giants"

Author: Ian Rabago, Jason H. Steffen

Comments: 8 pages, 7 figures. Submitted to MNRAS

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:1809.05615](#)

Title: "Ground- and Space-based Detection of the Thermal Emission Spectrum of the Transiting Hot Jupiter KELT-2Ab"

Author: Danielle Piskorz, Cam Buzard, Michael R. Line, Heather A. Knutson, Björn Benneke, Nathan R. Crockett, Alexandra C. Lockwood, Geoffrey A. Blake, Travis S. Barman, Chad F. Bender, Drake Deming, John A. Johnson

Comments: accepted to AJ

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[8] [arXiv:1809.06279](#)

Title: "Exoplanet Modulation of Stellar Coronal Radio Emission"

Author: Ofer Cohen, Sofia-Paraskevi Moschou, Alex Gloer, Igor Sokolov, Tsevi Mazeh, Jeremy Drake, Cecilia Garraffo, Julian Alvarado-Gomez

Comments: Accepted to AJ

Subjects: Solar and Stellar Astrophysics (astro-ph.SR); Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[9] [arXiv:1809.06119](#)

Title: "Measuring general relativistic dragging effects in the Earth's gravitational field with ELXIS: a proposal"

Author: Lorenzo Iorio

Comments: LaTeX2e, 33 pages, 2 tables, 9 figures. Comparison with the van Patten & Everitt (1976) proposal added

Subjects: General Relativity and Quantum Cosmology (gr-qc); Earth and Planetary Astrophysics (astro-ph.EP); Space Physics (physics.space-ph)

[理論/観測/実験 etc....]

Comment!!!!

9月19日(水曜日)

[1] [arXiv:1809.06810](#)

Title: "Atmospheric mass loss due to giant impacts: the importance of the thermal component for hydrogen-helium envelopes"

Author: John B. Biersteker, Hilke E. Schlichting

Comments: 10 pages, 9 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/系外惑星のジャイアントインパクト]

中心星近くのスーパーアースやミニネプチューン達は、色々な密度や組成を持っている。ジャイアントインパクトがこれを説明する可能性を考えた。先行研究では、力学的な衝撃波によって惑星大気を剥がすことを考えたが、今回は、衝突エネルギーが熱エネルギーに変換されて大気が熱膨張した結果大気の一部 or 全部失くなるということ考えた。結果、後者の方がよく効くことがわかった。また、惑星が若く (i.e. コアがより熱エネルギーを持っている)、中心星に近いほど、熱的な大気消失の効果は大きいことがわかった。

[2] [arXiv:1809.06733](#)

Title: "Collisional Growth of Icy Dust Aggregates in Disk Formation Stage: Difficulties for Planetesimal Formation via Direct Collisional Growth outside the Snowline"

Author: Kenji Homma, Taishi Nakamoto

Comments: Accepted for publication in Astrophysical Journal

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/微惑星形成]

原始惑星系円盤におけるダストアグリゲイトの直接合体成長によって微惑星を作りたい。先行研究では、円盤が低温・小質量になった段階では中心星落下障壁によって微惑星は作れなかった。今回、非常に初期の段階の高温な円盤におけるダストの合体成長を考えた。結局、radial drift を受けてしまい微惑星は作れなかった。

[3] [arXiv:1809.06645](#)

Title: "A grid of upper atmosphere models for 1–40 MEARTH planets: application to CoRoT-7 b and HD219134 b,c"

Author: Daria Kubyschkina, Luca Fossati, Nicolay V. Erkaev, Colin Johnstone, Patricio Cubillos, Kristina Kislyakova, Helmut Lammer, Petra Odert

Comments: 21 pages, 4 Tables, 15 Figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/惑星大気]

惑星から大気が消失する過程について、以前のものから改良した流体力学コードを用いて計算した。結果、大気の温度、密度、速度、XUVによる加熱率、化学組成を、高度の関数として求めた。さらに、これを利用して、CoRoT-7 b と HD219134 b,c の大気の進化過程を推定した。

[4] [arXiv:1809.06545](#)

Title: "The Cassini VIMS archive of Titan: from browse products to global infrared color maps"

Author: Stéphane Le Mouélic, Thomas Cornet, Sébastien Rodriguez, Christophe Sotin, Benoît Seignovert, Jason W. Barnes, Robert H. Brown, Kevin H. Baines, Bonnie J. Buratti, Roger N. Clark, Philip D. Nicholson, Jérémie Lasue, Virginia Pasek, Jason M. Sobierblom

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[観測/タイタン]

タイタンの Visual and Infrared Mapping Spectrometer (VIMS) のデータを解析し、タイタン表面全体のカラーマップを作成した。

[5] [arXiv:1809.06443](#)

Title: "Three Pathways for Observed Resonant Chains"

Author: Mariah G. MacDonald, Rebekah I. Dawson

Comments: 16 pages, 12 figures, accepted for publication in AJ

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/軌道共鳴]

系外惑星で見つかっている軌道共鳴鎖は、惑星が長スケールの migration をしてきたことの証拠だと思われてきた。しかし、最近の研究において、特定の軌道共鳴鎖は短スケールの migration や単なる離心率の低下のみでも作れることが分かってきた。今回、Kepler-80, Kepler-223, Kepler-60, TRAPPIST-1 系の軌道共鳴鎖がどうやって作られたのかを N 体計算で調べた。結果、長スケールの migration、短スケールの migration、離心率の低下のみのうち、どれでも軌道共鳴鎖を再現できることがわかった。

[6] [arXiv:1809.06403](#)

Title: "Dust growth and dust trapping in protoplanetary disks"

Author: Nienke van der Marel, Brenda Matthews, Ruobing Dong, Tilman Birnstiel, Andrea Isella

Comments: Chapter submitted to the ngVLA Science Book (this http URL)

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[観測]

ALMA による円盤のギャップ、リング、非対称構造の観測によって、惑星形成では dust trapping が重要な役割を担っていると見なされている。しかし、ミリメートル連続光において光学的に薄いという仮定は誤りである可能性や、小さいスペクトル指数はダスト成長ではなく光学的厚みと関連しているという可能性がある。より長波長での観測でそれが分かるはず、という話。

[7] [arXiv:1809.06389](#)

Title: "Spin Evolution and Cometary Interpretation of the Interstellar Minor Object 1I/2017 'Oumuamua'"

Author: Roman R. Rafikov

Comments: 5 pages, 1 figure, submitted to AAS journals, comments welcome

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/オウムアムア]

オウムアムアが重力以外による加速を受けているという観測があり、これは激しい彗星活動によるものと解釈されている。しかし、今回、彗星活動によるトルクを計算したところ、もし激しい彗星活動があれば、数日というタイムスケールでオウムアムアの自転が加速され分裂してしまうことがわかった。よって、オウムアムアは彗星活動していないのではないか。

[8] [arXiv:1809.06483](#)

Title: "Efficient spectroscopy of exoplanets at small angular separations with vortex fiber nulling"

Author: Garreth Ruane, Ji Wang, Dimitri Mawet, Nemanja Jovanovic, Jacques-Robert Delorme, Bertrand Mennesson, J. Kent Wallace

Comments: Accepted for publication in The Astrophysical Journal

Subjects: Instrumentation and Methods for Astrophysics (astro-ph.IM); Earth and Planetary Astrophysics (astro-ph.EP); Optics (physics.optics)

[観測/補償光学]

vortex fiber nulling (VFN) という補償光学の技術の紹介。中心星に非常に近い惑星を分光観測したい時に使うといいらしい。

[9] [arXiv:1809.06467](#)

Title: "Atmospheric variability driven by radiative cloud feedback in brown dwarfs and directly imaged extrasolar giant planets"

Author: Xianyu Tan, Adam P. Showman

Comments: 21 pages, 17 figures, revision after the first referee report, submitted to ApJ

Subjects: 理論/褐色矮星・巨大惑星大気

褐色矮星や巨大惑星の近赤外での明るさが時間変化するという現象があるが、詳しい仕組みは分かっていない。今回、大気の熱構造、対流、雲の放射加熱/冷却、雲の凝縮/蒸発を取り入れた1次元モデルの時間変化を計算した。結果、radiative cloud feedback という効果によって時間変化が起こっていることがわかった。時間変化の典型的な周期は1-10時間で、その間有効温度が数百K変化するということがわかった。

t

9月20日(木曜日)

[1] [arxiv:1809.07281](https://arxiv.org/abs/1809.07281)

Title: "Triboelectrification of KCl and ZnS particles in approximated exoplanet environments"

Author: Joshua Méndez Harper, Christiane Helling, Josef Dufek

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[2] [arxiv:1809.07242](https://arxiv.org/abs/1809.07242)

Title: "TESS Discovery of an ultra-short-period planet around the nearby M dwarf LHS 3844"

Author: Roland Vanderspek, Chelsea X. Huang, Andrew Vanderburg, George R. Ricker, David W. Latham, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Jennifer Burt, Jason Dittmann, Elisabeth Newton, Samuel N. Quinn, Avi Shporer, David Charbonneau, Jonathan Irwin, Kristo Ment, Jennifer G. Winters, Karen A. Collins, Phil Evans, Tianjun Gan, Rhodes Hart, Eric L.N. Jensen, John Kielkopf, Shude Mao, William Waalkes, François Bouchy, Maxime Marmier, Louise D. Nielsen, Gaël Ottoni, Francesco Pepe, Damien Ségransan, Stéphane Udry, Todd Henry, Leonardo A. Paredes, Hodari-Sadiki James, Rodrigo H. Hinojosa, Michele L. Silverstein, Enric Palle, Zachory Berta-Thompson, Misty D. Davies, Michael Faunaugh, Ana W. Glidden, Joshua Pepper, Edward H. Morgan, Mark Rose, Joseph D. Twicken, Jesus Noel S. Villaseñor

Comments: 10 pages, 4 figures. Submitted to ApJ Letters. This letter makes use of the TESS Alert data, which is currently in a beta test phase, using data from the pipelines at the TESS Science Office and at the TESS Science Processing Operations Center

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[3] [arxiv:1809.07001](#)

Title: "Identifying Anticyclonic Vortex Features Produced by the Rossby Wave Instability in Protoplanetary Disks"

Author: Pinghui Huang, Andrea Isella, Hui Li, Shengtai Li, Jianghui Ji

Comments: 14 pages, 8 figures, Accepted for publication in Astrophysical Journal

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[4] [arxiv:1809.06978](#)

Title: "A Large Ground-Based Observing Campaign of the Disintegrating Planet K2-22b"

Author: Knicole D. Colón, George Zhou, Avi Shporer, Karen A. Collins, Allyson Bieryla, Néstor Espinoza, Felipe Murgas, Petchara Pattarakijwanich, Supachai Awiphan, James D. Armstrong, Jeremy Bailey, Geert Bar-entsen, Daniel Bayliss, Anurak Chakpor, William D. Cochran, Vikram S. Dhillon, Keith Horne, Michael Ireland, Lucyna Kedziora-Chudczer, John F. Kielkopf, Siramas Komonjinda, David W. Latham, Tom. R. Marsh, David E. Mkrtychian, Enric Pallé, David Ruffolo, Ramotholo Sefako, Chris G. Tinney, Suwicha Wannawichian, Suraphong Yuma

Comments: Accepted for publication in the Astronomical Journal

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[5] [arxiv:1809.06960](#)

Title: "Strange messenger: A new history of hydrogen on Earth, as told by Xenon"

Author: Kevin J. Zahnle, Marko Gacesa, David C. Catling

Comments: 58 pages 18 figures 5 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:1809.06941](#)

Title: "A deep search for planets in the inner 15 au around Vega"

Author: Tiffany Meshkat, Ricky Nilsson, Jonathan Aguilar, Gautam Vasisht, Rebecca Oppenheimer, Kate Y. L. Su, Eric Cady, Thomas Lockhart, Christopher Matthews, Richard Dekany, Jarron Leisenring, Marie Ygouf, Dimitri Mawet, Laurent Pueyo, Charles Beichman

Comments: Accepted for publication in AJ

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:1809.06907](#)

Title: "Evaluating the effect of immeasurable parameters of exoplanets on their habitability using latitudinal energy balance model"

Author: Majid Bahraminasr, Seyed Javad Jafarzadeh, Fatemeh Montazeri

Comments: 18 pages, 11 figures, 2 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[8] [arXiv:1809.06894](#)

Title: "Retrieval analysis of 38 WFC3 transmission spectra and resolution of the normalisation degeneracy"

Author: Chloe Fisher, Kevin Heng

Comments: Accepted by MNRAS. 33 pages, 29 figures, 3 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Atmospheric and Oceanic Physics (physics.ao-ph); Data Analysis, Statistics and Probability (physics.data-an)

[理論/観測/実験 etc....]

Comment!!!!

[9] [arXiv:1809.07052](#)

Title: "PlanetPack3: a radial-velocity and transit analysis tool for exoplanets"

Author: Roman V. Baluev

Comments: 15 pages, 1 figure, no tables; revised version submitted to Astronomy the source code is available for download at this [https URL](#)

Subjects: Instrumentation and Methods for Astrophysics (astro-ph.IM); Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[10] [arxiv:1809.06915](#)

Title: "Hyperfine-resolved rotation-vibration line list of ammonia (NH₃)"

Author: Phillip A. Coles, Alec Owens, Jochen Küpper, Andrey Yachmenev

Subjects: Chemical Physics (physics.chem-ph); Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[11] [arxiv:1809.06857](#)

Title: "Recommendations from the Ad Hoc Committee on SETI Nomenclature"

Author: Jason T. Wright, Sofia Sheikh, Iván Almár, Kathryn Denning, Steven Dick, Jill Tarter

Comments: 10pp, to be presented at the NASA Technosignatures Workshop in Houston, TX, USA Sep. 26-28, 2018

Subjects: Popular Physics (physics.pop-ph); Earth and Planetary Astrophysics (astro-ph.EP); Instrumentation and Methods for Astrophysics (astro-ph.IM)

[理論/観測/実験 etc....]

Comment!!!!

9月21日(金曜日)

[1] [arxiv:1809.07715](#)

Title: "Rotational Temperature Modeling of the Swan $\Delta\nu = 0$ Band Sequence in Comet 122P/de Vico"

Author: Tyler Nelson, Anita L. Cochran, Colin Western

Comments: This document is the unedited Author's version of a Submitted Work that was subsequently accepted for publication in Journal of Physical Chemistry, Part A: Isolated Molecules, Clusters, Radicals, and Ions; Environmental Chemistry, Geochemistry, and Astrochemistry; New Tools and Methods, copyright American Chemical Society after peer review

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論]

彗星 122P/de Vico の Swan $\Delta\nu = 0$ バンドについて、2つの回転輝線を同定した。

[2] [arxiv:1809.07709](#)

Title: "A low-density hot Jupiter in a near-aligned, 4.5-day orbit around a $V = 10.8$, F5V star"

Author: D. R. Anderson, F. Bouchy, D. J. A. Brown, A. Burdanov, A. Collier

Cameron, L. Delrez, M. Gillon, C. Hellier, E. Jehin, M. Lendl, P. F. L. Maxted, L. D. Nielsen, F. Pepe, D. Pollacco, D. Queloz, D. Ségransan, B. Smalley, L. Y. Temple, A. H. M. J. Triaud, S. Udry, R. G. West

Comments: Submitted to AJ. 9 pages, 6 figures, 5 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[観測]

ほぼ align した低密度な Hot Jupiter の発見。WASP, TRAPPIST, CORALIE, HARPS などの観測データを統合して惑星のパラメータを決定した。

[3] [arxiv:1809.07573](https://arxiv.org/abs/1809.07573)

Title: "TESS's first planet: a super-Earth transiting the naked-eye star π Mensae"

Author: D. Gandolfi, O. Barragan, J. Livingston, M. Fridlund, A. B. Justesen, S. Redfield, L. Fossati, S. Mathur, S. Grziwa, J. Cabrera, R. A. Garcia, C. M. Persson, V. Van Eylen, A. P. Hatzes, D. Hidalgo, S. Albrecht, L. Bugnet, W. D. Cochran, Sz. Csizmadia, H. Deeg, Ph. Eigmüller, M. Endl, A. Erikson, M. Esposito, E. Guenther, J. Korth, R. Luque, P. Montanes Rodriguez, D. Nespral, P. Niraula, G. Nowak, M. Patzold, J. Prieto-Arranz

Comments: Submitted to A&A. 10 pages, 5 figures, 5 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Solar and Stellar Astrophysics (astro-ph.SR)

[観測]

TESS での系外惑星初観測。肉眼で見える π Mensae の周りに super-Earth サイズの厚い大気を持つと思われる惑星 Pi Men c を発見。GAIA, UCLES@AAT Doppler, HARPS などの観測データと合わせて惑星のパラメータを決定した。

[4] [arxiv:1809.07498](https://arxiv.org/abs/1809.07498)

Title: "Evolved Climates and Observational Discriminants for the TRAPPIST-1 Planetary System"

Author: Andrew P. Lincowski, Victoria S. Meadows, David Crisp, Tyler D. Robinson, Rodrigo Luger, Jacob Lustig-Yaeger, Giada N. Arney

Comments: 44 pages, 19 figures, accepted for publication in the Astrophysical Journal

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論]

TRAPPIST-1 系の惑星の大気について、1次元気候モデルと光化学反応計算を組み合わせて計算した。大気によるハビタビリティの変化や、大気進化の影響などを調べた。将来の JWST による観測の際に応用可能。

[5] [arxiv:1809.07393](https://arxiv.org/abs/1809.07393)

Title: "The Draconid meteoroid stream 2018: prospects for satellite impact de-

tection”

Author: Auriane Egal, Paul Wiegert, Peter G. Brown, Danielle E. Moser, Althea V. Moorhead, William J. Cooke

Comments: Accepted for publication by APJ Letter the 19/09/2018

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論]

数値計算によって Draconid 流星群の 2018 年の活動についての予測を行い、地球への衝突の Gaia による観測可能性を議論。

[6] [arxiv:1809.07391](#)

Title: ”Observational diagnostics of elongated planet-induced vortices with realistic planet formation timescales”

Author: Michael Hammer, Paola Pinilla, Kaitlin M. Kratter, Min-Kai Lin

Comments: Submitted to MNRAS. Addressed first round of referee comments. 13 pages, 8 figures. Movies available at: [this https URL](#)

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論]

原始惑星系円盤に gap を作るような惑星が、渦も形成してそこにダストが集まる可能性が指摘されている。本研究では 2 流体数値計算により、ALMA で観測されているような gap を作っている惑星がどのような渦を形成しうるか調べた。

[7] [arxiv:1809.07374](#)

Title: ”Why do protoplanetary disks appear not massive enough to form the known exoplanet population?”

Author: C.F. Manara, A. Morbidelli, T. Guillot

Comments: Accepted to A&A Letter

Subjects: Earth and Planetary Astrophysics (astro-ph.EP)

[理論]

観測されている原始惑星系円盤の質量の推定値と、観測されている系外惑星の質量の推定値を比べると、前者は後者を再現できるほど十分に massive でないように見えるのはなぜか？という疑問に対する解決案の提示。非常に早く惑星形成が進んで、かつ円盤ガス散逸も早く進んだか、あるいは惑星形成領域への固体物質の供給が継続的に行われたか、いずれかが必要だろう。

[8] [arxiv:1809.07403](#)

Title: ”TESS in the Solar System”

Author: András Pál, László Molnár, Csaba Kiss

Comments: Accepted for publication in PASP

Subjects: Instrumentation and Methods for Astrophysics (astro-ph.IM); Earth and Planetary Astrophysics (astro-ph.EP)

[観測]

TESS による太陽系内天体の観測についての結果。

[9] [arxiv:1809.07351](https://arxiv.org/abs/1809.07351)

Title: "The Origins Space Telescope"

Author: Cara Battersby, Lee Armus, Edwin Bergin, Tiffany Kataria, Margaret Meixner, Alexandra Pope, Kevin B. Stevenson, Asantha Cooray, David Leisawitz, Douglas Scott, James Bauer, C. Matt Bradford, Kimberly Ennico, Jonathan J. Fortney, Lisa Kaltenegger, Gary J. Melnick, Stefanie N. Milam, Desika Narayanan, Deborah Padgett, Klaus Pontoppidan, Thomas Roellig, Karin Sandstrom, Kate Y. L. Su, Joaquin Vieira, Edward Wright, Jonas Zmuidzinas, Johannes Staguhn, Kartik Sheth, Dominic Benford, Eric E. Mamajek, Susan G. Neff, Sean Carey, Denis Burgarella, Elvire De Beck, Maryvonne Gerin, Frank P. Helmich, S. Harvey Moseley, Itsuki Sakon, Martina C. Wiedner

Comments: Published in Nature Astronomy. This 7-page PDF is the submitted version - here is a free link to the published article: [this https URL](https://arxiv.org/abs/1809.07351)

Subjects: Instrumentation and Methods for Astrophysics (astro-ph.IM); Earth and Planetary Astrophysics (astro-ph.EP); Astrophysics of Galaxies (astro-ph.GA); Solar and Stellar Astrophysics (astro-ph.SR)

[計画]

NASA が計画している The Origins Space Telescope についての解説記事。

[10] [arxiv:1809.07342](https://arxiv.org/abs/1809.07342)

Title: "Far-Ultraviolet Activity Levels of F, G, K, and M dwarf Exoplanet Host Stars"

Author: Kevin France, Nicole Arulanantham, Luca Fossati, Antonino F. Lanza, R. O. Parke Loyd, Seth Redfield, P. Christian Schneider

Comments: ApJS, accepted. 33 pages in emulateapj, 13 figures, 10 tables

Subjects: Solar and Stellar Astrophysics (astro-ph.SR); Earth and Planetary Astrophysics (astro-ph.EP)

[観測]

系外惑星を持つ F, G, K, M 型星の FUV による活動度の観測。