

# 2019年 8月 第2週 新着論文サーベイ

8月5日(月曜日)

[1] [arXiv:1908.00917](#)

Title: "In situ Exploration of the Giant Planets"

Author: Olivier Mousis, David H. Atkinson, Richard Ambrosi, Sushil Atreya, Don Banfield, Stas Barabash, Michel Blanc, Thibault Cavalié, Athena Coustenis, Magali Deleuil, Georges Durry, Francesca Ferri, Leigh Fletcher, Thierry Fouchet, Tristan Guillot, Paul Hartogh, Ricardo Hueso, Mark Hofstadter, Jean-Pierre Lebreton, Kathleen E. Mandt, Heike Rauer, Pascal Rannou, Jean-Baptiste Renard, Agustin Sanchez-Lávega, Kunio Sayanagi, Amy Simon, Thomas Spilker, Ethiraj Venkatapathy, J. Hunter Waite, Peter Wurz

Comments: 27 pages, 9 figures, White Paper submitted in response to ESA's Call for Voyage 2050 Science Themes.  
arXiv admin note: substantial text overlap with arXiv:1708.00235

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

[理論/観測/実験 etc....]

Comment!!!!

[2] [arXiv:1908.00897](#)

Title: "Planetesimals to Terrestrial Planets: collisional evolution amidst a dissipating gas disk"

Author: Kevin J. Walsh, Harold F. Levison

Comments: 17 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[3] [arXiv:1908.00647](#)

Title: "Close-in giant-planet formation via in-situ gas accretion and their natal disk properties"

Author: Yasuhiro Hasegawa, Tze Yeung Mathew Yu, Bradley M. S. Hansen

Comments: 5 pages, 3 figures, accepted for publication in A&A Letters

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:1908.00619](#)

Title: "The HST PanCET Program: Exospheric Mg II and Fe II in the Near-UV transmission spectrum of WASP-121b using Jitter Decorrelation"

Author: David K. Sing, Panayotis Lavvas, Gilda E. Ballester, Alain Lecavelier des Etangs, Mark S. Marley, Nikolay Nikolov, Lotfi Ben-Jaffel, Vincent Bourrier, Lars A. Buchhave, Drake L. Deming, David Ehrenreich, Thomas Mikal-Evans, Tiffany Kataria, Nikole K. Lewis, Mercedes Lopez-Morales, Antonio Garcia Munoz, Gregory W. Henry, Jorge Sanz-Forcada, Jessica J. Spake, Hannah R. Wakeford

Comments: 22 pages, 16 figures, 2 Tables. Accepted for publication in AJ. Spectra available at this [https URL](#)

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:1908.00815](#)

Title: "On the Response of Martian Ionosphere to the Passage of a Corotating Interaction Region: MAVEN Observations"

Author: C. Krishnaprasad, Smitha V. Thampi, Anil Bhardwaj

Subjects: Space Physics (physics.space-ph); Earth and Planetary Astrophysics (astro-ph.EP); Geophysics (physics.geo-ph); Plasma Physics (physics.plasm-ph)

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:1908.00628](#)

Title: "Carbon dioxide retrieval of Argus 1000 space data by using GENSPECT line-by-line radiative transfer model"

Author: R. K. Jagpal, R. Siddiqui, S. M. Abrarov, B. M. Quine

Comments: 16 pages, 7 figures

Subjects: Atmospheric and Oceanic Physics (physics.ao-ph); Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:1908.00548](#)

Title: "Community Involvement in the WFIRST Exoplanet Microlensing Survey"

Author: David P. Bennett, Rachel Akeson, Thomas Barclay, Jean-Phillipe

Beaulieu, Aparna Bhattacharya, Padi Boyd, Valerio Bozza, Geoffrey Bryden, Sebastiano Calchi Novati, Knicole Colon, B. Scott Gaudi, Calen B. Henderson, Yuki Hirao, Savannah Jacklin, Naoki Koshimoto, Jessica Lu, Matthew Penny, Radek Poleski, Elisa Quintana, Clement Ranc, Kailash C. Sahu, Rachel Street, Takahiro Sumi, Daisuke Suzuki, Jennifer Yee

Comments: Astro2020 APC White Paper

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

[理論/観測/実験 etc....]

Comment!!!!

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## 8月6日(火曜日)

### [1] [arxiv:1908.01692](#)

Title: "Testing known and unknown systematics in HST/WFC3 spatial scans with the Wayne simulator"

Author: A. Tsiaras, J. Ozden

Comments: Submitted to AAS journals

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

[理論/観測/実験 etc....]

Comment!!!!

### [2] [arxiv:1908.01679](#)

Title: "Unexpected gap creating two peaks in the periods of planets of metal-rich sunlike single stars"

Author: Stuart F. Taylor

Comments: Submitted to Astronomische Nachrichten. 13 pages, six figures

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

[理論/観測/実験 etc....]

Comment!!!!

### [3] [arxiv:1908.01565](#)

Title: "Spectral and orbital survey of medium-sized meteoroids"

Author: Pavol Matlovič, Juraj Tóth, Regina Rudawska, Leonard Kornoš, Adriana Pisarčíková

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:1908.01374](#)

Title: "Science goals and mission concepts for a future orbital and in situ exploration of Titan"

Author: Sébastien Rodriguez, Sandrine Vinatier, Daniel Cordier, Nathalie Carrasco, Benjamin Charnay, Thomas Cornet, Athena Coustenis, Remco de Kok, Caroline Freissinet, Marina Galand, Wolf D. Geppert, Ralf Jauman, Klara Kalousova, Tommi T. Koskinen, Sébastien Lebonnois, Alice Le Gall, Stéphane Le Mouélic, Antoine Lucas, Kathleen Mandt, Marco Mastrogiuseppe, Conor A. Nixon, Jani Radebaugh, Pascal Rannou, Jason M. Soderblom, Anezina Solomonidou, Christophe Sotin, Katrin Stephan, Nick Teanby, Gabriel Tobie, Véronique Vuitton

Comments: White Paper submission to the call for ESA Voyage 2050 long-term plan

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:1908.01316](#)

Title: "Atmospheric characterization of terrestrial exoplanets in the mid-infrared: biosignatures, habitability & diversity"

Author: Sascha P. Quanz, Olivier Absil, Daniel Angerhausen, Willy Benz, Xavier Bonfils, Jean-Philippe Berger, Matteo Brogi, Juan Cabrera, William C. Danchi, Denis Defrère, Ewine van Dishoeck, David Ehrenreich, Steve Ertel, Jonathan Fortney, Scott Gaudi, Julien Girard, Adrian Glauser, John Lee Grenfell, Michael Ireland, Markus Janson, Jens Kammerer, Daniel Kitzmann, Stefan Kraus, Oliver Krause, Lucas Labadie, Sylvestre Lacour, Tim Lichtenberg, Michael Line, Hendrik Linz, Jérôme Loicq, Bertrand Mennesson, Michael R. Meyer, Yamila Miguel, John Monnier, Mamadou N'Diaye, Enric Pallé, Didier Queloz, Heike Rauer, Ignasi Ribas, Sarah Rugheimer, Franck Selsis, Gene Serabyn, Ignas Snellen, Alessandro Sozzetti, Karl R. Stapelfeldt, Amaury Triaud, Stéphane Udry, Mark Wyatt

Comments: Submitted to ESA in response to the Call for White Papers for the Voyage 2050 long-term plan in the  
ESA Science Programme

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arxiv:1908.01117](#)

Title: "Eccentricities and the Stability of Closely-Spaced Five-Planet Systems"

Author: Pierre Gratia, Jack J. Lissauer

Comments: 21 pages, 14 figures, 3 tables. To be submitted for review on August 12. Comments welcome, especially  
prior to that date

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arxiv:1908.01093](#)

Title: "H<sub>2</sub>O<sub>2</sub> within chaos terrain on Europa's leading hemisphere"

Author: Samantha K. Trumbo, Michael E. Brown, Kevin P. Hand

Comments: 7 pages, 2 figures, accepted for publication in the Astronomical Journal

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

[理論/観測/実験 etc....]

Comment!!!!

[8] [arxiv:1908.01048](#)

Title: "Analytical estimates of secular frequencies for binary star systems"

Author: Ákos Bazsó, Elke Pilat-Lohinger

Comments: 17 pages; Credit: Authors, Copyright: Proceedings of the First Greek-Austrian Workshop on Extrasolar  
Planetary Systems, 2017, pages 45-62, reproduced with permission

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arxiv:1908.00991](#)

Title: "Photon-weighted barycentric correction and its importance for precise radial velocities"

Author: René Tronsgaard, Lars A. Buchhave, Jason T. Wright, Jason D. Eastman,  
Ryan T. Blackman

Comments:

9 pages, 7 figures, accepted to MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[10] [arxiv:1908.01636](#)

Title: "Expected performances of the Characterising Exoplanet Satellite (CHEOPS). I. Photometric performances from ground-based calibration"

Author: Adrien Deline, Didier Queloz, Bruno Chazelas, Michaël Sordet, François Wildi, Andrea Fortier, Christopher Broeg, David Futyan, Willy Benz

Comments: 12 pages, 14 figures, accepted for publication in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

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## 8月7日(水曜日)

[1] [arxiv:1908.02217](#)

Title: "Biases in retrieving planetary signals in the presence of quasi-periodic stellar activity"

Author: M. Damasso, M. Pinamonti, G. Scandariato, A. Sozzetti

Comments: 19 pages, 10 figures, accepted for publication in MNRAS

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

[理論/観測]

準周期的な恒星の活動がある場合に惑星のパラメータをどう決めるか。効果的なフォローアップのタイミング導出などについて。

[2] [arxiv:1908.02201](#)

Title: "Clouds of Fluffy Aggregates: How They Form in Exoplanetary Atmospheres and Influence Transmission Spectra"

Author: Kazumasa Ohno, Satoshi Okuzumi, Ryo Tazaki

Comments: 21 pages, 11 figures, submitted to AAS Journals, revised version after referee report

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

[理論/観測]

系外惑星の高層大気は透過分光で分かっている。しかしながら雲の組成などはまだ良く分からない。雲の空隙率の進化をモデル化してしらべてみた。ふわふわな雲粒子は、球形の雲よりもより上空まで上昇することが分かった。ふわふわぐあいがあるくらいスペクトルに影響するか調べたところ、雲のせいで分子のフィーチャーが隠されてしまうし、

スペクトルのスロープが生まれる。GJ1224b での大気と雲を調べて見て、金属量が太陽の 100 倍で、モノマーのサイズが 1 ミクロンよりも小さいと思われる。高い金属量なのは、以前にガス降着が起こったからではないかと考えられる。

[3] [arXiv:1908.02158](#)

Title: "Recurrence Network Analysis of Exoplanetary Observables"

Author: Tamas Kovacs

Comments: 8 pages, 9 figures, published in CHAOS

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Chaotic Dynamics (nlin.CD)

[理論]

系外惑星観測に関わる、繰り返しの現象を、時系列からうまく抽出するフレームワークを提案。

[4] [arXiv:1908.02092](#)

Title: "Uranus and Neptune are key to understand planets with hydrogen atmospheres"

Author: Tristan Guillot

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

[理論]

天王星と海王星はあまり探査されていない。温度分布やメタンのアバundanceや、有機物の対流の様子などよくわからない。木星や土星と比較することで、惑星系の理解が広がる。

[5] [arXiv:1908.02080](#)

Title: "OWL-MOON : Very high resolution spectro-imaging and Earth-Moon interferometry: exoplanets to cosmology"

Author: J. Schneider, J. Silk, F. Vakili, I. Crawford, M. Elvis, S. Jacquemoud, R. Kaiser, M. Sandora

Comments: White Paper submitted to ESA's call for Voyage 2050

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

[理論/観測/実験]

天文学の大きな問題として、ハビタブル惑星での生命指標の検出と、系外惑星の比較惑星学と、宇宙論がある。これを達成するためには、超大口径での高コントラストな分光偏光観測と、長期モニタリング観測が必要になる。地上望遠鏡では大気の変動や分子が邪魔になるので、月に 50-100m クラスの望遠鏡を置いて赤外線観測したい。ESO が提案している。

[6] [arXiv:1908.02041](#)

Title: "Statistical analysis of Curiosity data shows no evidence for a strong seasonal cycle of Martian methane"

Author: Ed Gillen, Paul B Rimmer, David C Catling

Comments: 13 pages, 2 figures, 1 table, accepted for publication as a Note in Icarus

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

**[観測]**

TLS という観測データでは、火星のメタンが季節によって変動しているとは言えない、とされている。データを再検証してみて、やっぱりなさそう。

## [7] [arXiv:1908.01926](#)

Title: "Ethane in Titan's Stratosphere from Cassini CIRS Far- and Mid-Infrared Spectra"

Author: Nicholas A Lombardo, Conor A Nixon, Melody Sylvestre, Donald E Jennings, Nicholas Teanby, Patrick G J Irwin, F Michael Flasar

Comments: 19 pages, 10 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Atmospheric and Oceanic Physics (physics.ao-ph)

**[観測]**

カッシーニの CIRS を使って遠中間赤外の熱輻射観測から、タイタンの成層圏でのエタンの量を調べた。88km で  $1.0 \times 10^{-5}$  位だった。将来的にはメタンも調べられるようにしたい。

## [8] [arXiv:1908.01803](#)

Title: "ESA Voyage 2050 White Paper: Detecting life outside our solar system with a large high-contrast-imaging mission"

Author: Ignas Snellen, Simon Albrecht, Guillem Anglada-Escude, Isabelle Baraffe, Pierre Baudoz, Willy Benz, Jean-Luc Beuzit, Beth Biller, Jayne Birkby, Anthony Boccaletti, Roy van Boekel, Jos de Boer, Matteo Brogi, Lars Buchhave, Ludmila Carone, Mark Claire, Riccardo Claudi, Brice-Olivier Demory, Jean-Michel Desert, Silvano Desidera, Scott Gaudi, Raffaele Gratton, Michael Gillon, John Lee Grenfell, Olivier Guyon, Thomas Henning, Sasha Hinkley, Elsa Huby, Markus Janson, Christiane Helling, Kevin Heng, Markus Kasper, Christoph Keller, Matthew Kenworthy, Oliver Krause, Laura Kreidberg, Nikku Madhusudhan, Anne-Marie Lagrange, Ralf Launhardt, Tim Lenton, Manuel Lopez-Puertas, Anne-Lise Maire, Nathan Mayne, Victoria Meadows, Bertrand Mennesson, Giuseppina Micela, Yamila Miguel, Julien Milli, Michiel Min

Comments: White paper for ESA Voyage 2050; 24 pages

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

**[計画]**

ESA の高コントラスト撮像宇宙観測計画について。太陽型星のハビタブルゾーンでの地球型惑星を検出したい。のが NASA の計画。ESA では、太陽系外縁での生命検出を目標にするとよい。



[9] [arXiv:1908.01776](#)

Title: "A Pluto-Charon Sonata III. Growth of Charon from a Circum-Pluto Ring of Debris"

Author: Scott J. Kenyon, Benjamin C. Bromley

Comments: 38 pages, 10 figures, 3 tables, AJ, in press

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

[理論]

冥王星とカロンの系の形成は、ヒットアンドランと graze-and-merge のシナリオがある。後者のシナリオはカロンの質量と冥王星のリングの質量から、様子が調べられる。数値計算を使って、カロンが 145-230km の微惑星の群れから形成されたと考えられる。大体 30 日~100 日で、5-6 倍の冥王星半径の位置に形成される。実際には、graze-and-merge では形成されていなさそう。100-200km の微惑星がカロンと冥王星の軌道面からすぐになくなってしまうので。本当に起きていたら、カロンはもっと小さい天体だっただろう。

[10] [arXiv:1908.01989](#)

Title: "New study of the line profiles of sodium perturbed by H<sub>2</sub>"

Author: N.F. Allard, F. Spiegelman, T. Leininger, P. Molliere

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

[理論/観測/実験 etc....]

褐色矮星待機では、Na や K のアルカリ元素が重要な役割をもっている。NaH<sub>2</sub> という分子の衝突のようすを、500 から 3000K の範囲調べて見た。この辺りのスペクトルを petitCODE で計算。

[11] [arXiv:1908.01948](#)

Title: "Imaging extended sources with the solar gravitational lens"

Author: Slava G. Turyshev, Viktor T. Toth

Comments: 25 pages, 11 figures

Subjects: General Relativity and Quantum Cosmology (gr-qc); Earth and Planetary Astrophysics (astro-ph.EP); Instrumentation and Methods for Astrophysics (astro-ph.IM); Optics (physics.optics)

[観測]

太陽の重力レンズ効果による背景天体の変化を、ミー散乱を参考に調べる。掩蔽の様子とかから、広がった天体を調べられそう。

[12] [arXiv:1908.01932](#)

Title: "Enceladus and Titan: Emerging Worlds of the Solar System (ESA Voyage 2050 White Paper)"

Author: Ali Sulaiman, Nicholas Achilleos, Sushil Atreya, Cesar Bertucci, Andrew Coates, Michele Dougherty, Lina Hadid, Candice Hansen, Mika Holmberg, Hsiang-Wen Hsu, Tomoki Kimura, William Kurth, Alice Le Gall, James McKeivitt, Michiko Morooka, Leonardo Regoli, Elias Roussos,

Joachim Saur, Oleg Shebanits, Anezina Solomonidou, Jan-Erik Wahlund,  
J. Hunter Waite

Comments: White paper submitted in response to Voyage 2050 long-term plan in the ESA Science Programme

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

[理論/観測/実験 etc....]

タイタンとエンケラドゥスに行って探査をする ESA の計画。2050 年くらいに実現したい。

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## 8 月 8 日 (木曜日)

### [1] [arXiv:1908.02742](#)

Title: "How planets grow by pebble accretion II: Analytical calculations on the  
evolution of polluted envelopes"

Author: M.G. Brouwers, C.W. Ormel

Comments: 17 pages, 10 figures. Submitted to A&A. Comments welcome

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

[理論/観測/実験 etc....]

Comment!!!!

### [2] [arXiv:1908.02720](#)

Title: "WFIRST and EUCLID: enabling the microlensing parallax measurement  
from space"

Author: Etienne Bachelet, Matthew Penny

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

[理論/観測/実験 etc....]

Comment!!!!

### [3] [arXiv:1908.02666](#)

Title: "Comet C/2018 V1 (Machholz-Fujikawa-Iwamoto): dislodged from the  
Oort Cloud or coming from interstellar space?"

Author: C. de la Fuente Marcos, R. de la Fuente Marcos

Comments: 11 pages, 5 figures, 4 tables. Accepted for publication in Monthly Notices of the Royal Astronomical  
Society

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:1908.02661](#)

Title: "Scaling Relations for Terrestrial Exoplanet Atmospheres from Baroclinic Criticality"

Author: Thaddeus D. Komacek, Malte F. Jansen, Eric T. Wolf, Dorian S. Abbot

Comments: Accepted at ApJ, 8 pages, 4 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Atmospheric and Oceanic Physics (physics.ao-ph); Fluid Dynamics (physics.flu-dyn)

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:1908.02647](#)

Title: "Climate simulations of early Mars with estimated precipitation, runoff, and erosion rates"

Author: Ramses M. Ramirez, Robert A. Craddock, Tomohiro Usui

Comments: Submitted to JGR-Planets (48 pages, 9 Figures, 2 Tables). In this version, we fixed a typo in the abstract

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:1908.02631](#)

Title: "Estimating dayside effective temperatures of hot Jupiters and associated uncertainties through Gaussian process regression"

Author: Emily K. Pass, Nicolas B. Cowan, Patricio E. Cubillos, Jack G. Sklar

Comments: 11 pages, 6 figures, accepted for publication in MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:1908.02608](#)

Title: "Linking planetesimal and dust content in protoplanetary disks via a local toy model"

Author: Konstantin Gerbig, Christian T. Lenz, Hubert Klahr

Comments: 18 pages, 9 figures, A&A accepted

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

[理論/観測/実験 etc....]

Comment!!!!

[8] [arXiv:1908.02527](#)

Title: "Modelling atmospheric escape and MgII near-ultraviolet absorption of the highly irradiated hot Jupiter WASP-12b"

Author: N. K. Dwivedi, M. L. Khodachenko, I. F. Shaikhislamov, L. Fossati, H. Lammer, Y. Sasunov, A. G. Berezutskiy, I. B. Miroshnichenko, K. G. Kislyakova, C. P. Johnstone, M. Güdel

Comments: 23 pages, 8 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arXiv:1908.02513](#)

Title: "Radial Drift and Concurrent Ablation of Boulder-Sized Objects"

Author: Remo Burn, Ulysse Marboeuf, Yann Alibert, Willy Benz

Comments: 17 pages, 17 figures, accepted for publication in Astronomy and Astrophysics

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

[理論/観測/実験 etc....]

Comment!!!!

[10] [arXiv:1908.02453](#)

Title: "Simulation of the 2018 Global Dust Storm on Mars Using the NASA Ames Mars GCM: A Multi-Tracer Approach"

Author: Tanguy Bertrand, R. John Wilson, Melinda A. Kahre, Richard Urata, Alex Kling

Comments: 40 pages, 16 figures, submitted to JGR planets

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Atmospheric and Oceanic Physics (physics.ao-ph)

[理論/観測/実験 etc....]

Comment!!!!

[11] [arXiv:1908.02358](#)

Title: "LRG-BEASTS: transmission spectroscopy and retrieval analysis of the highly-inflated Saturn-mass planet WASP-39b"

Author: James Kirk, Mercedes Lopez-Morales, Peter J. Wheatley, Ian C. Weaver, Ian Skillen, Tom Loudon, James McCormac, Nestor Espinoza

Comments: 21 pages, 9 figures, 6 tables. Accepted for publication in AJ

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

[理論/観測/実験 etc....]

Comment!!!!

[12] [arXiv:1908.02326](#)

Title: "Pileups and Migration Rates for Planets in Low Mass Disks"

Author: Adam M. Dempsey, Wing-Kit Lee, Yoram Lithwick

Comments: 26 pages, 16 figures, submitted to AAS journals

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

[理論/観測/実験 etc....]

Comment!!!!

[13] [arXiv:1908.02683](#)

Title: "The Nine Axes of Merit for Technosignature Searches"

Author: Sofia Z. Sheikh

Comments: Submitted, waiting for review

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

[理論/観測/実験 etc....]

Comment!!!!

[14] [arXiv:1908.02585](#)

Title: "Phase-Apodized-Pupil Lyot Coronagraphs for Arbitrary Telescope Pupils"

Author: Emiel H. Por

Comments: 16 pages, 11 figures, accepted for publication in ApJ

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

[理論/観測/実験 etc....]

Comment!!!!

[15] [arXiv:1908.02533](#)

Title: "Implication of Kinetic Alfvén Waves to Magnetic Field Turbulence Spectra: Earth's Magnetosheath"

Author: N. K. Dwivedi, S. Kumar, P. Kovacs, E. Yordanova, M. Echim, R. P. Sharma, M. L. Khodachenko, Y. Sasunov

Comments: 25 pages, 7 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[16] [arXiv:1908.02515](#)

Title: "Dynamical Gaseous Rings in Global Simulations of Protoplanetary Disk Formation"

Author: Kundan Kadam, Eduard Vorobyov, Zsolt Regály, Ágnes Kóspál, Péter Ábrahám

Comments: 23 pages, 13 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[17] [arXiv:1908.02356](#)

Title: "The Mid-InfraRed Exo-planet CLimate Explorer MIRECLE: Exploring the Nearest M-Earths Through Ultra-Stable Mid-IR Transit and Phase-Curve Spectroscopy"

Author: Johannes Staguhn, Avi Mandell, Kevin Stevenson, Prabal Saxena, Ravi Kopparapu, Dale Fixsen, Elmer Sharp, Michael DiPirro, Claudia Knez, Eric Wolf, Kristin Sotzen, Kathleen Mandt, Qian Gong, Geronimo Villanueva

Comments: Astro2020: Decadal Survey on Astronomy and Astrophysics APC White Paper

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

[理論/観測/実験 etc....]

Comment!!!!

[18] [arXiv:1908.02339](#)

Title: "The in-situ exploration of Jupiter's radiation belts (A White Paper submitted in response to ESA's Voyage 2050 Call)"

Author: Elias Roussos, Oliver Allanson, Nicolas André, Bruna Bertucci, Graziella Branduardi-Raymont, George Clark, Kostantinos Dialynas, Iannis Dandouras, Ravindra Desai, Yoshifumi Futaana, Matina Gkioulidou, Geraint Jones, Peter Kollmann, Anna Kotova, Elena Kronberg, Norbert Krupp, Go Murakami, Quentin Nénon, Tom Nordheim, Benjamin Palmaerts, Christina Plainaki, Jonathan Rae, Daniel Santos-Costa, Theodore Sarris, Yuri Shprits, Ali Sulaiman, Emma Woodfield, Xin Wu, Zhonghua Yao

Comments: 28 pages, 3 Tables, 11 Figures

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

[理論/観測/実験 etc....]

Comment!!!!

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## 8月9日(金曜日)

### [1] [arxiv:1908.03128](#)

Title: "Photophoresis in the circumjovian disk and its impact on the orbital configuration of the Galilean satellites"

Author: Sota Arakawa, Yuhito Shibaïke

Comments: 8 pages, 9 figures. Accepted for publication in Astronomy & Astrophysics

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

[理論]

木製のガリレオ衛星の内側3つは4:2:1軌道共鳴の関係にあり、木製の周惑星円盤の面密度バンプでイオの migration が止まり、後の2つが共鳴軌道に捕獲されたと考えられるが、面密度バンプの形成メカニズムはよくわかっていない。周木星円盤の photophoresis によってダストの migration がイオ軌道付近で止まり、さらにその内側でMRIによる降着率の増加が起こることによって面密度バンプが形成される可能性を示した。

### [2] [arxiv:1908.03125](#)

Title: "Geometrical structure and thermal conductivity of dust aggregates formed via ballistic cluster-cluster aggregation"

Author: Sota Arakawa, Masaki Takemoto, Taishi Nakamoto

Comments: 14 pages, 8 figures. Accepted for publication in PTEP

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Soft Condensed Matter (cond-mat.soft)

[理論]

弾性 cluster-cluster 凝集 (ballistic cluster-cluster aggregation (BCCA)) で形成した多孔質ダストアグリゲイトの幾何学構造を調べた。回転半径  $R_{\text{gyr}}$  と測地半径  $R_{\text{geo}}$  を構成粒子数  $N$  の関数として求めた。また、フラクタルアグリゲイトの構造を特徴付ける2つの定数  $D_f$ 、 $\alpha$  をそれぞれ  $N \sim (R_{\text{gyr}}/r_0)^{D_f}$ 、 $R_{\text{geo}}/r_0 \sim (R_{\text{gyr}}/r_0)^\alpha$  と定義した。BCCA の cluster では  $D_f \simeq 1.88$ 、 $\alpha \simeq 1.34$  だった。

### [3] [arxiv:1908.03063](#)

Title: "Impact probability computation of Near-Earth Objects using Monte Carlo Line Sampling and Subset Simulation"

Author: Matteo Romano, Matteo Losacco, Camilla Colombo, Pierluigi Di Lizia

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

[理論]

地球近傍天体の衝突確率を計算するためのモンテカルロベースのサンプリング手法を2つ作った。それぞれの手法でテスト計算を行い、標準的なモンテカルロ法と比較して制度の向上、計算中に必要なサンプル数の節約できることを確かめた。

[4] [arxiv:1908.02960](#)

Title: "Volatile species in comet 67P/Churyumov-Gerasimenko – investigating the link from the ISM to the terrestrial planets"

Author: Martin Rubin, David V. Bekaert, Michael W. Broadley, Maria N. Drozdovskaya, Susanne F. Wampfler

Comments: This document is the unedited Author's version of a Submitted Work that was subsequently accepted for publication in ACS Earth and Space Chemistry, copyright American Chemical Society after peer review

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

[理論]

彗星中の揮発物質には、星間物質からも見つかるものが多く、さらに含有率の比率が一致するものも存在し、形成環境がよく似ていたことを示している。また、彗星には進化初期の物質が大量に保存されており、それらは衝突などによって惑星に供給されると考えられている。地球の水は主に彗星から供給されたと考えられるが、同時に大気中の揮発物質、オーガニック分子なども供給されたと考えられる。

[5] [arxiv:1908.02783](#)

Title: "Venus as a Laboratory for Exoplanetary Science"

Author: Stephen R. Kane, Giada Arney, David Crisp, Shawn Domagal-Goldman<sup>2</sup>, Lori S. Glaze, Colin Goldblatt, David Grinspoon, James W. Head, Adrian Lenardic, Cayman Unterborn, Michael J. Way, Kevin J. Zahnle

Comments: 20 pages, 4 figures, accepted for publication in JGR Planets

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

[理論]

太陽系内外の天体における生物指標の検出は宇宙生物学のゴールの一つであり、それにはハビタブル環境や生物指標の境界についての研究、理解が重要である。(ハビタブルでない)金星の環境を調べることで、非ハビタブルになる要因の理解が期待できる。

[6] [arxiv:1908.02769](#)

Title: "Sulfate Aerosol Hazes and SO<sub>2</sub> Gas as Constraints on Rocky Exoplanets' Surface Liquid Water"

Author: Kaitlyn Loftus, Robin D. Wordsworth, Caroline V. Morley

Comments: 22 pages, 10 figures, 1 table, submitted to ApJ

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

[理論]

惑星のハビタビリティにおいて、液体の水の存在は非常に重要であるが、水の有無を観測から推測するのは困難。地球と金星の硫黄循環が異なるのを利用して、硫酸塩 (H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O) エアロゾルの厚いヘイズと SO<sub>2</sub> の混合率の大気フィッチャーを見ることで液体の水の存在がわかるかを調べた。pH>6 で、物理的に常識的な範囲の火山ガスの噴出や化学反応を仮定した場合、地球の 10<sup>-3</sup> 倍以上の海は検出できないことがわかった。今回の結果は逆に、H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O ヘイズと SO<sub>2</sub> の観測で惑星が多く液体水を持たない指標になる。



[7] [arxiv:1908.03164](https://arxiv.org/abs/1908.03164)

Title: "Science opportunities enabled by the era of Visible Band Stellar Imaging with sub-100  $\mu$ arc-sec angular resolution"

Author: D. Kieda, Monica Acosta, Anastasia Barbano, Colin Carlile, Michael Daniel, Dainis Dravins, Jamie Holder, Nolan Matthews, Teresa Montaruli, Roland Walter, Luca Zampieri

Comments: 8 pages, 5 figures, Astro 2020 Science White paper

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

[Astro 2020 白書]

2020 年代に建設予定の Imaging Cherenkov telescopes による sub-100  $\mu$  arc-sec の超高分解の可視光 U/V バンドでの天文撮像によって可能になるサイエンスについて。

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Nature

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