

# 2020年 1月 第5週 新着論文サーベイ

1月27日(月曜日)

## [1] [arXiv:2001.09150](#)

Title: "The Orbit of Planet Nine Derived from Engineering Physics"

Author: Robert Finch, Mattia A. Galiazzo

Comments: 15 pages, 2 figures

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

[理論/Planet X]

存在が示唆された太陽系第9惑星 (Planet X) について、工学物理を用いて再検証した。過去に使われた6つの天体に加えて、著者が選んだ6天体についても Planet X の存在による影響を調べ、Planet X のパラメータを決め直した。

## [2] [arXiv:2001.09083](#)

Title: "Orbital Dynamics of 2020 AV2: the First Vatira Asteroid"

Author: Sarah Greenstreet

Comments: Submitted to MNRAS

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

[理論/小惑星]

小惑星 2020 AV2 は、Atira 群 (金星より内側の軌道を持つ小惑星) の中で初めて遠日点が金星の近日点よりも内側の小惑星として見つかり、Vatira 群とよばれている。数値計算によってこれから数百万年間の軌道進化を計算した。

## [3] [arXiv:2001.08969](#)

Title: "Physical properties of Taurid meteoroids of various sizes"

Author: Jiri Borovicka, Pavel Spurny

Comments: Accepted to Planetary and Space Science. 22 pages, 16 figures, 1 table. License CC-BY-NC-ND (required by the journal)

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

[理論/流星]

Taurid meteoroids の母天体は 2P/Encke 彗星かあるいは別の小惑星か、まだ議論が分かれている。16個の Taurid 火球について、破壊モデルを用いてサイズごとの強度を推定したところ、小さい破片ほど強度が大きいことなどがわかった。結果をまとめると、Taurid meteoroids は彗星起源であることが強く示唆される。

## [4] [arXiv:2001.08946](#)

Title: "Effect of vegetation on the temperatures of Trappist-1 planets"

Author: Antonio Vecchio, Leonardo Primavera, Fabio Lepreti, Tommaso Alberti, Vincenzo Carbone

Comments: 11 pages, 6 figures, 2 tables, accepted for publication in ApJ

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

[理論/ハビタビリティ]

TRAPPIST-1 系の惑星のハビタビリティについて、表層での植生の影響を考慮して検証した。(詳細な説明はアブストには書いてありませんでしたが) TRAPPIST-1e が最も habitable である可能性が高いことがわかった。植生のタイプ、陸海分布、温室効果のレベルなどを変えたときのハビタビリティへの影響についても調べた。

[5] [arxiv:2001.08834](#)

Title: ”[Mass determinations of the three mini-Neptunes transiting TOI-125](#)”

Author: L.D. Nielsen, D. Gandolfi, D.J. Armstrong, J.S. Jenkins, M. Fridlund, N.C. Santos, F. Dai, V. Adibekyan, R. Luque, J.H. Steffen, M. Esposito, F. Meru, S. Sabotta, E. Bolmont, D. Kossakowski, J.F. Otegi, F. Murgas, M. Stalport, F. Rodler, M.R. Díaz, N.T. Kurtovic, G. Ricker, R. Vanderspek, D.W. Latham, S. Seager, J.N. Winn, J.M. Jenkins, R. Allart, J.M. Almenara, D. Barrado, S.C.C. Barros, D. Bayliss, Z.M. Berdiñas, I. Boisse, F. Bouchy, P. Boyd, D.J.A. Brown, E.M. Bryant, C. Burke, W.D. Cochran, B.F. Cooke, O.D.S. Demangeon, R.F. Díaz, J. Dittman, C. Dorn, X. Dumusque, R. A. García, L. González-Cuesta, S. Grziwa, I. Georgieva, N. Guerrero, A.P. Hatzes, R. Helled, C.E. Henze, S. Hojjatpanah, J. Korth, K.W.F. Lam, J. Lillo-Box, T.A. Lopez, J. Livingston, S. Mathur, O. Mousis

Comments: Accepted for publication in MNRAS

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

[観測/系外惑星]

TOI-125 周りに TESS で見つかった 3 つの mini-Neptunes に対して、HARPS による RV 観測を行い質量を決めてあげた。b と d が大きな離心率を持っていることや、新たな惑星候補 2 つ (ただし low SNR) も発見した。3 惑星の内部構造への示唆や、惑星系の安定性などについても議論している。

[6] [arxiv:2001.08786](#)

Title: ”[The orbital clusters among the near Earth asteroids](#)”

Author: Tadeusz J. Jopek

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

[理論/近地球小惑星]

約 20000 個の近地球小惑星を分類し、特に地球に衝突する可能性のあるグループを特定した (?いまいち何を言ってるのかわからないアブストでした)。

[7] [arxiv:2001.08757](#)

Title: ”[Constraining planet formation around  \$6M\_{\odot}\$ - \$8M\_{\odot}\$  stars](#)”

Author:Dimitri Veras, Pier-Emmanuel Tremblay, J.J. Hermes, Catriona H. McDonald, Grant M. Kennedy, Farzana Meru, Boris T. Gänsicke

Comments: Accepted for publication in MNRAS

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

[理論/惑星形成]

大質量星周りの惑星探しは困難だが、巨星への進化を終えた後の白色矮星周りであれば発見可能である。6-8 太陽質量の恒星の周りで形成された惑星について、巨星進化段階を生き延びる可能性について検証した。これから最大質量白色矮星 (8 太陽質量) 周りでの惑星形成過程を調べることに、それらの分光観測を行うことが期待される。

[8] [arxiv:2001.08890](#)

Title: "Sporadic and intense accretion in a 1 Myr-old brown dwarf candidate"

Author:D. Nguyen-Thanh, N. Phan-Bao, S. J. Murphy, M. S. Bessell

Comments: 17 pages, 11 figures, accepted for publication in Astronomy and Astrophysics

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

[データ解析/褐色矮星]

DENIS, 2MASS, WISE のデータを用いて、近傍の 85 個の late-M dwarfs の中から現在まだ質量降着中の褐色矮星候補を探した。1 個だけ WISE で赤外超過が見つかり、リチウムの吸収や Gaia のデータなどから年齢 1Myr で質量 47 MJ の褐色矮星であることがわかった。また H  $\alpha$  輝線のデータから、sporadic な降着が起きていることが示唆された。この降着モードは若い褐色矮星の形成に重要な役割を果たしていると考えられる。

[9] [arxiv:2001.08798](#)

Title: "The quadruple system HIP 45734"

Author:Andrei Tokovinin

Comments: Accepted by Astronomical Journal; 9 pages, 8 figures, 8 tables

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

[観測/連星]

4 重連星 (Aa, Ab, Ba, Bb) 系である HIP 45734 について分光観測を行い、質量や視差などを測定した。この系の年齢は 600 Myr ほどで、既知のどの moving group にも属していないと考えられる。

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## 1 月 28 日 (火曜日)

[1] [arxiv:2001.09839](#)

Title: "Supercatastrophic disruption of asteroids in the context of SOHO comet, fireball and meteor observations"

Author:Paul Wiegert, Peter Brown, Petr Pokorný, Quanzhi Ye, Cole Gregg, Karina Lenartowicz, Zbigniew Krzeminski, David Clark

Comments: 20 pages, 9 figures, accepted by the Astronomical Journal

Subjects:

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

[理論/観測/実験 etc....]

NEA が問題にならないか、SOHO 彗星を使って調べて見た。

[2] [arXiv:2001.09801](#)

Title: "Secular evolution of close in planets: the effects of general relativity"

Author: Francesco Marzari, Makiko Nagasawa

Comments: Accepted for publication on MNRAS

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

[理論]

離心率を持っている軌道では、外側の惑星の影響で内側の惑星が Kozai 効果を受けたり、散乱したり、マイグレーションしたりする。一般相対論を含めてセキュアな進化がどうなるかを調べた。沢山の 2 つの惑星系を作ってみると、カオスになる者がいる一方一般相対論を含めたことで安定になる軌道も存在する事が分かった。

[3] [arXiv:2001.09562](#)

Title: "The effect of CO-H<sub>2</sub>O collisions in the rotational excitation of cometary CO"

Author: A. Faure, F. Lique, J. Loreau

Comments: 8 pages, 7 figures, accepted for publication in MNRAS (January 20 2020)

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

[理論]

H<sub>2</sub>O による CO の回転励起を 5–100K で調べた。

[4] [arXiv:2001.09542](#)

Title: "Machine learning applied to simulations of collisions between rotating, differentiated planets"

Author: Miles Timpe, Maria Han Veiga, Mischa Knabenhans, Joachim Stadel, Stefano Marelli

Comments: 28 pages, 8 figures. Submitted to Computational Astrophysics and Cosmology

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

[理論]

惑星進化の最終段階では、惑星サイズの天体同士が衝突をする。準解析的にこれらの問題を解こうと敷いているが、あんまり精度がない。機械学習が最近進化しているので、衝突前後の変化などを学習させてみた。それで自転の変化や分裂するかどうかなどを調べた。

[5] [arXiv:2001.09537](#)

Title: "CO gas and dust outbursts from Centaur 29P/Schwassmann-Wachmann"

Author: Kacper Wierzchos, Maria Womack

Comments: Accepted for publication in The Astronomical Journal

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

[観測]

29P/Schwassmann Wachmann は非正規な太陽系天体。元々は短周期彗星に属していたが、現在ではケンタウルス族だと思われている。ダストのコマが 90 年間にわたって確認されていて、常にダストのアウトバーストがある。CO の観測を四衛 t、アウトバースト中の生成率の変化などをみている。

[6] [arxiv:2001.09283](#)

Title: "On the aspect ratio of Oumuamua: less elongated shape for irregular surface properties"

Author: A. Vazan, R. Sari

Comments: 7 pages, accepted for publication in MNRAS

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

[理論]

オウムアムアの短軸と長軸の比について、回転軸とこれらの関係が、太陽系の天体と違う。表面状態もちがうので、反射率などから 4 つのモデルをたてて調べて見た。表面状態が変わると、時点の見え方が変わるので、どんな形状でも説明出来てしまいそう。

[7] [arxiv:2001.09269](#)

Title: "Atmosphere Origins for Exoplanet Sub-Neptunes"

Author: Edwin S. Kite, Bruce Fegley Jr., Laura Schaefer, Eric Ford

Comments: Accepted by ApJ

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

[理論]

2-3 地球半径で、軌道周期が 100 日より短いサブネプチューンが存在するけど、よくわからん。Kepler から深いマグマの海と大気が接触して居入るようなものが見つかったけど、大気とマグマが触れるとどういう効果が生まれるのかも良く分かっていない。3000K くらいのマグマと平衡状態にある Fe-Mg-Si-O-H の系を考えてみた。H はマグマにどんどん取り込まれていくし、H<sub>2</sub> が獲得されるのも失われるのもどちらも考えられる。また、マグマの酸化状態では、惑星が同じ半径でも、質量で 20 倍くらい取り込んでいる物質の量について振幅がある。なので惑星が分かってもボラタイトルの量が決まるわけではない。

[8] [arxiv:2001.09235](#)

Title: "Capture and migration of Jupiter and Saturn in mean motion resonance in a gaseous protoplanetary disc"

Author: Raul O. Chametla, Gennaro D'Angelo, Mauricio Reyes-Ruiz, F. Javier Sanchez-Salcedo

Comments: Accepted for publication in MNRAS (14 pages, 10 figures, 3 tables)

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

[理論]

木星と土星が原始太陽系円盤の中でどう軌道進化してきたかを FARGO2D1D コードを使ってシミュレーションした。

土星と木星の間の距離  $\delta a_{SJ}$  と、土星の成長する時期を色々変えてみた。 $\delta a_{SJ}$  に依存して 1:2 の MMR に入りやすさと内側への移動 (Grand Tack) のしやすさが変わる。他の惑星系では Grand Tack のような進化はしていないものもあるかも。

[9] [arxive:2001.09175](#)

Title: "A hot terrestrial planet orbiting the bright M dwarf L 168-9 unveiled by TESS"

Author: N. Astudillo-Defru, R. Cloutier, S. X. Wang, J. Teske, R. Brahm, C. Hellier, G. Ricker, R. Vanderspek, D. Latham, S. Seager, J. N. Winn, J. M. Jenkins, K. A. Collins, K. G. Stassun, C. Ziegler, J. M. Almenara, D. R. Anderson, E. Artigau, X. Bonfils, F. Bouchy, C. Briceño, R. P. Butler, D. Charbonneau, D. M. Conti, J. Crane, I. J. M. Crossfield, M. Davies, X. Delfosse, R. F. Díaz, R. Doyon, D. Dragomir, J. D. Eastman, N. Espinoza, Z. Essack, F. Feng, P. Figueira, T. Forveille, T. Gan, A. Glidden, N. Guerrero, R. Hart, Th. Henning, E. P. Horch, G. Isopi, J. S. Jenkins, A. Jordán, J. F. Kielkopf, N. Law, C. Lovis, F. Mallia, A. W. Mann, J. R. de Medeiros, C. Melo, R. E. Mennickent, L. Mignon, F. Murgas, D. A. Nusdeo, F. Pepe, H. M. Relles, M. Rose, N. C. Santos, D. Ségransan

Comments: 14 pages, 8 figures, 3 tables. Accepted for publication in astronomy and Astrophysics

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

[観測]

周期 1.4 日のスーパーアース TOI-134 を TESS で発見。RV データなどから惑星石津亮は 4.6 地球質量くらいで、密度が 1.74 地球密度くらい。離心率が 0.21 より小さいが、大気のキャラクタリゼーションが将来出来そう。

[10] [arxive:2001.09759](#)

Title: "Gamma Ray Flashes Produced by Lightning Observed at Ground Level by TETRA-II"

Author: D. J. Pleshinger, S. T. Alnussirat, J. Arias, S. Bai, Y. Banadaki, M. L. Cherry, J. H. Hoffman, E. Khosravi, M. D. Legault, R. Rodriguez, D. Smith, D. Smith, E. del Toro, J. C. Trepanier, A. Sunda-Meya

Comments: 10 pages, 9 figures

Subjects: Atmospheric and Oceanic Physics (physics.ao-ph); Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE); Instrumentation and Methods for Astrophysics (astro-ph.IM); Instrumentation and Detectors (physics.ins-det)

[理論/観測/実験 etc....]

地上の、地球由来のガンマ線フラッシュと雷雨の観測をする TETRA-II の最初の 2 年間の報告。22 の *gamma* 線バーストを検出。

[11] [arXiv:2001.09757](#)

Title: "Spatial Analysis of Seasonal Precipitation over Iran: Co-Variation with Climate Indices"

Author: Majid Dehghani, Somayeh Salehi, Amir Mosavi, Narjes Nabipour, Shahaboddin Shamsirband, Pedram Ghamisi

Comments: 25 pages, 10 figures

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

[理論]

地球では、季節によって干ばつがあったり洪水があったりする。こういう降水量の変化は水のリソースをどう分配するかと言う判断をするときに重要。こう言うのを計算する上で地球規模の大気循環が大きな影響を持っているけど、そのうち El Nino-Southern Oscillation(ENSO) と Pacific Decadal Oscillation(PDO), North Atlantic Oscillation (NAO) とする季節性の降水量変化がどう影響を与えるかを調べた。

[12] [arXiv:2001.09584](#)

Title: "Gravitational microlensing events from the first year of the northern Galactic plane survey by the Zwicky Transient Facility"

Author: P. Mroz, R.A. Street, E. Bachelet, E.O. Ofek, E.C. Bellm, R. Dekany, D.A. Dhev, A. Gal-Yam, M.J. Graham, F.J. Masci, M. Porter, B. Rusholme, R.M. Smith, M.T. Soumagnac, J. Zolkower

Comments: 10 pages, 1 figure

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

[観測]

Zwicky Transient Facility(ZTF) と言うところで北天でのマイクロレンズイベントを監視し始めている。その最初の一年間(2018年3月から2019年6月末まで)のまとめ。

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## 1月29日(水曜日)

[1] [arXiv:2001.10458](#)

Title: "The K Dwarf Advantage for Biosignatures on Directly Imaged Exoplanets"

Author: Giada N. Arney

Comments: Published in Astrophysical Journal Letters in March 2019

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

[理論/観測/実験 etc....]

Comment!!!!

[2] [arXiv:2001.10144](#)

Title: "A Deep Search for Binary TNOs"

Author: Rosemary E. Pike, Jayatee Kanwar, Mike Alexandersen, Ying-Tung Chen,  
Megan E. Schwamb

Comments: 9 pages, 3 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[3] [arXiv:2001.10000](#)

Title: "Turbulence Regulates the Rate of Planetesimal Formation via Gravitational Collapse"

Author: Daniel A. Gole, Jacob B. Simon, Rixin Li, Andrew N. Youdin, Philip J. Armitage

Comments: Submitted to ApJ, Comments welcome

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:2001.10404](#)

Title: "The Impact of Metallicity on the Evolution of Rotation and Magnetic Activity of Sun-Like Stars"

Author: L. Amard, S. P. Matt

Comments: 14 pages, 6 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:2001.10319](#)

Title: "Efficient modeling of correlated noise I. Statistical significance of periodogram peaks"

Author: J.-B. Delisle, N. Hara, D. Ségransan

Comments: Accepted in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arxive:2001.10062](#)

Title: "Planet formation around M dwarfs via disc instability: Fragmentation conditions and protoplanet properties"

Author: Anthony Mercer, Dimitris Stamatellos

Comments: 26 pages, A&A accepted

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

[理論/観測/実験 etc....]

Comment!!!!

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## 1 月 30 日 (木曜日)

[1] [arxive:2001.10991](#)

Title: "Habitable zones around almost extremely spinning black holes (black sun revisited)"

Author: Pavel Bakala, Jan Docekal, Zuzana Turonova

Comments: 13 pages, 7 figures

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE); General Relativity and Quantum Cosmology (gr-qc)

[理論/観測/実験 etc....]

Comment!!!!

[2] [arxive:2001.10981](#)

Title: "Characterizing deposits emplaced by cryovolcanic plumes on Europa"

Author: L.C. Quick, M.M. Hedman

Comments: 50 pages, 12 Figures, accepted for publication in Icarus

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

[理論/観測/実験 etc....]

Comment!!!!

[3] [arxive:2001.10867](#)

Title: "Radial velocity constraints on the long-period transiting planet Kepler-1625 b with CARMENES"

Author: Anina Timmermann, René Heller, Ansgar Reiners, Mathias Zechmeister

Comments: 5 pages, 3 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:2001.10837](#)

Title: "Measured Lightcurves and Rotational Periods of 3122 Florence, 3830 Trelleborg, and (131077) 2000 YH105"

Author: Natasha S. Abrams, Allyson Bieryla, Sebastian Gomez, Jane Huang, John A. Lewis, Lehman H. Garrison, Theron Carmichael

Comments: 2 pages, 4 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:2001.10595](#)

Title: "Dangerous stellar encounters with an Earth-like planet in the Milky Way galaxy"

Author: Behzad Bojnordi-Arbab, Sohrab Rahvar

Comments: 9 pages, 9 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:2001.10588](#)

Title: "Formation of Planetary Populations II: Effects of Initial Disk Size & Radial Dust Drift"

Author: Matthew Alessi, Ralph E. Pudritz, Alex J. Cridland

Comments: 24 pages, 13 figures. Submitted to MNRAS; revised in response to referee

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:2001.10580](#)

Title: "Detection of the phase curve and occultation of WASP-100b with TESS"

Author: Tiffany Jansen, David Kipping

Comments: 13 pages, 6 figures, 3 tables. Submitted to MNRAS

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!!!!

[8] [arXiv:2001.10552](#)

Title: "Requirements for gravitational collapse in planetesimal formation — the impact of scales set by Kelvin-Helmholtz and nonlinear streaming instability"

Author:Konstantin Gerbig, Ruth A. Murray-Clay, Hubert Klahr, Hans Baehr

Comments: 26 pages, 11 figures, submitted to ApJ

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arXiv:2001.10545](#)

Title: "Dust entrainment in photoevaporative winds: The impact of X-rays"

Author:R. Franz, G. Picogna, B. Ercolano, T. Birnstiel

Comments: Accepted for publication in A&A. 12+6 pages, 10+9 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[10] [arXiv:2001.10543](#)

Title: "Population synthesis of exocometary gas around A stars"

Author:S. Marino, M. Flock, Th. Henning, Q. Kral, L. Matrà, M. C. Wyatt

Comments: Accepted for publication in MNRAS, 23 pages, 13 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[11] [arXiv:2001.11015](#)

Title: "Increasing the census of L and T dwarfs in wide binary and multiple systems using Dark Energy Survey DR1 and Gaia DR2 data"

Author:M. dal Ponte, B. Santiago, A. Carnero Rosell, B. Burningham, B. Yanny, J.L. Marshall, K. Bechtol, P. Martini, T.S. Li, L. De Paris, T.M.C. Abbott, M. Aguena, S. Allam, S. Avila, E. Bertin, S. Bhargava, D. Brooks, E. Buckley-Geer, M. Carrasco Kind, J. Carretero, L.N. da Costa, J. De Vicente, H.T. Diehl, P. Doel, T.F. Eifler, S. Everett, B. Flaugher, P. Fosalba, J. Frieman, J. García-Bellido, E. Gaztanaga, D.W. Gerdes, D.

Gruen, R.A. Gruendl, J. Gschwend, G. Gutierrez, S.R. Hinton, D.L. Hollowood, K. Honscheid, D.J. James, K. Kuehn, N. Kuropatkin, M.A.G. Maia, M. March, F. Menanteau, R. Miquel, A. Palmese, F. Paz-Chinchón, A.A. Plazas, E. Sanchez, V. Scarpine, S. Serrano, I. Sevilla-Noarbe, M. Smith, E. Suchyta, M.E.C. Swanson, G. Tarle, D. Thomas, T.N. Varga, A.R. Walker

Comments: 16 pages, 8 figures. Submitted to MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[12] [arXiv:2001.10879](#)

Title: "2MASS J15491331-3539118: a new low-mass wide companion of the GQ Lup system"

Author: J. M. Alcalá, F. Z. Majidi, S. Desidera, A. Frasca, C. F. Manara, E. Rigliaco, R. Gratton, M. Bonnefoy, E. Covino, G. Chauvin, R. Claudi, V. D'Orazi, M. Langlois, C. Lazzoni, D. Mesa, J.E. Schlieder, A. Vigan

Comments: 8 pages, 8 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[13] [arXiv:2001.10575](#)

Title: "Starshade formation flying I: optical sensing"

Author: Michael Bottom, Stefan Martin, Eric Cady, Megan C. Davis, Thibault Flinois, Dan Scharf, Carl Seubert, Shannon K. Zareh, Stuart Shaklan

Comments: 34 pages, 12 Figures, accepted for publication in JATIS

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

[理論/観測/実験 etc....]

Comment!!!!

[14] [arXiv:2001.10546](#)

Title: "Properties of M Dwarf Flares at Millimeter Wavelengths"

Author: Meredith A. MacGregor, Rachel A. Osten, A. Meredith Hughes

Comments: 14 pages, 5 figures, accepted to ApJ on January 27, 2020

Subjects: Solar and Stellar Astrophysics (astro-ph.SR); Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE)

[理論/観測/実験 etc....]

Comment!!!!

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## 1月31日(金曜日)

### [1] [arXiv:2001.11444](#)

Title: "Implications of three-dimensional chemical transport in hot Jupiter atmospheres: results from a consistently coupled chemistry-radiation-hydrodynamics model"

Author: Benjamin Drummond, Eric Hebrard, Nathan J. Mayne, Olivia Venot, Robert J. Ridgway, Quentin Changeat, Shang-min Tsai, James Manners, Pascal Tremblin, Nathan Luke Abraham, David Sing, Krisztian Kohary

Comments: Re-submitted to A&A following the first referee report

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

[理論/観測/実験 etc....]

Comment!!!!

### [2] [arXiv:2001.11112](#)

Title: "TraMoS V. Updated ephemeris and multi-epoch monitoring of the hot Jupiters WASP-18Ab, WASP-19b, and WASP-77Ab"

Author: Pia Cortes-Zuleta, Patricio Rojo, Songhu Wang, Tobias C. Hinse, Sergio Hoyer, Bastian Sanhueza, Patricio Correa-Amaro, Julio Albornoz

Comments: 20 pages, 8 figures. Accepted for publication in A&A

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:2001.11048](#)

Title: "MOVES III. Simultaneous X-ray and ultraviolet observations unveiling the variable environment of the hot Jupiter HD 189733b"

Author: V. Bourrier, P. J. Wheatley, A. Lecavelier des Etangs, G. King, T. Louden, D. Ehrenreich, R. Fares, Ch. Helling, J. Llama, M. M. Jardine, A. A. Vidotto

Comments: 22 pages, 21 figures, accepted for publication in MNRAS on 23 January 2020

Subjects:

Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE);  
Solar and Stellar Astrophysics (astro-ph.SR)

[理論/観測/実験 etc....]

Comment!!!!

[4] [arXiv:2001.11045](#)

Title: " $M_{\text{dust}} - M_{\star}$  Relation Hints at the Origin of Particle Traps in Protoplanetary Disks"

Author: Paola Pinilla, Ilaria Pascucci, Sebastian Marino

Comments: Accepted for publication in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:2001.11042](#)

Title: "Pebble drift and planetesimal formation in protoplanetary discs with embedded planets"

Author: Linn E.J. Eriksson, Anders Johansen, Beibei Liu

Comments: Accepted in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:2001.11040](#)

Title: "A multi-frequency ALMA characterization of substructures in the GM Aur protoplanetary disk"

Author: Jane Huang, Sean M. Andrews, Cornelis P. Dullemond, Karin I. Oberg, Chunhua Qi, Zhaohuan Zhu, Tilman Birnstiel, John M. Carpenter, Andrea Isella, Enrique Macias, Melissa K. McClure, Laura M. Perez, Richard Teague, David J. Wilner, Shangjia Zhang

Comments: 31 pages, 15 figures, accepted by ApJ. Self-calibration and imaging scripts, images, and self-calibrated visibilities available at this [https](https://github.com/jhuang123/ALMA-GM-Aur) URL

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:2001.11503](#)

Title: "The generation and sustenance of electric fields in sandstorms"

Author: Mustafa Mutiur Rahman, Wan Cheng, Ravi Samtaney

Comments: 4 pages, 5 figures, submitted to Physical Review Letters (PRL), American Physical Society

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

[理論/観測/実験 etc....]

Comment!!!!

[8] [arXiv:2001.11146](#)

Title: "ART<sup>2</sup>: A 3D Parallel Multi-wavelength Radiative Transfer Code for Continuum and Atomic and Molecular Lines"

Author: Yuexing Li, Ming F. Gu, Hidenobu Yajima, Qirong Zhu, Moupiya Maji

Comments: Submitted to MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arXiv:2001.11028](#)

Title: "The Lunar Lander Neutron and Dosimetry (LND) Experiment on Chang'E 4"

Author: Robert F. Wimmer-Schweingruber, Jia Yu, Stephan I. Böttcher, Shenyi Zhang, Sönke Burmeister, Henning Lohf, Jingnan Guo, Zigong Xu, Björn Schuster, Lars Seimetz, Johan L. Freiherr von Forstner, Ali Ravanbakhsh, Violetta Knierim, Stefan Kolbe, Hauke Woyciechowsky, Shrinivasrao R. Kulkarni, Bin Yuan, Guohong Shen, Chunqing Wang, Zheng Chang, Thomas Berger, Christine E. Hellweg, Daniel Matthiä, Donghui Hou, Alke Knappmann, Charlotte Büschel, Xufeng Hou, Baoguo Ren, Qiang Fu

Comments: 38 pages, submitted to Space Science Reviews

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

[理論/観測/実験 etc....]

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