

# 2020年 10月 第1週 新着論文サーベイ

9月28日(月曜日)

## [1] [arXiv:2009.12356](#)

Title: "The HD 217107 Planetary System: Twenty Years of Radial Velocity Measurements"

Author: Mark R. Giovannazzi, Cullen H. Blake, Jason D. Eastman, Jason Wright, Nate McCrady, Rob Wittenmyer, John A. Johnson, Peter Plavchan, David H. Sliski, Maurice L. Wilson, Samson A. Johnson, Jonathan Horner, Stephen R. Kane, Audrey Houghton, Juliana García-Mejía, Joseph P. Glaser

Comments: 8 pages, 3 figures, accepted for publication in *Astronomische Nachrichten*

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

[理論/観測/実験 etc....]

HD 217107系は、軌道周期7.13日のホットジュピター HD 217107b と軌道周期5059日の companion HD 217107c を持ち、どちらも高離心率 ( $e_b \sim 0.13, e_c \sim 0.40$ ) な軌道をしている。この系は1999年から20年間RV観測されてきたが、今回さらに42回のRV観測を行ってHD 217107bのprecessionに $\dot{\omega} < 65.9^\circ \text{century}^{-1}$ と制限をつけた。

## [2] [arXiv:2009.11904](#)

Title: "Hypothesis Perspectives: Might active volcanisms today contribute to the presence of phosphine in Venus's atmosphere?"

Author: Ngoc Truong, Jonathan I. Lunine

Comments: Submitted to *Astrobiology* journal on Sep 21, 2020

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

[理論/観測/実験 etc....]

金星でホスフィンが見つかった件について、マントルに含まれているリン化合物が火山活動によって大気中に放出され、水や硫酸と反応してホスフィンになるという、非生物由来の仮説を提唱した。オーダー計算をしてみると、現在の金星の火山活動で、検出されたレベルのホスフィンが十分説明できることがわかった。

## [3] [arXiv:2009.11893](#)

Title: "Planet migration, resonant locking and accretion streams in PDS70: Comparing models and data"

Author: Claudia Toci, Giuseppe Lodato, Valentin Christiaens, Davide Fedele, Christophe Pinte, Daniel J. Price, Leonardo Testi

Comments: 15 pages, 11 figures

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

[理論/観測/実験 etc....]

2つの惑星が直接撮像されている PDS70 系について 3次元 SPH 計算を行った。2つの惑星は migration の後、力学的に安定な共鳴に入った。結果を近赤外で模擬観測したところ、実際の観測とよく一致しており、PDS70 で観測されている特徴は惑星と円盤の力学的な相互作用のみで十分説明できることがわかった。

#### [4] [arXiv:2009.12234](#)

Title: "Gaia Search for stellar Companions of TESS Objects of Interest"

Author: M. Mugrauer, K.-U. Michel

Comments: 31 pages, 8 figures, 5 tables, accepted for publication in AN

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

[理論/観測/実験 etc....]

Gaia DR2 の中から TESS の objects of interest を選んだ。太陽から 500pc 以内にある 193 の連星と 15 の階層三重連星を選定してそれらの特徴付を行った。

#### [5] [arXiv:2009.11925](#)

Title: "Single magnetic white dwarfs with Balmer emission lines: A small class with consistent physical characteristics as possible signposts for close-in planetary companions"

Author: Boris T. Gaensicke, Pablo Rodriguez-Gil, Nicola P. Gentile Fusillo, Keith Inight, Matthias R. Schreiber, Anna F. Pala, Pier-Emmanuel Tremblay

Comments: Accepted for publication in MNRAS, 10 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!!!!

#### [6] [arXiv:2009.11913](#)

Title: "The First Stellar Parallaxes Revisited"

Author: Mark J. Reid, Karl M. Menten

Comments: To appear in Astronomische Nachrichten. 10 pages; 5 figures; 4 tables

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

[理論/観測/実験 etc....]

1830年代に初めて年周視差による星の距離測定を行った Bessel, von Struve, Henderson のデータを再解析した。

#### [7] [arXiv:2009.11899](#)

Title: "Discovery of a young low-mass brown dwarf transiting a fast-rotating F-type star by the Galactic Plane eXoplanet (GPX) survey"

Author:P. Benni, A. Y. Burdanov, V. V. Krushinsky, A. Bonfanti, G. Hébrard, J. M. Almenara, S. Dalal, O. D. S. Demangeon, M. Tsantaki, J. Pepper, K. G. Stassun, A. Vanderburg, A. Belinski, F. Kashaev, K. Barkaoui, T. Kim, W. Kang, K. Antonyuk, V. V. Dyachenko, D. A. Rastegaev, A. Beskakatov, A. A. Mitrofanova, F. J. Pozuelos, A. Popov, F. Kiefer, P. A. Wilson, G. Ricker, R. Vanderspek, D. W. Latham, S. Seager, J. M. Jenkins, E. Sokov, I. Sokova, A. Marchini, R. Papini, F. Salvaggio, M. Banfi, Ö. Baştürk, Ş. Torun, S. Yalçinkaya, K. Ivanov, G. Valyavin, E. Jehin, M. Gillon, E. Pakštienė, V.-P. Hentunen, S. Shadick, M. Bretton, A. Wünsche, J. Garlitz, Y. Jongen, D. Molina, E. Girardin, F. Grau Horta, R. Naves, Z. Benkhaldoun, M. D. Joner, M. Spencer

Comments: 12 pages, 11 figures, submitted to MNRAS on 4 July 2020

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

[理論/観測/実験 etc....]

the Galactic Plane exoplanet (GPX) サーベイで、質量  $19.7 \pm 1.6 M_j$ 、半径  $1.47 \pm 0.10 R_j$  のトランジット褐色矮星を発見した。

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## 9月29日(火曜日)

[1] [arxiv:2009.13403](https://arxiv.org/abs/2009.13403)

Title: "The hot dayside and asymmetric transit of WASP-189b seen by CHEOPS"

Author:M. Lendl, Sz. Csizmadia, A. Deline, L. Fossati, D. Kitzmann, K. Heng, S. Hoyer, S. Salmon, W. Benz, C. Broeg, D. Ehrenreich, A. Fortier, D. Queloz, A. Bonfanti, A. Brandeker, A. Collier Cameron, L. Delrez, A. Garcia Muñoz, M.J. Hooton, P.F.L. Maxted, B.M. Morris, V. Van Grootel, T.G. Wilson, Y. Alibert, R. Alonso, J. Asquier, T. Bandy T. Bárczy, D. Barrado, S.C.C Barros, W. Baumjohann, M. Beck, T. Beck, A. Bekkelien, M. Bergomi, N. Billot, F. Biondi, X. Bonfils, V. Bourrier, M-D. Busch, J. Cabrera, V. Cessa, S. Charnoz, B. Chazelas, C. Corral Van Damme, M.B. Davies, M. Deleuil, O.D.S Demangeon, B.-O. Demory, A. Erikson, J. Farinato, M. Fridlund, D. Futyan, D. Gandolfi, M. Gillon, P. Guterman, J. Hasiba, E. Hernandez, K.G. Isaak, L. Kiss, T. Kuntzer, A. Lecavelier des Etangs, T. Lüftinger

Comments: In press at Astronomy and Astrophysics

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

[観測/CHEOPS]

2019年12月に打ち上げられたトランジット探査衛星 CHEOPS による初めてのトランジット観測の結果について。WASP-189b(2木星質量)のトランジットを4回観測した。トランジット時のライトカーブは非対称な形であり、主星の gravity darkening の影響と考えられる。この効果をモデルに組み込んで解析し、惑星半径を1.6木星半径と見積もった。

[2] [arxiv:2009.13386](#)

Title: "Hot Exoplanet Atmospheres Resolved with Transit Spectroscopy (HEARTS) VI. Non-detection of sodium with HARPS on the bloated super-Neptune WASP-127b"

Author: J. V. Seidel, M. Lendl, V. Bourrier, D. Ehrenreich, R. Allart, S. G. Sousa, H. M. Cegla, X. Bonfils, U. Conod, A. Grandjean, A. Wyttenbach, N. Astudillo-Defru, D. Bayliss, Kevin Heng, B. Lavie, C. Lovis, C. Melo, F. Pepe, D. Ségransan, S. Udry

Comments: 11 pages, 11 figures, accepted for publication in A&A

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

[観測/透過分光]

WASP-127b は膨張した大気を持つ super Neptune であり、透過分光のよいターゲットである。今回 HARPS で透過分光を行い Na の吸収線を検出した。これは先行研究と矛盾する。原因は地球大気のコタミと考えられる。この効果を考慮して再解析したところ、Na の吸収線の深さは  $2.3\sigma$  となり、先行研究と整合した。

[3] [arxiv:2009.13208](#)

Title: "Thermophysical model for icy cometary dust particles"

Author: Johannes Markkanen, Jessica Agarwal

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

[理論/観測/実験 etc....]

Comment!!!!

[4] [arxiv:2009.12856](#)

Title: "Machine Learning for Searching the Dark Energy Survey for Trans-Neptunian Objects"

Author: B. Henghes, O. Lahav, D. W. Gerdes, E. Lin, R. Morgan, T. M. C. Abbott, M. Agüena, S. Allam, J. Annis, S. Avila, E. Bertin, D. Brooks, D. L. Burke, A. CarneroRosell, M. CarrascoKind, J. Carretero, C. Conselice, M. Costanzi, L. N. da Costa, J. DeVicente, S. Desai, H. T. Diehl, P. Doel, S. Everett, I. Ferrero, J. Frieman, J. García-Bellido, E. Gaztanaga, D. Gruen, R. A. Gruendl, J. Gschwend, G. Gutierrez, W. G. Hartley, S. R. Hinton, K. Honscheid, B. Hoyle, D. J. James, K. Kuehn, N. Kuropatkin,

J. L. Marshall, P. Melchior, F. Menanteau, R. Miquel, R. L. C. Ogando, A. Palmese, F. Paz-Chinchón, A. A. Plazas, A. K. Romer, C. Sánchez, E. Sanchez, V. Scarpine, M. Schubnell, S. Serrano, M. Smith, M. Soares-Santos, E. Suchyta, G. Tarle, C. To, R. D. Wilkinson

Comments: Submitted to PASP, 15 pages, 5 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arxiv:2009.12832](#)

Title: "An Ultra-Hot Neptune in the Neptune desert"

Author: James S. Jenkins, Matías R. Díaz, Nicolás T. Kurtovic, Néstor Espinoza, Jose I. Vines, Pablo A. Peña Rojas, Rafael Brahm, Pascal Torres, Pía Cortés-Zuleta, Maritza G. Soto, Eric D. Lopez, George W. King, Peter J. Wheatley, Joshua N. Winn, David R. Ciardi, George Ricker, Roland Vanderspek, David W. Latham, Sara Seager, Jon M. Jenkins, Charles A. Beichman, Allyson Bieryla, Christopher J. Burke, Jessie L. Christiansen, Christopher E. Henze, Todd C. Klaus, Sean McCauliff, Mayuko Mori, Norio Narita, Taku Nishiumi, Motohide Tamura, Jerome Pitogo de Leon, Samuel N. Quinn, Jesus Noel Villaseñor, Michael Vezie, Jack J. Lissauer, Karen A. Collins, Kevin I. Collins, Giovanni Isopi, Franco Mallia, Andrea Ercolino, Cristobal Petrovich, Andrés Jordán, Jack S. Acton

Comments: 26 pages, 10 figures, 3 tables. Published in Nature Astronomy (21/09/2020)

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

[観測/ultra-hot neptune]

公転周期 1 日以下の超短周期惑星としてこれまで知られていたのは、hot Jupiter(>10Re) か岩石惑星 (<2Re) のみであった。その中間のサイズの惑星が欠落していることは hot Neptune desert と呼ばれ、強い主星の放射のもとで低質量の惑星が厚いエンベロープを保持できないことが原因とされている。今回、TESS の観測から Neptune desert に惑星を発見した。Sun-like な星 LTT9779 の周りを周期 0.79 日で公転し、エンベロープの質量は全体の 9% 程度、温度は 2000K と見積もられる。エンベロープを保持できるメカニズムは不明。

[6] [arxiv:2009.12830](#)

Title: "Dippers from the TESS Full-Frame Images I: The Results of the first 1 year data and Discovery of A Runaway dipper"

Author: Tomoyuki Tajiri, Hajime Kawahara, Masataka Aizawa, Michiko S. Fujii, Kohei Hattori, Yui Kasagi, Takayuki Kotani, Kento Masuda, Munetake

Momose, Takayuki Muto, Ryou Ohsawa, Satoshi Takita

Comments: 18 pages, 20 figures; accepted for publication in The Astrophysical Journal Supplement

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

[観測/young stellar object]

TESS の 1 年分の測光データから、一時的な減光を示す YSO(dipper) を 35 個発見した。減光の原因は星周物質による掩蔽とする説があるが、今回発見した天体のうち 3 個の年齢は、円盤が散逸するタイムスケールよりも大きかった。また、72 km/s の速度で分子雲中から逃げ出していくような dipper も発見した。

[7] [arxiv:2009.12758](#)

Title: "Is Phosphine in the Mass Spectra from Venus' Clouds?"

Author: Rakesh Mogul, Sanjay S. Limaye, M. J. Way, Jamie A. Cordova, Jr

Comments: 1200 words, 1 figure

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

[観測/金星の phosphine]

Greaves et al. が金星大気中に phosphine(PH<sub>3</sub>) を検出したことを受け、Pioneer 探査機のデータを再解析してみた。ハビタブルと思われる高度 50-60 km の領域のデータは、PH<sub>3</sub> の存在を支持するものだった。

[8] [arxiv:2009.12605](#)

Title: "Critical spin periods of sub-km-sized cohesive rubble-pile asteroids: dependencies on material parameters"

Author: Shoucun Hu, Derek C. Richardson, Yun Zhang, Jianghui Ji

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arxiv:2009.12601](#)

Title: "Detection of the Occultation of 55 Cancri e with TESS"

Author: David Kipping, Tiffany Jansen

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

[理論/観測/実験 etc....]

連星系である 55 Cancri(かに座 55 番星) の惑星 55 Cancri e について、TESS の測光データを解析し、輝度温度を 2800K と見積もった。

[10] [arxiv:2009.12489](#)

Title: "The Formation of the Cold Classical Kuiper Belt by a Short Range Transport Mechanism"

Author: Rodney Gomes

Subjects:

Earth and Planetary Astrophysics (astro-ph.EP)

[理論/観測/実験 etc....]

Comment!!!!

[11] [arXiv:2009.12411](#)

Title: "How Does Thermal Scattering Shape the Infrared Spectra of Cloudy Exoplanets? A Theoretical Framework and Consequences for Atmospheric Retrievals in the JWST era"

Author: Jake Taylor, Vivien Parmentier, Michael R. Line, Graham K. H. Lee, Patrick G. J. Irwin, Suzanne Aigrain

Comments: Submitted to MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[12] [arXiv:2009.12377](#)

Title: "A terrestrial-mass rogue planet candidate detected in the shortest-timescale microlensing event"

Author: P. Mroz, R. Poleski, A. Gould, A. Udalski, T. Sumi, M.K. Szymanski, I. Soszynski, P. Pietrukowicz, S. Kozlowski, J. Skowron, K. Ulaczyk, M.D. Albrow, S.-J. Chung, C. Han, K.-H. Hwang, Y.K. Jung, H.-W. Kim, Y.-H. Ryu, I.-G. Shin, Y. Shvartzvald, J.C. Yee, W. Zang, S.-M. Cha, D.-J. Kim, S.-L. Kim, C.-U. Lee, D.-J. Lee, Y. Lee, B.-G. Park, R.W. Pogge

Comments: submitted

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

[観測/重力レンズ]

これまでで最短 (41.5 min) のタイムスケールをもつ重力レンズイベント OGLE-2016-BLG-1928 を解析した。レンズ天体の質量は火星か地球程度と見積もられ、浮遊惑星だと考えられる。

[13] [arXiv:2009.13515](#)

Title: "TOI-811b and TOI-852b: New transiting brown dwarfs with similar masses and very different radii and ages from the TESS mission"

Author: Theron W. Carmichael, Samuel N. Quinn, George Zhou, Nolan Grieves, Francois Bouchy, Karen A. Collins, John F. Kielkopf, Richard P. Schwarz, Andrew M. Vanderburg, Jonathan M. Irwin, David Charbonneau, Carl Ziegler, Cesar Briceño, Nicholas Law, Andrew W. Mann, Chelsea Huang,

Avi Shporer, Joseph E. Rodriguez, Keivan G. Stassun, David W. Latham

Comments: 20 pages, 12 figures, 7 tables, submitted 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!!!!

[14] [arXiv:2009.13095](#)

Title: "Dynamic mode decomposition to retrieve torsional Alfvén waves"

Author: Kumiko Hori, Steven M. Tobias, Robert J. Teed

Comments: 7 pages, 11 figures, Proceedings of the Japan Society of Fluid Mechanics Annual Meeting 2020, Virtual, 18-20 September 2020

Subjects: Fluid Dynamics (physics.flu-dyn); Earth and Planetary Astrophysics (astro-ph.EP); Geophysics (physics.geo-ph)

[理論/観測/実験 etc....]

Comment!!!!

[15] [arXiv:2009.12807](#)

Title: "Exploring the near-surface at the lunar South Pole with geophysical tools"

Author: C. Schmelzbach, S. Stähler, N. C. Schmerr, M. Knapmeyer, D. Sollberger, P. Edme, A. Khan, N. Brinkman, L. Ferraioli, J. O. A. Robertsson, D. Giardini

Comments: 2 pages, 1 figure, 27 references

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

[理論/観測/実験 etc....]

Comment!!!!

[16] [arXiv:2009.12621](#)

Title: "A Titan mission using the Direct Fusion Drive"

Author: Marco Gajeri, Paolo Aime, Roman Ya. Kezerashvili

Comments: 15 pages, 7 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[17] [arXiv:2009.12465](#)

Title: "Critical Laboratory Studies to Advance Planetary Science and Support Missions"

Author:



Edith Fayolle, Laurie Barge, Morgan Cable, Brian Drouin, Jason Dworkin, Jennifer Hanley, Bryana Henderson, Baptiste Journaux, Aaron Noell, Farid Salama, Ella Sciamma-O'Brien, Sarah Waller, Jessica Weber, Christopher Bennett, Jurgen Blum, Murthy Gudipati, Stefanie Milam, Mohit Melwani-Daswani, Michel Nuevo, Silvia Protopapa, Rachel Smith

Comments: White paper submitted to the Planetary Science Decadal Survey 2013-2022

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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## 9月30日(水曜日)

### [1] [arXiv:2009.14164](#)

Title: "Determining the true mass of radial-velocity exoplanets with Gaia: 9 planet candidates in the brown-dwarf/stellar regime and 27 confirmed planets"

Author: Flavien Kiefer, Guillaume Hébrard, Alain Lecavelier, Eder Martioli, Shweta Dalal, Alfred Vidal-Madjar

Comments: 32 pages, 23 figures, 10 tables, accepted for publication in Astronomy & Astrophysics

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:2009.14142](#)

Title: "Migration of gap-opening planets in 3D stellar-irradiated accretion disks"

Author: Ondřej Chrenko, David Nesvorný

Comments: Accepted for publication in A&A, 17 pages, 15 figures

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

[理論/観測/実験 etc....]

Comment!!!!

### [3] [arXiv:2009.14132](#)

Title: "Maintaining the Ephemeris of 20 CoRoT Planets: Transit Minimum Times and Potential Transit Timing Variations"

Author: Hans J. Deeg, Peter Klagyivik, J.D. Armstrong, David Nespral, Lev Tal-Or, Roi Alonso, Richelle Cabatic, Cameron Chaffey, Bartek Gauza, Sergio

Hoyer, Christopher J. Lindsay, Paulo Miles-Páez, Patricio Rojo, Brandon Tingley

Comments: Accepted by JAAVSO. 26 pages including two appendices

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:2009.14103](#)

Title: "Constraints on effusive cryovolcanic eruptions on Europa using topography from Galileo images"

Author: Elodie Lesage, Frédéric Schmidt, François Andrieu, Hélène Massol

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:2009.14078](#)

Title: "Gamma Ray Bursts: Not so Much Deadlier than We Thought"

Author: Brian C. Thomas, Dimitra Atri, Adrian L. Melott

Comments: Submitted to MNRAS

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE); Atmospheric and Oceanic Physics (physics.ao-ph)

[理論/観測/実験 etc....]

Comment!!!!

[6] [arXiv:2009.14072](#)

Title: "A belt-like distribution of gaseous hydrogen cyanide on Neptune's equatorial stratosphere detected by ALMA"

Author: Takahiro Iino, Hideo Sagawa, Takashi Tsukagoshi, Satonori Nozawa

Comments: Accepted to the Astrophysical Journal Letters

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arXiv:2009.14044](#)

Title: "Spectral reflectance analysis of type 3 carbonaceous chondrites and search for their asteroidal parent bodies"

Author: Jolantha Escrig, Lydie Bonal, Pierre Beck, Trygve Prestgard

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

[理論/観測/実験 etc....]

Comment!!!!

[8] [arxiv:2009.14029](#)

Title: "Mineralogy, chemistry and composition of organic compounds in the fresh carbonaceous chondrite Mukundpura: CM1 or CM2?"

Author: S. Potin, P. Beck, L. Bonal, B. Schmitt, A. Garenne, F. Moynier, A. Agranier, P. Schmitt-Kopplin, A.K. Malik, E. Quirico

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

[理論/観測/実験 etc....]

Comment!!!!

[9] [arxiv:2009.13950](#)

Title: "The iron record of asteroidal processes in carbonaceous chondrites"

Author: A. Garenne, P. Beck, G. Montes-Hernandez, L. Bonal, E. Quirico, O. Proux, J.L. Hazemann

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

[理論/観測/実験 etc....]

Comment!!!!

[10] [arxiv:2009.13872](#)

Title: "Timing of thermal metamorphism in CM chondrites: implication for Ryugu and Bennu future sample return"

Author: Elsa Amsellem, Frédéric Moynier, Brandon Mahan, Pierre Beck

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

[理論/観測/実験 etc....]

Comment!!!!

[11] [arxiv:2009.13852](#)

Title: "Machine Learning for Semi-Automated Meteorite Recovery"

Author: Seamus Anderson, Martin Towner, Phil Bland, Christopher Haikings, William Volante, Eleanor Sansom, Hadrien Devillepoix, Patrick Shober, Benjamin Hartig, Martin Cupak, Trent Jansen-Sturgeon, Robert Howie, Gretchen Benedix, Geoff Deacon

Comments: 15 pages, 3 figures, 2 tables

Subjects: Earth and Planetary Astrophysics (astro-ph.EP); Computer Vision and Pattern Recognition (cs.CV); Machine Learning (cs.LG)

[理論/観測/実験 etc....]

Comment!!!!

[12] [arXiv:2009.13844](#)

Title: "Component properties and mutual orbit of binary main-belt comet 288P/(300163) 2006 VW139"

Author: Jessica Agarwal, Yoonyoung Kim, David Jewitt, Max Mutchler, Harold Weaver, Stephen Larson

Comments: 39 pages, 7 figures, 2 tables, 3 appendices with 28 additional figures, accepted for publication in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

[13] [arXiv:2009.13823](#)

Title: "The widest broadband transmission spectrum (0.38-1.71  $\mu\text{m}$ ) of HD 189733b from ground-based chromatic Rossiter-McLaughlin observations"

Author: M. Oshagh, F. F. Bauer, M. Lafarga, K. Molaverdikhani, P. J. Amado, L. Nortmann, A. Reiners, A. Guzmán-Mesa, E. Pallé, E. Nagel, J. A. Caballero, N. Casasayas-Barris, A. Claret, S. Czesla, D. Galadí, Th. Henning, S. Khalafinejad, M. López-Puertas, D. Montes, A. Quirrenbach, I. Ribas, M. Stangret, F. Yan, M. R. Zapatero Osorio, M. Zechmeister

Comments: 10 pages, 8 figures, 4 tables, 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!!!!

[14] [arXiv:2009.13733](#)

Title: "The Eris/Dysnomia system I: The orbit of Dysnomia"

Author: Bryan J. Holler, William M. Grundy, Marc W. Buie, Keith S. Noll

Comments: 21 pages, 4 figures, 2 tables, accepted by Icarus

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

[理論/観測/実験 etc....]

Comment!!!!

[15] [arXiv:2009.13638](#)

Title: "The Phase-curve Signature of Condensable Water-rich Atmospheres on Slowly Rotating Tidally Locked Exoplanets"

Author:Feng Ding, Raymond T. Pierrehumbert

Comments: 15 pages, 4 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[16] [arXiv:2009.13623](#)

Title: "TOI 540 b: A Planet Smaller than Earth Orbiting a Nearby Rapidly Rotating Low-mass Star"

Author:Kristo Ment, Jonathan Irwin, David Charbonneau, Jennifer G. Winters, Amber Medina, Ryan Cloutier, Matías R. Díaz, James S. Jenkins, Carl Ziegler, Nicholas Law, Andrew W. Mann, George Ricker, Roland Vanderpek, David W. Latham, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Robert F. Goeke, Alan M. Levine, Bárbara Rojas-Ayala, Pamela Rowden, Eric B. Ting, Joseph D. Twicken

Comments: 18 pages, 7 figures. Accepted for publication in The Astronomical Journal

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

[理論/観測/実験 etc....]

Comment!!!!

[17] [arXiv:2009.13525](#)

Title: "Hints for icy pebble migration feeding an oxygen-rich chemistry in the inner planet-forming region of disks"

Author:Andrea Banzatti, Ilaria Pascucci, Arthur D. Bosman, Paola Pinilla, Colette Salyk, Greg J. Herczeg, Klaus M. Pontoppidan, Ivan Vazquez, Andrew Watkins, Sebastiaan Krijt, Nathan Hendler, Feng Long

Comments: Accepted for publication on ApJ

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

[理論/観測/実験 etc....]

Comment!!!!

[18] [arXiv:2009.13757](#)

Title: "Organic matter in interstellar dust lost at the approach to the heliosphere: Exothermic chemical reactions of free radicals ignited by the Sun"

Author:Hiroshi Kimura, Frank Postberg, Nicolas Altobelli, Mario Trieloff

Comments: 9 pages, 6 figures, to appear in Astronomy & Astrophysics

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

[理論/観測/実験 etc....]

Comment!!!!

[19] [arxiv:2009.13539](#)

Title: "The best place and time to live in the Milky Way"

Author: R. Spinelli, G. Ghirlanda, F. Haardt, G. Ghisellini, G. Scuderi

Comments: 10 pages, 8 figures, 4 tables. Submitted to Astronomy & Astrophysics

Subjects: High Energy Astrophysical Phenomena (astro-ph.HE); Earth and Planetary Astrophysics (astro-ph.EP);  
Astrophysics of Galaxies (astro-ph.GA)

[理論/観測/実験 etc....]

Comment!!!!

[20] [arxiv:2009.12375](#)

Title: "CRAHCN-O: A Consistent Reduced Atmospheric Hybrid Chemical Network Oxygen Extension for Hydrogen Cyanide and Formaldehyde Chemistry in CO<sub>2</sub>-, N<sub>2</sub>-, H<sub>2</sub>O-, CH<sub>4</sub>-, and H<sub>2</sub>-Dominated Atmospheres"

Author: Ben K. D. Pearce, Paul W. Ayers, Ralph E. Pudritz

Comments: Accepted for publication in J Phys Chem A, 21 pages, 4 tables, 35 supplementary pages

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

[理論/観測/実験 etc....]

Comment!!!!

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10月1日(木曜日)

[1] [arxiv:2009.14723](#)

Title: "Application of Orbital Stability and Tidal Migration Constraints for Exomoon Candidates"

Author: Billy Quarles, Gongjie Li, Marialis Rosario-Franco

Comments: 6 pages, 4 figures, 1 table; Accepted for publication in ApJL; for the GitHub repository, see this [https URL](#)

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

[理論/観測/実験 etc....]

Comment!!!!

[2] [arxiv:2009.14599](#)

Title: "Effect of mantle oxidation state and escape upon the evolution of Earth's magma ocean atmosphere"

Author:Nisha Katyal, Gianluigi Ortenzi, John Lee Grenfell, Lena Noack, Frank Sohl, Mareike Godolt, Antonio García Muñoz, Franz Schreier, Fabian Wunderlich, Heike Rauer

Comments: 26 pages, 15 figures, accepted for publication

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

[理論/観測/実験 etc....]

Comment!!!!

[3] [arXiv:2009.14528](#)

Title: "VIBES: Visual Binary Exoplanet survey with SPHERE Upper limits on wide S-planet and S-BD frequencies, triple system discovery, and astrometric confirmation of 20 stellar binaries and three triple systems"

Author:J. Hagelberg, N. Engler, C. Fontanive, S. Daemgen, S. P. Quanz, J. Kühn, M. Reggiani, M. Meyer, R. Jayawardhana, V. Kostov

Comments: Accepted for publication in Astronomy & Astrophysics on 18.09.2020 21 pages, 11 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:2009.14486](#)

Title: "Spectral investigation of Ceres analogue mixtures: in-depth analysis of crater central peak material (ccp) on Ceres"

Author:A. Galiano, F. Dirri, E. Palomba, A. Longobardo, B. Schmitt, P. Beck

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arXiv:2009.14476](#)

Title: "Infrared detection of aliphatic organics on a cometary nucleus"

Author:A. Raponi, M. Ciarniello, F. Capaccioni, V. Mennella, G. Filacchione, V. Vinogradoff, O. Poch, P. Beck, E. Quirico, M. C. De Sanctis, L. Moroz, D. Kappel, S. Erard, D. Bockelée-Morvan, A. Longobardo, F. Tosi, E. Palomba, J.-P. Combe, B. Rousseau, G. Arnold, R. W. Carlson, A. Pomerol, C. Pilorget, S. Fornasier, G. Bellucci, A. Barucci, F. Mancarella, M. Formisan, G. Rinaldi, I. Istiqomah, C. Leyrat

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

[理論/観測/実験 etc....]

Comment!!!!

[6] [arxive:2009.14234](#)

Title: "On the possibility of through passage of asteroid bodies across the Earth's atmosphere"

Author: Daniil E. Khrennikov, Andrei K. Titov, Alexander E. Ershov, Vladimir I. Pariev, Sergei V. Karpov

Comments: 8 pages, 13 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[7] [arxive:2009.14228](#)

Title: "Planet formation and disk mass dependence in a pebble-driven scenario for low mass stars"

Author: Spandan Dash, Yamila Miguel

Comments: Accepted for publication in Monthly Notices of the Royal Astronomical Society Main Journal on 29th September 2020

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

[理論/観測/実験 etc....]

Comment!!!!

[8] [arxive:2009.14216](#)

Title: "ALMA and VLA Observations of EX Lupi in its Quiescent State"

Author: Jacob Aaron White, Á. Kóspál, A. G. Hughes, P. Ábrahám, V. Akimkin, A. Banzatti, L. Chen, F. Cruz-Sáenz de Miera, A. Dutrey, M. Flock, S. Guilloteau, A. S. Hales, T. Henning, K. Kadam, D. Semenov, A. Sicilia-Aguilar, R. Teague, E. I. Vorobyov

Comments: Accepted to ApJ, 15 pages, 8 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!!!!

[9] [arxive:2009.14204](#)

Title: "Constraining the Circumbinary Disk Tilt in the KH 15D system"

Author: Michael Poon, J. J. Zanazzi, Wei Zhu



Comments: 17 pages, 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:2009.14736](#)

Title: "Zero net flux MRI-turbulence in disks – sustenance scheme and magnetic Prandtl number dependence"

Author: G. Mamatsashvili, G. Chagelishvili, M. Pessah, F. Stefani, G. Bodo

Comments: 26 pages, 16 figures, accepted for publication in the Astrophysical Journal

Subjects: High Energy Astrophysical Phenomena (astro-ph.HE); Earth and Planetary Astrophysics (astro-ph.EP); Solar and Stellar Astrophysics (astro-ph.SR); Fluid Dynamics (physics.flu-dyn); Plasma Physics (physics.plasm-ph)

[理論/観測/実験 etc....]

Comment!!!!

[11] [arXiv:2009.14366](#)

Title: "The Case for Non-Cryogenic Comet Nucleus Sample Return"

Author: Keiko Nakamura-Messenger, Alexander G. Hayes, Scott Sandford, Carol Raymond, Steven W. Squyres, Larry R. Nittler, Samuel Birch, Denis Bodewits, Nancy Chabot, Meenakshi Wadhwa, Mathieu Choukroun, Simon J. Clemett, Maitrayee Bose, Neil Dello Russo, Jason P. Dworkin, Jamie E. Elsila, Kenton Fisher, Perry Gerakines, Daniel P. Glavin, Julie Mitchell, Michael Mumma, Ann. N. Nguyen, Lisa Pace, Jason Soderblom, Jessica M. Sunshine

Comments: White Paper submitted to the Planetary Science Decadal Survey 2023-2032 reflecting the viewpoints of three New Frontiers comet sample return missions proposal teams, CAESAR, CONDOR, and CORSAIR

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!!!!

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10月2日(金曜日)

[1] [arXiv:2010.00559](#)

Title: "An In-Plane  $J_2$ -Invariance Condition and Control Algorithm for Highly Elliptical Satellite Formations"

Author: Jackson Kulik

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

[理論/観測/実験 etc....]

人工衛星群を形成するためには、段階的に衛星を打ち上げてうまく衛星同士が近接しないようにする必要がある。推進剤の量を最低限に抑えて複数衛星を段階的に形成する新たな条件を提案している。

[2] [arXiv:2010.00485](#)

Title: "How planetary gas accretion changes the shape and depth of gaps in protoplanetary discs"

Author: C. Bergez-Casalou, B. Bitsch, A. Pierens, A. Crida, S. N. Raymond

Comments: Accepted in Astronomy and Astrophysics

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

[理論/観測/実験 etc....]

巨大ガス惑星が原始惑星系円盤にギャップを開けることはよく知られているが、成長中の惑星へのガスの流入がギャップの構造にどのような影響を与えているのかはまだよくわかっていない。流体シミュレーションによってそれらについて調べた。

[3] [arXiv:2010.00474](#)

Title: "The CARMENES search for exoplanets around M dwarfs. Three temperate to warm super-Earths"

Author: S. Stock, E. Nagel, J. Kemmer, V. M. Passegger, S. Reffert, A. Quirrenbach, J. A. Caballero, S. Czesla, V. J. S. Béjar, C. Cardona, E. Díez-Alonso, E. Herrero, S. Lalitha, M. Schlecker, L. Tal-Or, E. Rodríguez, C. Rodríguez-López, I. Ribas, A. Reiners, P. J. Amado, F. F. Bauer, P. Bluhm, M. Cortés-Contreras, L. González-Cuesta, S. Dreizler, A. P. Hatzes, Th. Henning, S. V. Jeffers, A. Kaminski, M. Kürster, M. Lafarga, M. J. López-González, D. Montes, J. C. Morales, S. Pedraz, P. Schöfer, A. Schweitzer, T. Trifonov, M. R. Zapatero Osorio, M. Zechmeister

Comments: Accepted for publication in A&A

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....]

近赤外 RV サーベイ CARMENES のデータを用いた、GJ251・HD238090・Lalande21185 の3つのM型星周りにある、3つの平衡温度400KくらいのSuper-Earthの発見論文。

[4] [arXiv:2010.00146](#)

Title: "Beyond Equilibrium Temperature: How the Atmosphere/Interior Connec-

tion Affects the Onset of Methane, Ammonia, and Clouds in Warm Transiting Giant Planets”

Author:Jonathan J. Fortney, Channon Visscher, Mark S. Marley, Callie E. Hood, Michael R. Line, Daniel P. Thorngren, Richard S. Freedman, Roxana Lupu

Comments: Revised for AJ

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

[理論/観測/実験 etc....]

Comment!!!!

[5] [arxiv:2010.00316](#)

Title: ”ESPRESSO@VLT – On-sky performance and first results”

Author:F. Pepe, S. Cristiani, R. Rebolo, N. C. Santos, H. Dekker, A. Cabral, P. Di Marcantonio, P. Figueira, G. Lo Curto, C. Lovis, M. Mayor, D. Mégevand, P. Molaro, M. Riva, M. R. Zapatero Osorio, M. Amate, A. Manescau, L. Pasquini, F. M. Zerbi, V. Adibekyan, M. Abreu, M. Affolter, Y. Alibert, M. Aliverti, R. Allart, C. Allende Prieto, D. Álvarez, D. Alves, G. Avila, V. Baldini, T. Bandy, S. C. C. Barros, W. Benz, A. Bianco, F. Borsa, V. Bourrier, F. Bouchy, C. Broeg, G. Calderone, R. Cirami, J. Coelho, P. Conconi, I. Coretti, C. Cumani, G. Cupani, V. D’Odorico, M. Damasso, S. Deiries, B. Delabre, O. D. S. Demangeon, X. Dumusque, D. Ehrenreich, J. P. Faria, A. Frago, L. Genolet, M. Genoni, R. Génova Santos, J. I. González Hernández, I. Hughes, O. Iwert, F. Kerber

Comments: 26 pages, 28 figures

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

[理論/観測/実験 etc....]

VLT に搭載された ESPRESSO の性能報告。ESPRESSO は高分解能分光器で、主に系外惑星や天体物理の研究を行う。VLT の4つのユニット望遠鏡 (UT) のいずれかで波長分解能 14 万 19 万を達成し、UT を組み合わせることで直径 16m の望遠鏡として機能する。

[6] [arxiv:2010.00209](#)

Title: ”Spatially resolved study of the Local Group galaxies”

Author:Chikako Yasui

Comments: Proceedings of IAU Symposium 347, Early Science with ELTs (EASE), Vienna, August 2018, (eds.) Norbert Przybilla, Karen Pollard, Annalisa Calamida. Online at this [https URL](#)

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

[理論/観測/実験 etc....]

ELT 観測の提案書? ELT の高分解能と高感度により、Local group galaxy における IMF や原始惑星系円盤の進化について調べることができる。

[7] [arXiv:2010.00015](#)

Title: "Exoplanets as New Sub-GeV Dark Matter Detectors"

Author: Rebecca K. Leane, Juri Smirnov

Comments: 26 pages, 8 figures, 10000000000+ exoplanets. Comments welcome!

Subjects: High Energy Physics - Phenomenology (hep-ph); Cosmology and Nongalactic Astrophysics (astro-ph.CO); Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE)

[理論/観測/実験 etc....]

ダークマター (DM) は散乱し、対消滅エネルギーの堆積から系外惑星内の熱流を増加させる可能性がある。1MeV 以上の質量を持った DM は、 $10^{-37}$  cm<sup>2</sup> の電子・陽子との衝突断面積を持ち、既存の近赤外望遠鏡の感度で熱の excess が受かる。

[8] [arXiv:2010.00012](#)

Title: "An ALMA survey of  $\lambda$  Orionis disks: from supernovae to planet formation"

Author: Megan Ansdell, Thomas J. Haworth, Jonathan P. Williams, Stefano Facchini, Andrew Winter, Carlo F. Manara, Alvaro Hacar, Eugene Chiang, Sierk van Terwisga, Nienke van der Marel, Ewine F. van Dishoeck

Comments: 21 pages, 8 figures, 3 tables. Accepted to AAS Journals

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....]

ALMA で大質量 OB 星団 ( $\lambda$  Orion) の原始惑星系円盤のサーベイを行い、近傍大質量 OB 型星が惑星形成にどのような影響を与えているのかを調べた。また、 $\lambda$  Orion のコア内で 100 万年前に発生した (であろう) 超新星爆発による影響も考えた。結果、円盤内の惑星形成物質はこれらによっては有意には減少していないということがわかった。

[9] [arXiv:2010.00007](#)

Title: "A High-Cadence UV-Optical Telescope Suite On The Lunar South Pole"

Author: Scott W. Fleming, Thomas Barclay, Keaton J. Bell, Luciana Bianchi, C. E. Brasseur, JJ Hermes, R. O. Parke Loyd, Chase Million, Rachel Osten, Armin Rest, Ryan Ridden-Harper, Joshua Schlieder, Evgenya L. Shkolnik, Paula Szkody, Brad E. Tucker, Michael A. Tucker, Allison Youngblood

Comments: 2 pages, white paper submitted to the Artemis III Science Definition Team

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....]

月の南極への望遠鏡建設の提案。大気がない分紫外域の観測が可能になり、可視光 遠紫外域で広視野高頻度測光を行

える設備であると良さそう。

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Nature

ない

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Science

ない