2020年 9月 第3週　新着論文サーベイ

9月 14日 (月曜日)

[1] arxive:2009.05525

Title: "Comet-like tails of disintegrating exoplanets explained by escaping outflows emanated from the permanent nightside: day-side versus night-side escape"

Author:Wanying Kang, Feng Ding, Robin Wordsworth, Sara Seager

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

[理論]

高温になった系外惑星の大気が崩壊して流れ出している様子が観測されたりしている。輻射圧の強さだが、昼と夜側の大気循環の影響がどれくらいかを調べて見る。

[2] arxive:2009.05467

Title: "Reflected Light Observations of the Galilean Satellites from Cassini: a testbed for cold terrestrial exoplanets"

Author:L. C. Mayorga, David Charbonneau, D. P. Thorngren

Comments: 21 pages, 7 tables, 15 figures, including machine-readable table, accepted to AJ

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

[理論/観測]

地球型の系外惑星は、恒星の反射光で観測する必要がある。ガリレオ衛星を参考に、位相や波長を変えての観測をした、位相角度が小さい場合は、表面の反射率変動が大きくなる。地球型系外惑星の表面がガリレオ衛星のようであれば、将来の直接撮像ミッションで 0.1ppb 以下の精度が必要になることがわかった。

[3] arxive:2009.05129

Title: "Asteroid phase curves from ATLAS dual-band photometry"

Author:M. Mahlke, B. Carry, L. Denneau

Comments: Accepted for publication in Icarus. The catalogue of absolute magnitudes and phase parameters is publicly available at the CDS via anonymous ftp to cdsarc.u-strasbg.fr (130.79.128.5) or via this http URL 20 pages, 15 figures

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

[観測]

小惑星のライトカーブ観測について。H バンドの絶対等級の重要性。

[4] arxive:2009.05080

Title: "Water Within a Permanently Shadowed Lunar Crater: Further LCROSS Modeling and Analysis"

Author: Kristen M. Luchsinger, Nancy J. Chanover, Paul D. Strycker

Comments: 23 pages, 9 figures

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

[月の水に関する理論/観測]

月の水氷にかんして。永久影には氷があることが分光観測で確認された。観測結果と整合性のあるモデルを構築。レゴリスと氷の混合物で、水の量が多い場合は観測結果を説明出来る。Cabeus クレーターには $5x10^{11}$kg、月の堆積物中での重量比率では 8.2% くらいある模様。

[5] arxive:2009.05054

Title: "Transit-Timing Variation Signature of Planet Migration: The Case of K2-24"

Author: Jean Teyssandier, Anne-Sophie Libert

Comments: 9 pages, 7 figures. Accepted for publication in Astronomy and Astrophysics

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

[理論/観測]

ガス円盤中に二つ惑星があると、MMR におちつく場合がある。また、MMR、にあると TTV 観測がされやすい。K2-24 は 2:1 の共鳴にあり、大きな TTV シグナルを持っているが、離心率を持っている。円盤による移動だけでは大きな離心率を説明出来ないので、円盤自体の偏りが生じている、そしてその起源として 3 つめの惑星がいる場合で、実際再現出来るかを確かめた。このシナリオなら、MMR や TTV を上手く説明出来そう。

[6] arxive:2009.05053

Title: "White dwarf pollution by hydrated planetary remnants: Hydrogen and Metals in WD J204713.76-125908.9"

Author: Matthew J. Hoskin, Odette Toloza, Boris T. Gänsicke, Roberto Raddi, Detlev Koester, Anna Pala, Christopher J. Manser, Jay Farihi, Maria Teresa Belmonte, Mark Hollands, Nicola Gentile Fusillo, Andrew Swan

Comments: 14 pages, 5 figures Accepted for publication in Monthly Notices of the Royal Astronomical Society

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

[白色矮星の水質量観測]

新しい白色矮星の観測。降着円盤の分光を X-shooter を使って行った。9 種類の原子を調べたところ、地球に比べて揮発性の元素が多く含まれている。地球型のデブリが定常的に降着していることの示唆。水の質量は 8% 程度と見積もられる。

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9 月 15 日 (火曜日)

[1] arxive:2009.06593

Title: "Phosphine Gas in the Cloud Decks of Venus"

Author: Jane S. Greaves, Anita M. S. Richards, William Bains, Paul B. Rimmer, Hideo Sagawa, David L. Clements, Sara Seager, Janusz J. Petkowski, Clara Sousa-Silva, Sukrit Ranjan, Emily Drabek-Maunder, Helen J. Fraser, Annabel Cartwright, Ingo Mueller-Wodarg, Zhuchang Zhan, Per Friberg, Iain Coulson, E'lisa Lee, Jim Hoge

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

[理論/観測/実験 etc....]

JCMT と ALMA で金星大気を観測したところ、ホスフィン (PH3) を検出した。金星大気中のリンは酸化物で存在しているはずであり、既存の非生物的な化学反応、光化学反応ではホスフィンの存在を説明できないので、未知の光化学反応または生物由来である可能性が高い。

[2] arxive:2009.06506

Title: "Modeling the quasiperiodic radial velocity variations of gamma Draconis"

Author: Victor Ramirez Delgado, Sarah Dodson-Robinson

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

[理論/観測/実験 etc....]

K 5III 型星 γ Draconis は、10.7 木星質量の惑星に相当する視線速度変化が確認されていたが、2011 年以降、周期が減衰し、位相が変化して再びシグナルが確認された。先行研究では振動対流のモード由来の可能性が示唆されているが、今回、準周期的 Gaussian process を用いて再解析した。結果、ベストフィットモデルでは周期が 705 日と 15 日の振動が確認できた。705 日周期の方はおそらく磁場活動由来だが、15 日の方はまだよくわからないらしい。

[3] arxive:2009.06503

Title: "Two Planets Straddling the Habitable Zone of The Nearby K dwarf Gl 414A"

Author: Cayla M. Dedrick, Benjamin J. Fulton, Heather A. Knutson, Andrew W. Howard, Thomas G. Beatty, Phillip A. Cargile, B. Scott Gaudi, Lea A. Hirsch, Rudolf B. Kuhn, Michael B. Lund, David J. James, Molly R. Kosiarek, Joshua Pepper, Erik A. Petigura, Joseph E. Rodriguez, Keivan G. Stassun, Daniel J. Stevens

Comments: Submitted to AJ

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

[理論/観測/実験 etc....]

地球から 11.9pc の K7 型矮星 GI 414A の周りに 2 つの惑星を発見した。GI414A b は質量 $9.28^{+3.19}_{-2.54}M_\oplus$, 軌道長半径 0.24 ± 0.01au の sub-Neptune で、GI414A c は質量 $59.48^{+9.98}_{-9.69}M_\oplus$, 軌道長半径 1.43 ± 0.06au の sub-Saturn だった。外側の惑星は将来の直接撮像の候補になりうるらしい。

[4] arxive:2009.06499

Title: "Phosphine on Venus Cannot be Explained by Conventional Processes"

Author: William Bains, Janusz J. Petkowski, Sara Seager, Sukrit Ranjan, Clara Sousa-Silva, Paul B. Rimmer, Zhuchang Zhan, Jane S. Greaves, Anita M. S. Richards

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

[理論/観測/実験 etc....]

1 本目のホスフィンの論文と同じチームの論文。金星大気のホスフィンについて、ガス化学反応や光化学反応などあらゆる反応経路を調べたが、検出されたレベルのホスフィンの説明には至らなかった。金星ではこれまで考慮されてこなかった地質化学的、光化学的、あるいは生物的なプロセスが起こっている可能性が極めて高い。

[5] arxive:2009.06482

Title: "Mars moon ephemerides after 12 years of Mars Express data"

Author: V. Lainey, A. Pasewaldt, V. Robert, P. Rosenblatt, R. Jaumann, J. Oberst, T. Roatsch, K. Willner, R. Ziese, W. Thuillot

Comments: submitted to Astronomy and Astrophysics

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

[理論/観測/実験 etc....]

2004 年から稼働している MEX ミッションによる火星衛星のアストロメトリデータを用いて、火星衛星の天体暦を新しく更新した。

[6] arxive:2009.06474

Title: "The Venusian Lower Atmosphere Haze as a Depot for Desiccated Microbial Life: A Proposed Life Cycle for Persistence of the Venusian Aerial Biosphere"

Author: Sara Seager, Janusz J. Petkowski, Peter Gao, William Bains, Noelle C. Bryan, Sukrit Ranjan, Jane Greaves

Comments: Open Access Astrobiology Article

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

[理論/観測/実験 etc....]

金星の大気中に微生物が存在していれば、大気への水の損失を防ぐために雲の液滴内部に存在していると考えられる。しかし、液滴は数ヶ月のタイムスケールで、重力で落下するサイズまで成長して金星大気のより高温で居住不可能な高度へ落下してしまう。このような条件で微生物が生存するために、微生物は液滴の蒸発に伴って乾燥し、胞子の状態で高度 33-48km のヘイズ層に停滞する仮説を提唱した。抵抗度のヘイズに貯まった胞子は、重力波 (gravity wave) による上昇気流で上層の雲へ運ばれ、液滴内部で再び発芽する。

[7] arxive:2009.06448

Title: "Constraining protoplanetary disks with exoplanetary dynamics: Kepler-

419 as an example"

Author: Mohamad Ali-Dib, Cristobal Petrovich

Comments: 8 pages, 5 figures, accepted for publication in MNRAS

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

[理論/観測/実験 etc....]

2つの巨大ガス惑星を持つKepler-419系について、その起源をN体計算と円盤ガス進化を解いて調べた。元となった原始惑星系円盤は重力的に安定であったため、巨大ガス惑星はコア集積で形成したことがわかった。

[8] arxive:2009.06280

Title: "Discriminating between hazy and clear hot-Jupiter atmospheres with CARMENES"

Author: A. Sánchez-López, M. López-Puertas, I. A. G. Snellen, E. Nagel, F. F. Bauer, E. Pallé, L. Tal-Or, P. J. Amado, J. A. Caballero, S. Czesla, L. Nortmann, A. Reiners, I. Ribas, A. Quirrenbach, J. Aceituno, V. J. S. Béjar, N. Casasayas-Barris, Th. Henning, K. Molaverdikhani, D. Montes, M. Stangret, M. R. Zapatero Osorio, M. Zechmeister

Comments: 13 pages; accepted for publication in A&A

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

[理論/観測/実験 etc....]

UVや青い可視光で、ホットジュピターの半径が大きく見える現象は、一般的に上層大気のヘイズ粒子によるRayleigh散乱が原因と考えられていルが、ヘイズ粒子の構造や生成過程はよくわかっていない。HD 209458 b と HD 189733 b について、赤い可視光と近赤外の水蒸気シグナルの相関強度から待機中にヘイズ粒子が存在するか調べた。結果、HD 209458 b では水蒸気が検出されたが、HD 189733 b では検出できなかったため、後者の上層大気にヘイズ粒子の存在が示唆された。これはHSTの先行観測とも整合的だった。

[9] arxive:2009.06030

Title: "Clarissa Family Age from the Yarkovsky Effect Chronology"

Author: Vanessa C. Lowry, David Vokrouhlicky, David Nesvorny, Humberto Campins

Comments: The Astronomical Journal

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

[理論/観測/実験 etc....]

小惑星帯の力学的安定領域に位置する始原的C型小惑星族のClarissa族について、惑星摂動とYarkovsky効果によるドリフトをモデル化して形成年代を調べた。結果、小惑星の密度を $1.5\mathrm{g/cm^3}$ と仮定するとClarissa族の年齢は 56 ± 6Myrであることがわかった。今回の結果は、年齢が100Myr未満の若い小惑星に初めて成功したYarkovsky効果による年代測定である。

[10] arxive:2009.05821

Title: "A search for He I airglow emission from the hot Jupiter tau Boo b"

Author: Yapeng Zhang, I.A.G. Snellen, P. Mollière, F. J. Alonso-Floriano, R. K. Webb, M. Brogi, A. Wyttenbach

Comments: Accepted for publication in A 9 pages, 9 figures

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

[理論/観測/実験 etc....]

Comment!!!!

[11] arxive:2009.05575

Title: "Growth of Jupiter: Formation in Disks of Gas and Solids and Evolution to the Present Epoch"

Author: Gennaro D'Angelo, Stuart J. Weidenschilling, Jack J. Lissauer, Peter Bodenheimer

Comments: 23 pages, 19 figures. Accepted for Publication in the journal Icarus

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

[理論/観測/実験 etc....]

Comment!!!!

[12] arxive:2009.06495

Title: "Assembled Kinetic Impactor for Deflecting Asteroids via Combining the Spacecraft with the Launch Vehicle Final Stage"

Author: Yirui Wang, Mingtao Li, Zizheng Gong, Jianming Wang, Chuankui Wang, Binghong Zhou

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

[理論/観測/実験 etc....]

地球と小惑星の衝突は、地球上の生命にとって脅威であり、被害を軽減するには小惑星を衝突コースから逸らせることが重要である。小惑星にインパクターを打ち込むのが現実的 (?) な方法だが、打ち上げられるインパクターの質量には限界がある。この論文では、Assembled Kinetic Impactor (AKI) という、宇宙船と発射装置 (launch vehicle final stage; これが何を意味しているのかはよくわかりませんでした) を合体して impactor の質量を増やすコンセプトを提案した。これで、Bennu くらいの小惑星ならそらすことができるらしい。

[13] arxive:2009.06438

Title: "Photoevaporation of Grain-Depleted Protoplanetary Disks around Intermediate-Mass Stars: Investigating Possibility of Gas-Rich Debris Disks as Protoplanetary Remnants"

Author: Riouhei Nakatani, Hiroshi Kobayashi, Rolf Kuiper, Hideko Nomura, Yuri Aikawa

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

[理論/観測/実験 etc....]

デブリ円盤は、古典的にはガス枯渇環境だと考えられてきたが、近年のミリ波観測によってガスリッチな円盤が複数発見されている。ガスの起源は、原始惑星系円盤の残りや、大きい天体から副次的に生成したものなどが考えられるが、理解が不十分である。原始惑星系円盤の残りであれば、円盤の寿命が 10Myr 以上である必要があるが、モデル計算では、光蒸発によって円盤寿命は 10Myr 以下と予測されている。中間質量星周りのガスリッチで光学的に薄い円盤の進化後期における、恒星からの FUV 照射による光蒸発を調べた。結果、円盤の寿命は $\sim 50(M_{disk}/10^{-2}M_\odot)(\Phi_{EUV}/10^{41}s^{-1})^{1/2}$Myr と見積もられることがわかった。小質量星よりも A 型星周りの方が、円盤ガスが長期間存在でき、A 型星周りでガスリッチなデブリ円盤が多いこととも整合的だった。

[14] arxive:2009.06269

Title: "Rotational spectral modulation of cloudless atmospheres for L/T Brown Dwarfs and Extrasolar Giant Planets"

Author: P. Tremblin, M. W. Phillips, A. Emery, I. Baraffe, B. W. P. Lew, D. Apai, B. A. Biller, M. Bonnefoy

Comments: accepted in A&A

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

[理論/観測/実験 etc....]

Comment!!!!

[15] arxive:2009.06070

Title: "Bifurcation of periodic orbits for the N-body problem, from a non geometrical family of solutions"

Author: Oscar Perdomo, Andrés Rivera, Johann Suárez

Comments: 6 figures, 17 pages

Subjects: Dynamical Systems (math.DS); Earth and Planetary Astrophysics (astro-ph.EP); Differential Geometry (math.DG)

[理論/観測/実験 etc....]

Comment!!!!

[16] arxive:2009.05644

Title: "Quasi-adiabatic and stochastic heating and particle acceleration at quasi-perpendicular shocks"

Author: Krzysztof Stasiewicz, Bengt Eliasson

Comments: 11 pages, 7 figures, accepted for Astrophysical Journal

Subjects: Space Physics (physics.space-ph); Earth and Planetary Astrophysics (astro-ph.EP); High Energy Astrophysical Phenomena (astro-ph.HE); Plasma Physics (physics.plasm-ph)

[理論/観測/実験 etc....]

地球磁気圏のバウショックの観測から、準垂直ショックで作用する 2 つのプラズマ加熱プロセスを発見した。

[17] arxive:2009.05590

Title: "On the Correlation between L Dwarf Optical and Infrared Variability and Radio Aurorae"

Author: Tyler Richey-Yowell, Melodie M. Kao, J. Sebastian Pineda, Evgenya L. Shkolnik, Gregg Hallinan

Comments: 26 pages, 5 figures, 6 tables

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

[理論/観測/実験 etc....]

Comment!!!!

9月16日(水曜日)

[1] arxive:2009.07006

Title: "An exact, generalised Laplace resonance in the HR 8799 planetary system"

Author: Krzysztof Gozdziewski, Cezary Migaszewski

Comments: 24 pages, 19 figures, 1 Table, the main paper with Appendix, accepted in Astrophysical Journal Letters

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

[理論]

4個のスーパージュピターから成るHR8799の惑星系は、8:4:2:1の平均軌道共鳴にあると仮定すれば長期にわたって安定的に存在できる。この仮定の下で各惑星の質量を求めたところ、熱進化モデルから求めた質量と矛盾しない値が得られた。

[2] arxive:2009.06850

Title: "Revisiting the Architecture of the KOI-89 System"

Author: Kento Masuda, Daniel Tamayo

Comments: accepted for publication in AJ

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

[観測]

KOI-89の惑星系に属する2個の惑星は、トランジット観測から軌道傾斜角が70 deg程度あることが指摘されていた。今回、新しいモデリング手法に基づいてトランジット時の光度曲線を解析しなおしたところ、既存のデータだけでは軌道傾斜角を制限できないことが分かった。

[3] arxive:2009.06749

Title: "A pair of Jovian Trojans at the L4 Lagrange point"

Author: Timothy R. Holt, David Vokrouhlický, David Nesvorný, Miroslav Brož, Jonathan Horner

Comments: 15 figs. Accepted for publication in MNRAS

Subjects:

Earth and Planetary Astrophysics (astro-ph.EP)

[観測]

木星軌道上のトロヤ群に小惑星のペア (2002ES76, 2013CC41) を発見した。これらは近接しているが、重力的に互いを束縛しているわけではない。数値計算により、このペアの年齢を 360 Myr から数 Gyr 程度と見積もった。

[4] arxive:2009.06638

Title: "An Increase in Small-planet Occurrence with Metallicity for Late-type Dwarf Stars in the Kepler Field and Its Implications for Planet Formation"

Author: Cicero X. Lu, Kevin C. Schlaufman, Sihao Cheng

Comments: 13 pages, 6 figures, and 6 Tables in aastex63 format; accepted for publication in AJ

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

[観測]

主星の金属量が増えるに従って巨大惑星の発生率が高まることが知られている。今回は、矮星周りの小さな惑星の発生率と主星の金属量との関連を調べた。Kepler DR25 を解析したところ、半径が地球半径の 2 倍以上の惑星に関しては発生率が主星の金属量に比例することが判明した。

[5] arxive:2009.07266

Title: "An Earth-like stellar wind environment for Proxima Centauri c"

Author: Julián D. Alvarado-Gómez, Jeremy J. Drake, Cecilia Garraffo, Ofer Cohen, Katja Poppenhäger, Rakesh K. Yadav, Sofia P. Moschou

Comments: 9 Pages, 4 Figures, 1 Table. Accepted for publication in The Astrophysical Journal Letters (ApJL)

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

[理論]

Proxima c が受ける恒星風の影響をシミュレーションによって調べた。Proxima c 周りの磁気圏や電離層のモデル、主星の活動周期などを考慮した。その結果、恒星風から受ける圧力は地球の値に近いことが分かった。また、ジュール熱による上層大気の過熱は地球に比べて 1/10 程度だった。

[6] arxive:2009.07186

Title: "A statistical analysis of dust polarization properties in ALMA observations of Class 0 protostellar cores"

Author: V. J. M. Le Gouellec, A. J. Maury, V. Guillet, C. L. H. Hull, J. M. Girart, A. Verliat, R. Mignon-Risse, V. Valdivia, P. Hennebelle, M. González, F. Louvet

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

[観測]

原始星コアの周囲のダストの偏光状態について。

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9 月 17 日 (木曜日)

[1] arxive:2009.07837

Title: ”Transport, destruction and growth of pebbles in the gas envelope of a protoplanet”

Author: Anders Johansen, Åke Nordlund

Comments: Accepted for publication in The Astrophysical Journal

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

[理論/観測/実験 etc....]

Comment!!!!

[2] arxive:2009.07835

Title: ”On The Biomass Required To Produce Phosphine Detected In The Cloud Decks Of Venus”

Author: Manasvi Lingam, Abraham Loeb

Comments: 6 pages; 2 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] arxive:2009.07761

Title: ”Abundant atmospheric methane from volcanism on terrestrial planets is unlikely and strengthens the case for methane as a biosignature”

Author: Nicholas Wogan, Joshua Krissansen-Totton, David C. Catling

Comments: Accepted by Planetary Science Journal on September 15th, 2020

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

[理論/観測/実験 etc....]

Comment!!!!

[4] arxive:2009.07729

Title: ”ALMA Observations of Io Going into and Coming out of Eclipse”

Author: Imke de Pater, Statia Luszcz-Cook, Patricio Rojo, Erin Redwing, Katherine de Kleer, Arielle Moullet

Comments: 20 pages, 15 figures. Planetary Science Journal, 2020, In Press

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

[理論/観測/実験 etc....]

Comment!!!!

[5] arxive:2009.07700

Title: "A New Full 3-D Model of Cosmogenic Tritium ^{3}H Production in the Atmosphere (CRAC:3H)"

Author:S. V. Poluianov, G. A. Kovaltsov, I. G. Usoskin

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

[理論/観測/実験 etc....]

Comment!!!!

[6] arxive:2009.07636

Title: "Influences of protoplanet-induced three-dimensional gas flow on pebble accretion Ⅱ. Headwind regime"

Author:Ayumu Kuwahara, Hiroyuki Kurokawa

Comments: 24 pages, 23 figures, Accepted for publication in Astronomy and Astrophysics (A&A). arXiv admin note: text overlap with arXiv:1911.12999

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

[理論/観測/実験 etc....]

Comment!!!!

[7] arxive:2009.07575

Title: "Dust dynamics in planet-driven spirals"

Author:Ardjan Sturm, Giovanni Rosotti, Carsten Dominik

Comments: 11 pages, 8 figures, appendices, accepted to A&A 14 September 2020

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

[理論/観測/実験 etc....]

Comment!!!!

[8] arxive:2009.07296

Title: "The Great Inequality and the Dynamical Disintegration of the Outer Solar System"

Author:Jon K. Zink, Konstantin Batygin, Fred C. Adams

Comments: 12 pages, 5 figures; accepted for publication in AJ

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

[理論/観測/実験 etc....]

Comment!!!!

[9] arxive:2009.07282

Title: "A Giant Planet Candidate Transiting a White Dwarf"

Author: Andrew Vanderburg, Saul A. Rappaport, Siyi Xu, Ian Crossfield, Juliette C. Becker, Bruce Gary, Felipe Murgas, Simon Blouin, Thomas G. Kaye, Enric Palle, Carl Melis, Brett Morris, Laura Kreidberg, Varoujan Gorjian, Caroline V. Morley, Andrew W. Mann, Hannu Parviainen, Logan A. Pearce, Elisabeth R. Newton, Andreia Carrillo, Ben Zuckerman, Lorne Nelson, Greg Zeimann, Warren R. Brown, René Tronsgaard, Beth Klein, George R. Ricker, Roland K. Vanderspek, David W. Latham, Sara Seager, Joshua N. Winn, Jon M. Jenkins, Fred C. Adams, Björn Benneke, David Berardo, Lars A. Buchhave, Douglas A. Caldwell, Jessie L. Christiansen, Karen A. Collins, Knicole D. Colón, Tansu Daylan, John Doty, Alexandra E. Doyle, Diana Dragomir, Courtney Dressing, Patrick Dufour, Akihiko Fukui, Ana Glidden, Natalia M. Guerrero

Comments: 50 pages, 12 figures, 2 tables. Published in Nature on Sept. 17, 2020. The final authenticated version is available online at: this https URL

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

[理論/観測/実験 etc....]

Comment!!!!

[10] arxive:2009.07274

Title: "The White Dwarf Opportunity: Robust Detections of Molecules in Earth-like Exoplanet Atmospheres with the James Webb Space Telescope"

Author: Lisa Kaltenegger, Ryan J. MacDonald, Thea Kozakis, Nikole K. Lewis, Eric E. Mamajek, Jonathan C. McDowell, Andrew Vanderburg

Comments: 12 pages, 4 figures. Published in ApJL

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!!!!

[11] arxive:2009.07824

Title: "ArielRad: the Ariel Radiometric Model"

Author: Lorenzo V. Mugnai, Enzo Pascale, Billy Edwards, Andreas Papageorgiou, Subhajit Sarkar

Comments: 28 pages, 6 figures. Accepted in Exp.Astron

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!!!!

[12] arxive:2009.07820

Title: "The Interplay between Ambipolar Diffusion and Hall Effect on Magnetic Field Decoupling and Protostellar Disc Formation"

Author: Bo Zhao, Paola Caselli, Zhi-Yun Li, Ruben Krasnopolsky, Hsien Shang, Ka Ho Lam

Comments: 21 pages, 16 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!!!!

[13] arxive:2009.07796

Title: "Hall Effect in Protostellar Disc Formation and Evolution"

Author: Bo Zhao, Paola Caselli, Zhi-Yun Li, Ruben Krasnopolsky, Hsien Shang, Ka Ho Lam

Comments: 22 pages, 18 figures

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!!!!

[14] arxive:2009.07750

Title: "Evolution of a Viscous Protoplanetary Disk with Convectively Unstable Regions. II. Accretion Regimes and Long-Term Dynamics"

Author: L.A. Maksimova, Ya.N. Pavlyuchenkov, A.V. Tutukov

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

[理論/観測/実験 etc....]

Comment!!!!

[15] arxive:2009.07653

Title: "The Scientific Impact of the Vera C. Rubin Observatory's Legacy Survey of Space and Time (LSST) for Solar System Science"

Author: Vera C. Rubin Observatory LSST Solar System Science Collaboration, R. Lynne Jones, Michelle T. Bannister, Bryce T. Bolin, Colin Orion Chandler, Steven R. Chesley, Siegfried Eggl, Sarah Greenstreet, Timothy R. Holt, Henry H. Hsieh, Zeljko Ivezić, Mario Jurić, Michael S. P. Kelley,

Matthew M. Knight, Renu Malhotra, William J. Oldroyd, Gal Sarid, Megan E. Schwamb, Colin Snodgrass, Michael Solontoi, David E. Trilling

Comments: White paper submitted to the 2020 Planetary Astronomy Decadal Survey (7 pages, 1 figure)

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

[理論/観測/実験 etc....]

Comment!!!!

[16] **arxive:2009.07559**

Title: "Application of Attributables to the Correlation of Surveillance Radar Measurements"

Author: Benedikt Reihs, Alessandro Vananti, Thomas Schildknecht, Jan Siminski, Tim Flohrer

Comments: 36 pages, 33 figures

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 18 日 (金曜日)

[1] **arxive:2009.08423**

Title: "Constraining the orientation of the spin axes of extrasolar minor bodies 1I/2017 U1 ('Oumuamua) and 2I/Borisov"

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

Comments: 19 pages, 27 figures, 5 tables, 1 appendix. Accepted for publication in Astronomy and Astrophysics. Abstract abridged

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

[理論/観測/実験 etc....]

Comment!!!!

[2] **arxive:2009.08338**

Title: "A planetary system with two transiting mini-Neptunes near the radius valley transition around the bright M dwarf TOI-776"

Author: R. Luque, L. M. Serrano, K. Molaverdikhani, M. C. Nixon, J. H. Livingston, E. W. Guenther, E. Pallé, N. Madhusudhan, G. Nowak, J. Korth, W. D. Cochran, T. Hirano, P. Chaturvedi, E. Goffo, S. Albrecht, O.

Barragán, C Briceño, J. Cabrera, D. Charbonneau, R. Cloutier, K. A. Collins, K. I. Collins, K. D. Colón, I. J. M. Crossfield, Sz. Csizmadia, F. Dai, H. J. Deeg, M. Esposito, M. Fridlund, D. Gandolfi, I. Georgieva, A. Glidden, R. F. Goeke, S. Grziwa, A. P. Hatzes, C. E. Henze, S. B. Howell, J. Irwin, J. M. Jenkins, E. L. N. Jensen, P. Kábath, R. C. Kidwell Jr., J. F. Kielkopf, E. Knudstrup, K. W. F. Lam, D. W. Latham, J. J. Lissauer, A. W. Mann, E. C. Matthews, I. Mireles, N. Narita, M. Paegert, C. M. Persson, S. Redfield, G. R. Ricker, F. Rodler, J. E. Schlieder

Comments: 24 pages, 14 figures, 8 tables. Submitted to Astronomy & Astrophysics

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

[理論/観測/実験 etc....]

Comment!!!!

[3] arxive:2009.08154

Title: "Confirming known planetary trends using a photometrically selected Kepler sample"

Author: Jonah T. Hansen, Luca Casagrande, Michael J. Ireland, Jane Lin

Comments: 10 Pages, 13 Figures, Submitted to MNRAS

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

[理論/観測/実験 etc....]

Comment!!!!

[4] arxive:2009.07845

Title: "Cluster Difference Imaging Photometric Survey. II. TOI 837: A Young Validated Planet in IC 2602"

Author: L. G. Bouma, J. D. Hartman, R. Brahm, P. Evans, K. A. Collins, G. Zhou, P. Sarkis, S. N. Quinn, J. de Leon, J. Livingston, C. Bergmann, K. G. Stassun, W. Bhatti, J. N. Winn, G. Á Bakos, L. Abe, N. Crouzet, G. Dransfield, T. Guillot, W. Marie-Sainte, D. Mékarnia, A. H.M.J. Triaud, C. G. Tinney, T. Henning, N. Espinoza, A. Jordán, M. Barbieri, S. Nandakumar, T. Trifonov, J. I. Vines, M. Vuckovic, C. Ziegler, N. Law, A. W. Mann, G. R. Ricker, R. Vanderspek, S. Seager, J. M. Jenkins, C. J. Burke, D. Dragomir, A. M. Levine, E. V. Quintana, J. E. Rodriguez, J. C. Smith, B. Wohler

Comments: AJ accepted. Figure 11 is my favorite. Comments welcome!

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

[理論/観測/実験 etc....]

Comment!!!!

[5] arxive:2009.08396

Title: "Feasibility Analysis and Preliminary Design of ChipSat Entry for In-situ Investigation of the Atmosphere of Venus"

Author: Salvatore Vivenzio, Dan Fries, Chris Welch

Comments: 14 pages, related work presented at IAC 2019

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

[理論/観測/実験 etc....]

Comment!!!!

[6] arxive:2009.08312

Title: "White Paper on Improvements to the NASA Research and Analysis Proposal and Review System"

Author: Paul K Byrne, Christina R. Richey, Julie C. Castillo-Rogez, Mark V. Sykes

Comments: 8 pages, 3 figures, white paper prepared for the NASEM Planetary Science and Astrobiology Decadal Survey 2023-2032

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

[理論/観測/実験 etc....]

Comment!!!!

[7] arxive:2009.08307

Title: "Flight in the Jovian Stratosphere. Engine Concept and Flight Altitude Determination"

Author: Nedislav S. Veselinov, Martin N. Karanikolov, Vladislav V. Shihskin, Dimitar M. Mladenov

Comments: 14 Pages, 5 figures, 2 tables

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

[理論/観測/実験 etc....]

Comment!!!!

[8] arxive:2009.08029

Title: "Transformative Planetary Science with the US ELT Program"

Author: Michael H. Wong, Karen J. Meech, Mark Dickinson, Thomas Greathouse,

Richard J. Cartwright, Nancy Chanover, Matthew S. Tiscareno

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

[理論/観測/実験 etc....]

Comment!!!!

[9] arxive:2009.07927

Title: "A Reanalysis of Public Galactic Bulge Gravitational Microlensing Events from OGLE-III and IV"

Author: Nathan Golovich, William A. Dawson, Fran Bartolić, Casey Y. Lam, Jessica R. Lu, Michael S. Medford, Michael D. Schneider, George Chapline, Edward F. Schlafly, Alex Drlica-Wagner, Kerianne Pruett

Comments: Submitted version, in review, 33 pages, 18 figures, MCMC posterior samples available by publisher after acceptance

Subjects: Astrophysics of Galaxies (astro-ph.GA); Earth and Planetary Astrophysics (astro-ph.EP); Solar and Stellar Astrophysics (astro-ph.SR); Data Analysis, Statistics and Probability (physics.data-an)

[理論/観測/実験 etc....]

Comment!!!!

[10] arxive:2009.07869

Title: "Estimating the Ultraviolet Emission of M dwarfs with Exoplanets from Ca II and Hα"

Author: Katherine Melbourne, Allison Youngblood, Kevin France, C. S. Froning, J. Sebastian Pineda, Evgenya L. Shkolnik, David J. Wilson, Brian E. Wood, Sarbani Basu, Aki Roberge, Joshua E. Schlieder, P. Wilson Cauley, R. O. Parke Loyd, Elisabeth R. Newton, Adam Schneider, Nicole Arulanantham, Zachory Berta-Thompson, Alexander Brown, Andrea P. Buccino, Eliza Kempton, Jeffrey L. Linsky, Sarah E. Logsdon, Pablo Mauas, Isabella Pagano, Sarah Peacock, Seth Redfield, Sarah Rugheimer, P. Christian Schneider, D. J. Teal, Feng Tian, Dennis Tilipman, Mariela Vieytes

Comments: 34 pages, 12 figures, 5 tables (one machine readable table available online). Accepted to AAS Journals

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

[理論/観測/実験 etc....]

Comment!!!!

Nature

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Science

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