Ravit Helled

List of Publications by Year
in descending order

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101

papers

3,204

citations

147801

31

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189892

50

g-index

109

all docs

109

docs citations

109

times ranked

2636

citing authors

#	Article	IF	Citations
1	A chemical survey of exoplanets with ARIEL. Experimental Astronomy, 2018, 46, 135-209.	3.7	249
2	INTERIOR MODELS OF URANUS AND NEPTUNE. Astrophysical Journal, 2011, 726, 15.	4.5	186
3	A generalized Bayesian inference method for constraining the interiors of super Earths and sub-Neptunes. Astronomy and Astrophysics, 2017, 597, A37.	5.1	121
4	Core formation in giant gaseous protoplanets. Icarus, 2008, 198, 156-162.	2.5	87
5	The Fuzziness of Giant Planetsâ€™ Cores. Astrophysical Journal Letters, 2017, 840, L4.	8.3	87
6	Grain sedimentation in a giant gaseous protoplanet. Icarus, 2008, 195, 863-870.	2.5	82
7	The formation of Jupiter by hybrid pebbleâ€“planetesimal accretion. Nature Astronomy, 2018, 2, 873-877.	10.1	81
8	INTERIOR MODELS OF SATURN: INCLUDING THE UNCERTAINTIES IN SHAPE AND ROTATION. Astrophysical Journal, 2013, 767, 113.	4.5	80
9	Uranus and Neptune: Shape and rotation. Icarus, 2010, 210, 446-454.	2.5	76
10	THE FORMATION OF URANUS AND NEPTUNE: CHALLENGES AND IMPLICATIONS FOR INTERMEDIATE-MASS EXOPLANETS. Astrophysical Journal, 2014, 789, 69.	4.5	75
11	A remnant planetary core in the hot-Neptune desert. Nature, 2020, 583, 39-42.	27.8	73
12	Phase Diagram of Hydrogen and a Hydrogen-Helium Mixture at Planetary Conditions by Quantum MonteÂCarlo Simulations. Physical Review Letters, 2018, 120, 025701.	7.8	69
13	Atmospheric confinement of jet streams on Uranus and Neptune. Nature, 2013, 497, 344-347.	27.8	67
14	The formation of Jupiterâ€™s diluted core by a giant impact. Nature, 2019, 572, 355-357.	27.8	67
15	The Formation of Mini-Neptunes. Astrophysical Journal, 2017, 848, 95.	4.5	66
16	Jupiterâ€™s evolution with primordial composition gradients. Astronomy and Astrophysics, 2018, 610, L14.	5.1	66
17	Two empirical regimes of the planetary mass-radius relation. Astronomy and Astrophysics, 2017, 604, A83.	5.1	63
18	Uranus and Neptune: Origin, Evolution and Internal Structure. Space Science Reviews, 2020, 216, 1.	8.1	61

#	ARTICLE	IF	CITATIONS
19	Forming Mercury by Giant Impacts. Astrophysical Journal, 2018, 865, 35.	4.5	60
20	THE HEAVY-ELEMENT COMPOSITION OF DISK INSTABILITY PLANETS CAN RANGE FROM SUB- TO SUPER-NEBULAR. Astrophysical Journal, 2011, 735, 30.	4.5	57
21	Jupiterâ€™s Formation and Its Primordial Internal Structure. Astrophysical Journal, 2017, 836, 227.	4.5	57
22	Saturnâ€™s fast spin determined from its gravitational field and oblateness. Nature, 2015, 520, 202-204.	27.8	53
23	The origin of the high metallicity of close-in giant exoplanets. Astronomy and Astrophysics, 2020, 633, A33.	5.1	51
24	Measuring Jupiter's water abundance by Juno: the link between interior and formation models. Monthly Notices of the Royal Astronomical Society, 2014, 441, 2273-2279.	4.4	46
25	Jupiterâ€™s moment of inertia: A possible determination by Juno. Icarus, 2011, 216, 440-448.	2.5	45
26	Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets. Experimental Astronomy, 2012, 33, 753-791.	3.7	44
27	The challenge of forming a fuzzy core in Jupiter. Astronomy and Astrophysics, 2020, 638, A121.	5.1	40
28	Ice Giant Systems: The scientific potential of orbital missions to Uranus and Neptune. Planetary and Space Science, 2020, 191, 105030.	1.7	39
29	Explaining the low luminosity of Uranus: a self-consistent thermal and structural evolution. Astronomy and Astrophysics, 2020, 633, A50.	5.1	38
30	Effect of non-adiabatic thermal profiles on the inferred compositions of Uranus and Neptune. Monthly Notices of the Royal Astronomical Society, 2019, 487, 2653-2664.	4.4	37
31	Jupiterâ€™s heavy-element enrichment expected from formation models. Astronomy and Astrophysics, 2020, 634, A31.	5.1	36
32	A possible correlation between planetary radius and orbital period for small planets. Monthly Notices of the Royal Astronomical Society: Letters, 2016, 455, L96-L98.	3.3	35
33	Core-assisted gas capture instability: a new mode of giant planet formation by gravitationally unstable discs. Monthly Notices of the Royal Astronomical Society, 2014, 440, 3797-3808.	4.4	33
34	Jupiterâ€™s inhomogeneous envelope. Astronomy and Astrophysics, 2022, 662, A18.	5.1	31
35	Empirical models of pressure and density in Saturn's interior: Implications for the helium concentration, its depth dependence, and Saturn's precession rate. Icarus, 2009, 199, 368-377.	2.5	29
36	Threshold Radii of Volatile-rich Planets. Astrophysical Journal, 2018, 866, 49.	4.5	29

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37	Understanding dense hydrogen at planetary conditions. Nature Reviews Physics, 2020, 2, 562-574.	26.6	29
38	Revelations on Jupiter's formation, evolution and interior: Challenges from Juno results. Icarus, 2022, 378, 114937.	2.5	29
39	METHANE PLANETS AND THEIR MASSâ€“RADIUS RELATION. Astrophysical Journal Letters, 2015, 805, L11.	8.3	27
40	The interiors of Uranus and Neptune: current understanding and open questions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190474.	3.4	27
41	Bifurcation in the history of Uranus and Neptune: the role of giant impacts. Monthly Notices of the Royal Astronomical Society, 2020, 492, 5336-5353.	4.4	27
42	TOI-824 b: A New Planet on the Lower Edge of the Hot Neptune Desert. Astronomical Journal, 2020, 160, 153.	4.7	27
43	Giant Planet Formation Models with a Self-consistent Treatment of the Heavy Elements. Astrophysical Journal, 2020, 900, 133.	4.5	26
44	Theory of Figures to the Seventh Order and the Interiors of Jupiter and Saturn. Planetary Science Journal, 2021, 2, 241.	3.6	26
45	TESS Reveals a Short-period Sub-Neptune Sibling (HD 86226c) to a Known Long-period Giant Planet*. Astronomical Journal, 2020, 160, 96.	4.7	25
46	Jupiter and Saturn rotation periods. Planetary and Space Science, 2009, 57, 1467-1473.	1.7	24
47	On the Diversity in Mass and Orbital Radius of Giant Planets Formed via Disk Instability. Astrophysical Journal, 2018, 854, 112.	4.5	24
48	The Deposition of Heavy Elements in Giant Protoplanetary Atmospheres: The Importance of Planetesimalâ€“Envelope Interactions. Astrophysical Journal, 2019, 871, 127.	4.5	24
49	Saturnâ€™s Probable Interior: An Exploration of Saturnâ€™s Potential Interior Density Structures. Astrophysical Journal, 2020, 891, 109.	4.5	24
50	A wide-orbit giant planet in the high-mass b Centauri binary system. Nature, 2021, 600, 231-234.	27.8	23
51	Formation of intermediate-mass planets via magnetically controlled disk fragmentation. Nature Astronomy, 2021, 5, 440-444.	10.1	21
52	Neptune and Uranus: ice or rock giants?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190489.	3.4	20
53	TOI-431/HIP 26013: a super-Earth and a sub-Neptune transiting a bright, early K dwarf, with a third RV planet. Monthly Notices of the Royal Astronomical Society, 2021, 507, 2782-2803.	4.4	19
54	The influence of infall on the properties of protoplanetary discs. Astronomy and Astrophysics, 2021, 645, A43.	5.1	18

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55	Theoretical versus Observational Uncertainties: Composition of Giant Exoplanets. Astrophysical Journal, 2020, 903, 147.	4.5	18
56	Exploring the link between star and planet formation with Ariel. Experimental Astronomy, 2022, 53, 225-278.	3.7	18
57	The depth of Jupiterâ€™s Great Red Spot constrained by Juno gravity overflights. Science, 2021, 374, 964-968.	12.6	18
58	The primordial entropy of Jupiter. Monthly Notices of the Royal Astronomical Society, 2018, 477, 4817-4823.	4.4	17
59	Detailed Calculations of the Efficiency of Planetesimal Accretion in the Core-accretion Model. Astrophysical Journal, 2020, 899, 45.	4.5	17
60	The role of ice lines in the formation of Uranus and Neptune. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20200107.	3.4	15
61	Constraining the depth of the winds on Uranus and Neptune via Ohmic dissipation. Monthly Notices of the Royal Astronomical Society, 2020, 498, 621-638.	4.4	13
62	Ariel planetary interiors White Paper. Experimental Astronomy, 2022, 53, 323-356.	3.7	12
63	The Case for a New Frontiersâ€“Class Uranus Orbiter: System Science at an Underexplored and Unique World with a Mid-scale Mission. Planetary Science Journal, 2022, 3, 58.	3.6	12
64	Science Goals and Mission Objectives for the Future Exploration of Ice Giants Systems: A Horizon 2061 Perspective. Space Science Reviews, 2021, 217, 1.	8.1	11
65	The origin of the high metallicity of close-in giant exoplanets. Astronomy and Astrophysics, 2022, 659, A28.	5.1	11
66	Jupiter's Temperature Structure: A Reassessment of the Voyager Radio Occultation Measurements. Planetary Science Journal, 2022, 3, 159.	3.6	11
67	Updated Equipotential Shapes of Jupiter and Saturn Using Juno and Cassini Grand Finale Gravity Science Measurements. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006354.	3.6	10
68	Enrichment of Jupiterâ€™s Atmosphere by Late Planetesimal Bombardment. Astrophysical Journal Letters, 2022, 926, L37.	8.3	10
69	Meteor light curves: the relevant parameters. Monthly Notices of the Royal Astronomical Society, 2004, 355, 111-119.	4.4	9
70	Possible Chemical Composition And Interior Structure Models Of Venus Inferred From Numerical Modelling. Astrophysical Journal, 2022, 926, 217.	4.5	9
71	Shapes and gravitational fields of rotating two-layer Maclaurin ellipsoids: Application to planets and satellites. Physics of the Earth and Planetary Interiors, 2011, 187, 364-379.	1.9	8
72	A Quantitative Comparison of Exoplanet Catalogs. Geosciences (Switzerland), 2018, 8, 325.	2.2	8

#	ARTICLE	IF	CITATIONS
73	Why do more massive stars host larger planets?. Astronomy and Astrophysics, 2021, 652, A110.	5.1	8
74	Synthetic evolution tracks of giant planets. Monthly Notices of the Royal Astronomical Society, 2021, 507, 2094-2102.	4.4	8
75	Earth as an Exoplanet. I. Time Variable Thermal Emission Using Spatially Resolved Moderate Imaging Spectroradiometer Data. Astronomical Journal, 2020, 160, 246.	4.7	8
76	Possible In Situ Formation of Uranus and Neptune via Pebble Accretion. Astrophysical Journal, 2022, 931, 21.	4.5	8
77	Prospects for Measuring Planetary Spin and Frame-Dragging in Spacecraft Timing Signals. Frontiers in Astronomy and Space Sciences, 2017, 4, .	2.8	7
78	Empirical structure models of Uranus and Neptune. Monthly Notices of the Royal Astronomical Society, 2022, 512, 3124-3136.	4.4	7
79	Potential long-term habitable conditions on planets with primordial Hâ€"He atmospheres. Nature Astronomy, 2022, 6, 819-827.	10.1	7
80	The Interior of Saturn. , 2018, , 44-68.		6
81	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2018, , 167-185.		6
82	Could Uranus and Neptune form by collisions of planetary embryos?. Monthly Notices of the Royal Astronomical Society, 2021, 502, 1647-1660.	4.4	6
83	Connecting the Gravity Field, Moment of Inertia, and Core Properties in Jupiter through Empirical Structural Models. Astrophysical Journal, 2021, 910, 38.	4.5	6
84	An approximation for the capture radius of gaseous protoplanets. Monthly Notices of the Royal Astronomical Society: Letters, 2021, 507, L62-L66.	3.3	6
85	THE CHANGE IN JUPITER'S MOMENT OF INERTIA DUE TO CORE EROSION AND PLANETARY CONTRACTION. Astrophysical Journal Letters, 2012, 748, L16.	8.3	5
86	Jupiter's occultation radii: Implications for its internal dynamics. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	4
87	Ice giant system exploration within ESAâ€™s Voyage 2050. Experimental Astronomy, 2022, 54, 1015-1025.	3.7	4
88	Did Uranus' regular moons form via a rocky giant impactor?. Icarus, 2022, 375, 114842.	2.5	4
89	Linking Uranusâ€™ temperature profile to wind-induced magnetic fields. Monthly Notices of the Royal Astronomical Society, 2021, 507, 1485-1490.	4.4	3
90	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2018, , 1-19.		3

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91	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2017, , 1-19.		3
92	Partially Diffusive Helium-Silica Compound under High Pressure. Chinese Physics Letters, 0, , .	3.3	3
93	Composition of massive giant planets. Proceedings of the International Astronomical Union, 2010, 6, 95-100.	0.0	0
94	Q (Toomre Parameter). , 2014, , 1-1.		0
95	Protosun Composition. , 2014, , 1-1.		0
96	Protosun Composition. , 2015, , 2086-2086.		0
97	Q (Toomre Parameter). , 2015, , 2100-2100.		0
98	Planetary Embryo. , 2015, , 1921-1921.		0
99	Disk Instability, Model for Giant Planet Formation. , 2015, , 658-658.		0
100	Critical Core Mass (Giant Planet Formation). , 2015, , 585-585.		0
101	Radial Drift. , 2015, , 2105-2106.		0