Ravit Helled

List of Publications by Year
in descending order

101 papers	3,204 citations	147801 31 h-index	189892 50 g-index
109 all docs	109 docs citations	109 times ranked	2636 citing authors

#	Article	IF	Citations
1	Ariel planetary interiors White Paper. Experimental Astronomy, 2022, 53, 323-356.	3.7	12
2	Ice giant system exploration within ESAâ€™s Voyage 2050. Experimental Astronomy, 2022, 54, 1015-1025.	3.7	4
3	Exploring the link between star and planet formation with Ariel. Experimental Astronomy, 2022, 53, 225-278.	3.7	18
4	Did Uranus' regular moons form via a rocky giant impactor?. Icarus, 2022, 375, 114842.	2.5	4
5	The origin of the high metallicity of close-in giant exoplanets. Astronomy and Astrophysics, 2022, 659, A28.	5.1	11
6	Revelations on Jupiter's formation, evolution and interior: Challenges from Juno results. Icarus, 2022, 378, 114937.	2.5	29
7	Possible Chemical Composition And Interior Structure Models Of Venus Inferred From Numerical Modelling. Astrophysical Journal, 2022, 926, 217.	4.5	9
8	Enrichment of Jupiterâ€™s Atmosphere by Late Planetesimal Bombardment. Astrophysical Journal Letters, 2022, 926, L37.	8.3	10
9	Jupiterâ€™s inhomogeneous envelope. Astronomy and Astrophysics, 2022, 662, A18.	5.1	31
10	Empirical structure models of Uranus and Neptune. Monthly Notices of the Royal Astronomical Society, 2022, 512, 3124-3136.	4.4	7
11	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
12	Possible In Situ Formation of Uranus and Neptune via Pebble Accretion. Astrophysical Journal, 2022, 931, 21.	4.5	8
13	Potential long-term habitable conditions on planets with primordial Hâ€“He atmospheres. Nature Astronomy, 2022, 6, 819-827.	10.1	7
14	Jupiter's Temperature Structure: A Reassessment of the Voyager Radio Occultation Measurements. Planetary Science Journal, 2022, 3, 159.	3.6	11
15	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
16	Could Uranus and Neptune form by collisions of planetary embryos?. Monthly Notices of the Royal Astronomical Society, 2021, 502, 1647-1660.	4.4	6
17	The influence of infall on the properties of protoplanetary discs. Astronomy and Astrophysics, 2021, 645, A43.	5.1	18
18	Formation of intermediate-mass planets via magnetically controlled disk fragmentation. Nature Astronomy, 2021, 5, 440-444.	10.1	21

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19	Connecting the Gravity Field, Moment of Inertia, and Core Properties in Jupiter through Empirical Structural Models. Astrophysical Journal, 2021, 910, 38.	4.5	6
20	Why do more massive stars host larger planets?. Astronomy and Astrophysics, 2021, 652, A110.	5.1	8
21	Synthetic evolution tracks of giant planets. Monthly Notices of the Royal Astronomical Society, 2021, 507, 2094-2102.	4.4	8
22	Linking Uranusâ€™ temperature profile to wind-induced magnetic fields. Monthly Notices of the Royal Astronomical Society, 2021, 507, 1485-1490.	4.4	3
23	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
24	An approximation for the capture radius of gaseous protoplanets. Monthly Notices of the Royal Astronomical Society: Letters, 2021, 507, L62-L66.	3.3	6
25	The depth of Jupiterâ€™s Great Red Spot constrained by Juno gravity overflights. Science, 2021, 374, 964-968.	12.6	18
26	Theory of Figures to the Seventh Order and the Interiors of Jupiter and Saturn. Planetary Science Journal, 2021, 2, 241.	3.6	26
27	A wide-orbit giant planet in the high-mass b Centauri binary system. Nature, 2021, 600, 231-234.	27.8	23
28	Explaining the low luminosity of Uranus: a self-consistent thermal and structural evolution. Astronomy and Astrophysics, 2020, 633, A50.	5.1	38
29	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
30	The challenge of forming a fuzzy core in Jupiter. Astronomy and Astrophysics, 2020, 638, A121.	5.1	40
31	Understanding dense hydrogen at planetary conditions. Nature Reviews Physics, 2020, 2, 562-574.	26.6	29
32	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
33	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
34	Neptune and Uranus: ice or rock giants?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190489.	3.4	20
35	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
36	Jupiterâ€™s heavy-element enrichment expected from formation models. Astronomy and Astrophysics, 2020, 634, A31.	5.1	36

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37	A remnant planetary core in the hot-Neptune desert. Nature, 2020, 583, 39-42.	27.8	73
38	Ice Giant Systems: The scientific potential of orbital missions to Uranus and Neptune. Planetary and Space Science, 2020, 191, 105030.	1.7	39
39	Uranus and Neptune: Origin, Evolution and Internal Structure. Space Science Reviews, 2020, 216, 1.	8.1	61
40	The origin of the high metallicity of close-in giant exoplanets. Astronomy and Astrophysics, 2020, 633, A33.	5.1	51
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	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
43	TOI-824 b: A New Planet on the Lower Edge of the Hot Neptune Desert. Astronomical Journal, 2020, 160, 153.	4.7	27
44	Earth as an Exoplanet. I. Time Variable Thermal Emission Using Spatially Resolved Moderate Imaging Spectroradiometer Data. Astronomical Journal, 2020, 160, 246.	4.7	8
45	Saturnâ€™s Probable Interior: An Exploration of Saturnâ€™s Potential Interior Density Structures. Astrophysical Journal, 2020, 891, 109.	4.5	24
46	Detailed Calculations of the Efficiency of Planetesimal Accretion in the Core-accretion Model. Astrophysical Journal, 2020, 899, 45.	4.5	17
47	Giant Planet Formation Models with a Self-consistent Treatment of the Heavy Elements. Astrophysical Journal, 2020, 900, 133.	4.5	26
48	Theoretical versus Observational Uncertainties: Composition of Giant Exoplanets. Astrophysical Journal, 2020, 903, 147.	4.5	18
49	The formation of Jupiterâ€™s diluted core by a giant impact. Nature, 2019, 572, 355-357.	27.8	67
50	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
51	The Deposition of Heavy Elements in Giant Protoplanetary Atmospheres: The Importance of Planetesimalâ€"Envelope Interactions. Astrophysical Journal, 2019, 871, 127.	4.5	24
52	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
53	On the Diversity in Mass and Orbital Radius of Giant Planets Formed via Disk Instability. Astrophysical Journal, 2018, 854, 112.	4.5	24
54	A Quantitative Comparison of Exoplanet Catalogs. Geosciences (Switzerland), 2018, 8, 325.	2.2	8

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55	The Interior of Saturn. , 2018, , 44-68.		6
56	Forming Mercury by Giant Impacts. Astrophysical Journal, 2018, 865, 35.	4.5	60
57	A chemical survey of exoplanets with ARIEL. Experimental Astronomy, 2018, 46, 135-209.	3.7	249
58	Threshold Radii of Volatile-rich Planets. Astrophysical Journal, 2018, 866, 49.	4.5	29
59	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2018, , 167-185.		6
60	Jupiterâ€™s evolution with primordial composition gradients. Astronomy and Astrophysics, 2018, 610, L14.	5.1	66
61	The formation of Jupiter by hybrid pebbleâ€“planetesimal accretion. Nature Astronomy, 2018, 2, 873-877.	10.1	81
62	The primordial entropy of Jupiter. Monthly Notices of the Royal Astronomical Society, 2018, 477, 4817-4823.	4.4	17
63	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2018, , 1-19.		3
64	The Fuzziness of Giant Planetsâ€™ Cores. Astrophysical Journal Letters, 2017, 840, L4.	8.3	87
65	A generalized Bayesian inference method for constraining the interiors of super Earths and sub-Neptunes. Astronomy and Astrophysics, 2017, 597, A37.	5.1	121
66	Jupiterâ€™s Formation and Its Primordial Internal Structure. Astrophysical Journal, 2017, 836, 227.	4.5	57
67	The Formation of Mini-Neptunes. Astrophysical Journal, 2017, 848, 95.	4.5	66
68	Prospects for Measuring Planetary Spin and Frame-Dragging in Spacecraft Timing Signals. Frontiers in Astronomy and Space Sciences, 2017, 4, .	2.8	7
69	Two empirical regimes of the planetary mass-radius relation. Astronomy and Astrophysics, 2017, 604, A83.	5.1	63
70	Internal Structure of Giant and Icy Planets: Importance of Heavy Elements and Mixing. , 2017, , 1-19.		3
71	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
72	METHANE PLANETS AND THEIR MASSâ€“RADIUS RELATION. Astrophysical Journal Letters, 2015, 805, L11.	8.3	27

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73	Saturnâ€™s fast spin determined from its gravitational field and oblateness. Nature, 2015, 520, 202-204.	27.8	53
74	Protosun Composition. , 2015, , 2086-2086.		0
75	Q (Toomre Parameter). , 2015, , 2100-2100.		0
76	Planetary Embryo. , 2015, , 1921-1921.		0
77	Disk Instability, Model for Giant Planet Formation. , 2015, , 658-658.		0
78	Critical Core Mass (Giant Planet Formation). , 2015, , 585-585.		0
79	Radial Drift. , 2015, , 2105-2106.		0
80	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
81	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
82	THE FORMATION OF URANUS AND NEPTUNE: CHALLENGES AND IMPLICATIONS FOR INTERMEDIATE-MASS EXOPLANETS. Astrophysical Journal, 2014, 789, 69.	4.5	75
83	Q (Toomre Parameter). , 2014, , 1-1.		0
84	Protosun Composition. , 2014, , 1-1.		0
85	INTERIOR MODELS OF SATURN: INCLUDING THE UNCERTAINTIES IN SHAPE AND ROTATION. Astrophysical Journal, 2013, 767, 113.	4.5	80
86	Atmospheric confinement of jet streams on Uranus and Neptune. Nature, 2013, 497, 344-347.	27.8	67
87	THE CHANGE IN JUPITER'S MOMENT OF INERTIA DUE TO CORE EROSION AND PLANETARY CONTRACTION. Astrophysical Journal Letters, 2012, 748, L16.	8.3	5
88	Uranus Pathfinder: exploring the origins and evolution of Ice Giant planets. Experimental Astronomy, 2012, 33, 753-791.	3.7	44
89	Jupiter's occultation radii: Implications for its internal dynamics. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	4
90	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

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91	INTERIOR MODELS OF URANUS AND NEPTUNE. Astrophysical Journal, 2011, 726, 15.	4.5	186
92	THE HEAVY-ELEMENT COMPOSITION OF DISK INSTABILITY PLANETS CAN RANGE FROM SUB- TO SUPER-NEBULAR. Astrophysical Journal, 2011, 735, 30.	4.5	57
93	Jupiterâ€™s moment of inertia: A possible determination by Juno. Icarus, 2011, 216, 440-448.	2.5	45
94	Composition of massive giant planets. Proceedings of the International Astronomical Union, 2010, 6, 95-100.	0.0	0
95	Uranus and Neptune: Shape and rotation. Icarus, 2010, 210, 446-454.	2.5	76
96	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
97	Jupiter and Saturn rotation periods. Planetary and Space Science, 2009, 57, 1467-1473.	1.7	24
98	Grain sedimentation in a giant gaseous protoplanet. Icarus, 2008, 195, 863-870.	2.5	82
99	Core formation in giant gaseous protoplanets. Icarus, 2008, 198, 156-162.	2.5	87
100	Meteor light curves: the relevant parameters. Monthly Notices of the Royal Astronomical Society, 2004, 355, 111-119.	4.4	9
101	Partially Diffusive Helium-Silica Compound under High Pressure. Chinese Physics Letters, 0, , .	3.3	3