A suppression of differential rotation in Jupiterâ€s deep

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Citation Report

#	Article	IF	Citations
2	Measurement of Jupiterâ€™s asymmetric gravity field. Nature, 2018, 555, 220-222.	13.7	177
3	Jupiterâ€™s atmospheric jet streams extend thousands of kilometres deep. Nature, 2018, 555, 223-226.	13.7	189
4	Proâ€“am collaborations improve views of Jupiter. Astronomy and Geophysics, 2018, 59, 4.24-4.31.	0.1	2
5	Matrix-propagator approach to compute fluid Love numbers and applicability to extrasolar planets. Astronomy and Astrophysics, 2018, 620, A178.	2.1	12
6	Revisiting the pre-main-sequence evolution of stars. Astronomy and Astrophysics, 2018, 618, A132.	2.1	26
8	Radial velocities. , 0, , 17-80.		0
9	Astrometry. , 0, , 81-102.		0
10	Timing. , 0, , 103-118.		0
11	Microlensing. , 0, , 119-152.		0
13	Host stars. , 0, , 373-428.		0
14	Brown dwarfs and free-floating planets. , 0, , 429-448.		0
15	Formation and evolution. , 0, , 449-558.		0
16	Interiors and atmospheres. , 0, , 559-648.		0
17	The solar system. , 0, , 649-700.		0
25	Computer simulations of Jupiterâ€™s deep internal dynamics help interpret what Juno sees. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6896-6904.	3.3	12
26	Simulations of Hâ€“He mixtures using the van der Waals density functional. Journal of Plasma Physics, 2018, 84, .	0.7	4
27	Effects of neutral buoyancy outer boundary condition in models of deep convection in giant planets. Physics of the Earth and Planetary Interiors, 2018, 282, 89-99.	0.7	3
28	Transits. , 0, , 153-328.		0

#	Article	IF	Citations
29	A deeper look at Jupiter. Nature, 2018, 555, 168-169.	13.7	0
30	Jupiterâ€™s wind bands have deep roots. Physics Today, 2018, 71, 19-21.	0.3	1
31	Layered semi-convection and tides in giant planet interiors. Astronomy and Astrophysics, 2019, 626, A82.	2.1	15
32	Comparative Planetology in IPE RAS. Izvestiya, Physics of the Solid Earth, 2019, 55, 50-64.	0.2	3
33	On the origin of wide-orbit ALMA planets: giant protoplanets disrupted by their cores. Monthly Notices of the Royal Astronomical Society, 2019, 489, 5187-5201.	1.6	9
34	Effect of Junoâ€™s Solar Panel Bending on Gravity Measurements. Journal of Guidance, Control, and Dynamics, 2019, 42, 2694-2699.	1.6	4
35	Tidal dissipation in stars and giant planets: Jean-Paul Zahn's pioneering work and legacy. EAS Publications Series, 2019, 82, 5-33.	0.3	11
36	A solution of Jupiterâ€™s gravitational field from Juno data with the orbit14 software. Monthly Notices of the Royal Astronomical Society, 2019, 490, 766-772.	1.6	12
37	An equatorial thermal wind equation: Applications to Jupiter. Icarus, 2019, 324, 198-223.	1.1	12
38	Dynamo Action in the Steeply Decaying Conductivity Region of Jupiterâ€Like Dynamo Models. Journal of Geophysical Research E: Planets, 2019, 124, 837-863.	1.5	20
39	Proper Frequencies of a Rotating Two-layer Spheroidal Liquid Mass: A Jupiter Model. Astrophysical Journal, Supplement Series, 2019, 241, 8.	3.0	3
40	On the determination of Jupiter's satellite-dependent Love numbers from Juno gravity data. Planetary and Space Science, 2019, 175, 34-40.	0.9	10
41	Anelastic torsional oscillations in Jupiter's metallic hydrogen region. Earth and Planetary Science Letters, 2019, 519, 50-60.	1.8	6
42	Cassini-Huygensâ€™ exploration of the Saturn system: 13 years of discovery. Science, 2019, 364, 1046-1051.	6.0	35
43	Tesseral Harmonics of Jupiter from Static Tidal Response. Astrophysical Journal, 2019, 874, 156.	1.6	7
44	Time variation of Jupiterâ€™s internal magnetic field consistent with zonal wind advection. Nature Astronomy, 2019, 3, 730-735.	4.2	46
45	New Models of Jupiter in the Context of Juno and Galileo. Astrophysical Journal, 2019, 872, 100.	1.6	114
46	Dynamo action of the zonal winds in Jupiter. Astronomy and Astrophysics, 2019, 629, A125.	2.1	20

#	Article	IF	Citations
47	Ab initio based equation of state of dense water for planetary and exoplanetary modeling. Astronomy and Astrophysics, 2019, 621, A128.	2.1	43
48	Understanding Jupiterâ€™s deep interior: the effect of a dilute core. Astronomy and Astrophysics, 2019, 632, A76.	2.1	13
49	Implementation of the system II transit point data for investigating the reduction of the rotational speed of the planet Jupiter. SN Applied Sciences, 2019, 1, 1.	1.5	0
50	First measurements of Jupiterâ€™s zonal winds with visible imaging spectroscopy. Icarus, 2019, 319, 795-811.	1.1	10
51	Measurement and implications of Saturnâ€™s gravity field and ring mass. Science, 2019, 364, .	6.0	148
52	Tidal power and banding in Jupiter. Planetary and Space Science, 2019, 165, 244-249.	0.9	3
53	Global climate modeling of Saturn's atmosphere. Part II: Multi-annual high-resolution dynamical simulations. Icarus, 2020, 335, 113377.	1.1	31
54	The landscape of Saturnâ€™s internal magnetic field from the Cassini Grand Finale. Icarus, 2020, 344, 113541.	1.1	33
55	Deep model simulation of polar vortices in gas giant atmospheres. Monthly Notices of the Royal Astronomical Society, 2020, 499, 4698-4715.	1.6	16
56	Demonstration of X-ray Thomson scattering as diagnostics for miscibility in warm dense matter. Nature Communications, 2020, 11, 2620.	5.8	27
57	Deep convectionâ€“driven vortex formation on Jupiter and Saturn. Science Advances, 2020, 6, .	4.7	25
58	Storms and the Depletion of Ammonia in Jupiter: I. Microphysics of â€œMushballsâ€• Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006403.	1.5	29
59	Cassini Exploration of the Planet Saturn: A Comprehensive Review. Space Science Reviews, 2020, 216, 122.	3.7	15
60	Convective differential rotation in stars and planets â€“ I. Theory. Monthly Notices of the Royal Astronomical Society, 2020, 498, 3758-3781.	1.6	5
61	Convective differential rotation in stars and planets â€“ II. Observational and numerical tests. Monthly Notices of the Royal Astronomical Society, 2020, 498, 3782-3806.	1.6	3
62	Understanding dense hydrogen at planetary conditions. Nature Reviews Physics, 2020, 2, 562-574.	11.9	29
63	Atmospheric regimes and trends on exoplanets and brown dwarfs. Research in Astronomy and Astrophysics, 2020, 20, 099.	0.7	55
64	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.	1.5	10

#	Article	IF	Citations
65	Wave propagation in semiconvective regions of giant planets. Monthly Notices of the Royal Astronomical Society, 2020, 493, 5788-5806.	1.6	12
66	Nonlinear Electronic Density Response in Warm Dense Matter. Physical Review Letters, 2020, 125, 085001.	2.9	53
67	Finite-size effects in the reconstruction of dynamic properties fromab initiopath integral Monte Carlo simulations. Physical Review E, 2020, 102, 063301.	0.8	27
68	Atmospheric Dynamics of Hot Giant Planets and Brown Dwarfs. Space Science Reviews, 2020, 216, 1.	3.7	57
69	Contributions to Jupiter's Gravity Field From Dynamics in the Dynamo Region. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006165.	1.5	5
70	Saturn's Rings as a Seismograph to Probe Saturn's Internal Structure. AGU Advances, 2020, 1, e2019AV000142.	2.3	5
71	Effects of Ground Station Delays on Plasma Calibrations for Juno Orbit Determination. , 2020, , .		1
72	Remote determination of the shape of Jupiterâ€™s vortices from laboratory experiments. Nature Physics, 2020, 16, 695-700.	6.5	14
73	Equilibrium Tidal Response of Jupiter: Detectability by the Juno Spacecraft. Astrophysical Journal, 2020, 891, 42.	1.6	17
74	How Well Do We Understand the Belt/Zone Circulation of Giant Planet Atmospheres?. Space Science Reviews, 2020, 216, 30.	3.7	45
75	The Range of Jupiter's Flow Structures That Fit the Juno Asymmetric Gravity Measurements. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006292.	1.5	14
76	Comparison of the Deep Atmospheric Dynamics of Jupiter and Saturn in Light of the Juno and Cassini Gravity Measurements. Space Science Reviews, 2020, 216, 1.	3.7	45
77	Depth of Jupiterâ€™s Zonal Flow under the â€œShallow-windâ€•Assumption. Astrophysical Journal, 2020, 897, 85.	1.6	2
78	Global climate modeling of Saturn's atmosphere. Part III: Global statistical picture of zonostrophic turbulence in high-resolution 3D-turbulent simulations. Icarus, 2020, 345, 113705.	1.1	12
79	Mechanisms for Limiting the Depth of Zonal Winds in the Gas Giant Planets. Astrophysical Journal, 2020, 890, 61.	1.6	34
80	Evidence for a Dichotomy in the Interior Structures of Jupiter and Saturn from Helium Phase Separation. Astrophysical Journal, 2020, 889, 51.	1.6	22
81	Revealing giant planet interiors beneath the cloudy veil. Nature Communications, 2020, 11, 1555.	5.8	3
82	A measurement of the wind speed on a brown dwarf. Science, 2020, 368, 169-172.	6.0	29

#	Article	IF	Citations
83	Linking zonal winds and gravity: the relative importance of dynamic self-gravity. Monthly Notices of the Royal Astronomical Society, 2020, 492, 3364-3374.	1.6	11
84	Updated Europa gravity field and interior structure from a reanalysis of Galileo tracking data. Icarus, 2021, 358, 114187.	1.1	24
85	Jupiter. , 2021, , 108-122.		0
86	Hypersphere World-Universe Model. Journal of High Energy Physics Gravitation and Cosmology, 2021, 07, 915-941.	0.3	6
87	The Fundamental Connections between the Solar System and Exoplanetary Science. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006643.	1.5	15
88	Connecting the Gravity Field, Moment of Inertia, and Core Properties in Jupiter through Empirical Structural Models. Astrophysical Journal, 2021, 910, 38.	1.6	6
89	First direct measurement of auroral and equatorial jets in the stratosphere of Jupiter. Astronomy and Astrophysics, 2021, 647, L8.	2.1	16
90	Analytical representation of the local field correction of the uniform electron gas within the effective static approximation. Physical Review B, 2021, 103, .	1.1	31
91	About influence of differential rotation in convection zone of gaseous or fluid giant planet (Uranus) onto the parameters of orbits of satellites. European Physical Journal Plus, 2021, 136, 1.	1.2	27
92	The impact of tidal friction evolution on the orbital decay of ultra-short period planets. Monthly Notices of the Royal Astronomical Society, 0, , .	1.6	8
93	Constraints on the Latitudinal Profile of Jupiter's Deep Jets. Geophysical Research Letters, 2021, 48, e2021GL092912.	1.5	13
95	Linking zonal winds and gravity â€“ II. Explaining the equatorially antisymmetric gravity moments of Jupiter. Monthly Notices of the Royal Astronomical Society, 2021, 505, 3177-3191.	1.6	10
96	In Situ exploration of the giant planets. Experimental Astronomy, 2022, 54, 975-1013.	1.6	5
97	A diffuse core in Saturn revealed by ring seismology. Nature Astronomy, 2021, 5, 1103-1109.	4.2	62
98	Giant Outer Transiting Exoplanet Mass (GOT â€˜EM) Survey. II. Discovery of a Failed Hot Jupiter on a 2.7 Yr, Highly Eccentric Orbit*. Astronomical Journal, 2021, 162, 154.	1.9	14
99	Imprint of planet formation in the deep interior of the Sun. Astronomy and Astrophysics, 0, , .	2.1	6
100	On a new formulation for energy transfer between convection and fast tides with application to giant planets and solar type stars. Monthly Notices of the Royal Astronomical Society, 2021, 503, 5789-5806.	1.6	23
101	Atmospheric circulation of brown dwarfs and directly imaged exoplanets driven by cloud radiative feedback: global and equatorial dynamics. Monthly Notices of the Royal Astronomical Society, 2021, 502, 2198-2219.	1.6	25

#	Article	IF	Citations
103	Saturn's Deep Atmospheric Flows Revealed by the Cassini Grand Finale Gravity Measurements. Geophysical Research Letters, 2019, 46, 616-624.	1.5	65
104	Jupiter's Gravity Field Halfway Through the Juno Mission. Geophysical Research Letters, 2020, 47, e2019GL086572.	1.5	79
105	Acoustic and inertial modes in planetary-like rotating ellipsoids. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200131.	1.0	6
106	Magnetic quenching of the inverse cascade in rapidly rotating convective turbulence. Physical Review Fluids, 2019, 4, .	1.0	7
107	Magnetic eddy viscosity of mean shear flows in two-dimensional magnetohydrodynamics. Physical Review Fluids, 2019, 4, .	1.0	6
108	Saturnâ€™s Probable Interior: An Exploration of Saturnâ€™s Potential Interior Density Structures. Astrophysical Journal, 2020, 891, 109.	1.6	24
109	Solar System. Angular Momentum. Dark Matter Reactors. Journal of High Energy Physics Gravitation and Cosmology, 2021, 07, 1353-1372.	0.3	4
110	From the Beginning of the World to the Beginning of Life on Earth. Journal of High Energy Physics Gravitation and Cosmology, 2021, 07, 1503-1523.	0.3	6
111	Evidence for Multiple Ferrelâ€Like Cells on Jupiter. Geophysical Research Letters, 2021, 48, e2021GL095651.	1.5	18
112	Hypersphere World-Universe Model. Tribute to Classical Physics. Journal of High Energy Physics Gravitation and Cosmology, 2018, 04, 441-470.	0.3	10
113	Solar System. Angular Momentum. New Physics. Journal of High Energy Physics Gravitation and Cosmology, 2019, 05, 112-139.	0.3	17
114	Understanding Saturnâ€™s interior from theCassiniGrand Finale gravity measurements. Astronomy and Astrophysics, 2020, 639, A10.	2.1	11
115	Jupiter's Temperate Belt/Zone Contrasts Revealed at Depth by Juno Microwave Observations. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006858.	1.5	17
116	Microwave observations reveal the deep extent and structure of Jupiterâ€™s atmospheric vortices. Science, 2021, 374, 968-972.	6.0	23
117	Uranus and Neptune are key to understand planets with hydrogen atmospheres. Experimental Astronomy, 2022, 54, 1027-1049.	1.6	7
118	The effect of pre-impact spin on the Moon-forming collision. Monthly Notices of the Royal Astronomical Society, 2020, 500, 2861-2870.	1.6	7
119	Hypersphere World-Universe Model: Basic Ideas. Journal of High Energy Physics Gravitation and Cosmology, 2020, 06, 710-752.	0.3	8
120	Hypersphere World-Universe Model: Centre of Our Galaxy. Journal of High Energy Physics Gravitation and Cosmology, 2022, 08, 25-55.	0.3	3

#	Article	IF	Citations
121	In Situ Formation of Super-Earth/Sub-Neptune Driven by the Planetary Rotation. Astrophysical Journal, 2021, 922, 215.	1.6	1
122	The TESS-Keck Survey. VIII. Confirmation of a Transiting Giant Planet on an Eccentric 261 Day Orbit with the Automated Planet Finder Telescope*. Astronomical Journal, 2022, 163, 61.	1.9	19
123	Spontaneous Generated Convective Anticyclones at Low Latitudeâ€"A Model for the Great Red Spot. Astrophysical Journal, 2022, 925, 94.	1.6	0
124	Understanding the interior structure of gaseous giant exoplanets with machine learning techniques. Astronomy and Astrophysics, 2022, 658, A201.	2.1	3
125	A New Model of Jupiter's Magnetic Field at the Completion of Juno's Prime Mission. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	60
126	Revelations on Jupiter's formation, evolution and interior: Challenges from Juno results. Icarus, 2022, 378, 114937.	1.1	29
127	Jupiterâ€™s inhomogeneous envelope. Astronomy and Astrophysics, 2022, 662, A18.	2.1	31
129	Mixing of Condensable Constituents with Hâ€“He during the Formation and Evolution of Jupiter. Planetary Science Journal, 2022, 3, 74.	1.5	9
130	Polar and mid-latitude vortices and zonal flows on Jupiter and Saturn. Icarus, 2022, 379, 114942.	1.1	9
131	Orbit determination methods for interplanetary missions: development and use of the Orbit14 software. Experimental Astronomy, 2022, 53, 159-208.	1.6	3
132	Theory of Figures to the Seventh Order and the Interiors of Jupiter and Saturn. Planetary Science Journal, 2021, 2, 241.	1.5	26
133	Kinetic studies of exchange-correlation effect on the collective excitations of warm dense plasmas. Physical Review E, 2022, 105, 045206.	0.8	3
134	Benchmarking the ab initio hydrogen equation of state for the interior structure of Jupiter. Astronomy and Astrophysics, 0, , .	2.1	5
135	Jupiter's Temperature Structure: A Reassessment of the Voyager Radio Occultation Measurements. Planetary Science Journal, 2022, 3, 159.	1.5	11
136	Juno Spacecraft Measurements of Jupiterâ€™s Gravity Imply a Dilute Core. Planetary Science Journal, 2022, 3, 185.	1.5	23
137	The Internal Structure and Dynamics of Jupiter Unveiled by a Highâ€Resolution Magnetic Field and Secular Variation Model. Geophysical Research Letters, 2022, 49, .	1.5	6
138	Dynamo Simulations of Jupiter's Magnetic Field: The Role of Stable Stratification and a Dilute Core. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	5
139	Zonal jets experiments in the gas giantsâ€™ zonostrophic regime. Icarus, 2023, 390, 115292.	1.1	4

#	Article	IF	Citations
140	Ion core effect on transport characteristics in warm dense matter. Physics of Plasmas, 2022, 29, 112706.	0.7	1
141	Gravity Field of Ganymede After the Juno Extended Mission. Geophysical Research Letters, 2022, 49, .	1.5	7
142	Direct driving of simulated planetary jets by upscale energy transfer. Astronomy and Astrophysics, 2023, 670, A15.	2.1	4
143	Highlight Advances in Planetary Physics in the Solar System: In Situ Detection Over the Past 20 Years. Space: Science & Technology, 2023, 3, .	1.0	0
144	Nested spheroidal figuresÂof equilibrium III. Connection with the gravitational moments J2n. Monthly Notices of the Royal Astronomical Society, 0, , .	1.6	1
145	Interior and Evolution of the Giant Planets. Remote Sensing, 2023, 15, 681.	1.8	5
146	The Deep Atmospheric Composition of Jupiter from Thermochemical Calculations Based on Galileo and Juno Data. Remote Sensing, 2023, 15, 841.	1.8	1
147	Jupiterâ€™s interior from Juno: Equation-of-state uncertainties and dilute core extent. Astronomy and Astrophysics, 2023, 672, A33.	2.1	9
148	The Shape of Jupiter and Saturn Based on Atmospheric Dynamics, Radio Occultations and Gravity Measurements. Geophysical Research Letters, 2023, 50, .	1.5	0
149	Electronic density response of warm dense matter. Physics of Plasmas, 2023, 30, .	0.7	23
150	Saturn's Seismic Rotation Revisited. Planetary Science Journal, 2023, 4, 59.	1.5	3