Peter L Read

List of Publications by Year
in descending order

116 papers	5,646 citations	71102 41 h-index	79698 73 g-index
133 all docs	133 docs citations	133 times ranked	2899 citing authors

#	Article	IF	Citations
1	Improved general circulation models of the Martian atmosphere from the surface to above 80 km. Journal of Geophysical Research, 1999, 104, 24155-24175.	3.3	955
2	A climate database for Mars. Journal of Geophysical Research, 1999, 104, 24177-24194.	3.3	299
3	Exploring The Saturn System In The Thermal Infrared: The Composite Infrared Spectrometer. Space Science Reviews, 2004, 115, 169-297.	8.1	275
4	Mars Climate Sounder: An investigation of thermal and water vapor structure, dust and condensate distributions in the atmosphere, and energy balance of the polar regions. Journal of Geophysical Research, 2007, 112, .	3.3	229
5	Modeling the Martian dust cycle, 1. Representations of dust transport processes. Journal of Geophysical Research, 2002, 107, 6-1-6-18.	3.3	194
6	Structure and dynamics of the Martian lower and middle atmosphere as observed by the Mars Climate Sounder: Seasonal variations in zonal mean temperature, dust, and water ice aerosols. Journal of Geophysical Research, 2010, 115, .	3.3	183
7	Modeling the Martian dust cycle 2. Multiannual radiatively active dust transport simulations. Journal of Geophysical Research, 2002, 107, 7-1-7-15.	3.3	121
8	THE MARTIAN ATMOSPHERIC BOUNDARY LAYER. Reviews of Geophysics, 2011, 49, .	23.0	119
9	Saturnâ€™s rotation period from its atmospheric planetary-wave configuration. Nature, 2009, 460, 608-610.	27.8	105
10	An intense stratospheric jet on Jupiter. Nature, 2004, 427, 132-135.	27.8	103
11	Temperature and Composition of Saturn's Polar Hot Spots and Hexagon. Science, 2008, 319, 79-81.	12.6	103
12	The Atmospheric Dynamics of Venus. Space Science Reviews, 2017, 212, 1541-1616.	8.1	95
13	Anisotropic turbulence and zonal jets in rotating flows with a Î²-effect. Nonlinear Processes in Geophysics, 2006, 13, 83-98.	1.3	94
14	Assimilation of thermal emission spectrometer atmospheric data during the Mars Global Surveyor aerobraking period. Icarus, 2007, 192, 327-347.	2.5	91
15	Quasi-periodic and chaotic flow regimes in a thermally driven, rotating fluid annulus. Journal of Fluid Mechanics, 1992, 238, 599-632.	3.4	83
16	The solsticial pause on Mars: 1. A planetary wave reanalysis. Icarus, 2016, 264, 456-464.	2.5	74
17	Intense polar temperature inversion in the middle atmosphere on Mars. Nature Geoscience, 2008, 1, 745-749.	12.9	71
18	Forward and inverse kinetic energy cascades in Jupiterâ€™s turbulent weather layer. Nature Physics, 2017, 13, 1135-1140.	16.7	71

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19	Inertiaâ€“Gravity Waves Emitted from Balanced Flow: Observations, Properties, and Consequences. Journals of the Atmospheric Sciences, 2008, 65, 3543-3556.	1.7	70
20	A laboratory model of Saturnâ€™s North Polar Hexagon. Icarus, 2010, 206, 755-763.	2.5	69
21	Wave interactions and the transition to chaos of baroclinic waves in a thermally driven rotating annulus. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 1997, 355, 101-153.	3.4	68
22	Superrotation in a Venus general circulation model. Journal of Geophysical Research, 2007, 112, .	3.3	65
23	Superrotation on Venus, on Titan, and Elsewhere. Annual Review of Earth and Planetary Sciences, 2018, 46, 175-202.	11.0	64
24	On the generation mechanisms of short-scale unbalanced modes in rotating two-layer flows with vertical shear. Journal of Fluid Mechanics, 2005, 528, 1-22.	3.4	63
25	Mapping potential-vorticity dynamics on Jupiter. I: Zonal-mean circulation from Cassini and Voyager 1 data. Quarterly Journal of the Royal Meteorological Society, 2006, 132, 1577-1603.	2.7	63
26	Dynamics of Convectively Driven Banded Jets in the Laboratory. Journals of the Atmospheric Sciences, 2007, 64, 4031-4052.	1.7	63
27	Upper atmosphere of Mars up to 120 km: Mars Global Surveyor accelerometer data analysis with the LMD general circulation model. Journal of Geophysical Research, 2004, 109, .	3.3	62
28	The Mars Analysis Correction Data Assimilation (<scp>MACDA</scp>) Dataset V1.0. Geoscience Data Journal, 2014, 1, 129-139.	4.4	61
29	Titan's winter polar vortex structure revealed by chemical tracers. Journal of Geophysical Research, 2008, 113, .	3.3	58
30	An isolated baroclinic eddy as a laboratory analogue of the Great Red Spot on Jupiter. Nature, 1984, 308, 45-48.	27.8	56
31	Experiments on a barotropic rotating shear layer. Part 1. Instability and steady vortices. Journal of Fluid Mechanics, 1999, 383, 143-173.	3.4	56
32	The physics of Martian weather and climate: a review. Reports on Progress in Physics, 2015, 78, 125901.	20.1	54
33	Super-rotation and diffusion of axial angular momentum: II. A review of quasi-axisymmetric models of planetary atmospheres. Quarterly Journal of the Royal Meteorological Society, 1986, 112, 253-272.	2.7	53
34	Interannual variability of Martian dust storms in assimilation of several years of Mars global surveyor observations. Advances in Space Research, 2005, 36, 2146-2155.	2.6	51
35	Cassini observations reveal a regime of zonostrophic macroturbulence on Jupiter. Icarus, 2014, 229, 295-320.	2.5	50
36	Long-lived eddies in the laboratory and in the atmospheres of Jupiter and Saturn. Nature, 1983, 302, 126-129.	27.8	46

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37	Spontaneous generation and impact of inertia-gravity waves in a stratified, two-layer shear flow. Geophysical Research Letters, 2003, 30, .	4.0	46
38	Simulating the interannual variability of major dust storms on Mars using variable lifting thresholds. Icarus, 2013, 223, 344-358.	2.5	45
39	Polar vortices on Earth and Mars: A comparative study of the climatology and variability from reanalyses. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 550-562.	2.7	45
40	Turbulence, waves, and jets in a differentially heated rotating annulus experiment. Physics of Fluids, 2008, 20, .	4.0	44
41	Transition To Geostrophic Turbulence In The Laboratory, And As A Paradigm In Atmospheres And Oceans. Surveys in Geophysics, 2001, 22, 265-317.	4.6	42
42	Jupiter's and Saturn's convectively driven banded jets in the laboratory. Geophysical Research Letters, 2004, 31, .	4.0	42
43	Experiments on the structure of baroclinic waves and zonal jets in an internally heated, rotating, cylinder of fluid. Physics of Fluids, 1998, 10, 374-389.	4.0	38
44	Saturn Atmospheric Structure and Dynamics. , 2009, , 113-159.		38
45	A hexagon in Saturnâ€™s northern stratosphere surrounding the emerging summertime polar vortex. Nature Communications, 2018, 9, 3564.	12.8	36
46	Equatorial jets in the dusty Martian atmosphere. Journal of Geophysical Research, 2003, 108, .	3.3	33
47	Saturn's emitted power. Journal of Geophysical Research, 2010, 115, .	3.3	33
48	Simulating Jupiterâ€™s weather layer. Part I: Jet spin-up in a dry atmosphere. Icarus, 2019, 326, 225-252.	2.5	33
49	Geostrophic Scatter Diagrams and Potential Vorticity Dynamics. Journals of the Atmospheric Sciences, 1986, 43, 3226-3240.	1.7	32
50	Wave interactions and baroclinic chaos: a paradigm for long timescale variability in planetary atmospheres. Chaos, Solitons and Fractals, 1998, 9, 231-249.	5.1	30
51	Direct numerical simulations of bifurcations in an air-filled rotating baroclinic annulus. Journal of Fluid Mechanics, 2006, 561, 359.	3.4	30
52	Global energy budgets and â€˜Trenberth diagramsâ€™ for the climates of terrestrial and gas giant planets. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 703-720.	2.7	28
53	A laboratory study of baroclinic waves and turbulence in an internally heated rotating fluid annulus with sloping endwalls. Journal of Fluid Mechanics, 1997, 339, 173-198.	3.4	27
54	Synchronization in a Pair of Thermally Coupled Rotating Baroclinic Annuli: Understanding Atmospheric Teleconnections in the Laboratory. Physical Review Letters, 2010, 104, 204501.	7.8	25

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55	Assessing atmospheric predictability on Mars using numerical weather prediction and data assimilation. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 1614-1635.	2.7	24
56	Comparative terrestrial atmospheric circulation regimes in simplified global circulation models. Part I: From cyclostrophic superâ€rotation to geostrophic turbulence. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2537-2557.	2.7	24
57	Regimes of axisymmetric flow in an internally heated rotating fluid. Journal of Fluid Mechanics, 1986, 168, 255.	3.4	23
58	Temperature time-series?. Nature, 1992, 355, 686-686.	27.8	23
59	Western boundary currents in the atmosphere of Mars. Nature, 1994, 367, 548-551.	27.8	23
60	Testing the limits of quasi-geostrophic theory: application to observed laboratory flows outside the quasi-geostrophic regime. Journal of Fluid Mechanics, 2010, 649, 187-203.	3.4	23
61	Models of Venus Atmosphere. , 2013, , 129-156.		23
62	A combined laboratory and numerical study of heat transport by baroclinic eddies and axisymmetric flows. Journal of Fluid Mechanics, 2003, 489, 301-323.	3.4	22
63	Synchronisation of the equatorial QBO by the annual cycle in tropical upwelling in a warming climate. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1111-1120.	2.7	21
64	An experimental study of multiple zonal jet formation in rotating, thermally driven convective flows on a topographic beta-plane. Physics of Fluids, 2015, 27, .	4.0	20
65	Bifurcations and instabilities in rotating, two-layer fluids: II. Î²-plane. Nonlinear Processes in Geophysics, 2002, 9, 289-309.	1.3	19
66	Generation of inertiaâ€“gravity waves in the rotating thermal annulus by a localised boundary layer instability. Geophysical and Astrophysical Fluid Dynamics, 2011, 105, 161-181.	1.2	19
67	An assessment of the impact of local processes on dust lifting in martian climate models. Icarus, 2015, 252, 212-227.	2.5	17
68	Laboratory and numerical studies of baroclinic waves in an internally heated rotating fluid annulus: a case of wave/vortex duality?. Journal of Fluid Mechanics, 1997, 337, 155-191.	3.4	16
69	A bulk cloud parameterization in a Venus General Circulation Model. Icarus, 2010, 206, 662-668.	2.5	16
70	Baroclinic and barotropic instabilities in planetary atmospheres: energetics, equilibration and adjustment. Nonlinear Processes in Geophysics, 2020, 27, 147-173.	1.3	16
71	The effect of a global dust storm on simulations of the Martian water cycle. Geophysical Research Letters, 2004, 31, .	4.0	15
72	A regime diagram for ocean geostrophic turbulence. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 2411-2417.	2.7	15

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73	Descent Rate Models of the Synchronization of the Quasi-Biennial Oscillation by the Annual Cycle in Tropical Upwelling. Journals of the Atmospheric Sciences, 2018, 75, 2281-2297.	1.7	15
74	Temperature oscillations. Nature, 1992, 359, 679-679.	27.8	14
75	Nonconservation of Ertel Potential Vorticity in Hydrogen Atmospheres. Journals of the Atmospheric Sciences, 2004, 61, 1953-1965.	1.7	14
76	Synchronization of modulated traveling baroclinic waves in a periodically forced, rotating fluid annulus. Physical Review E, 2009, 79, 015202.	2.1	14
77	A rotating annulus driven by localized convective forcing: a new atmosphere-like experiment. Experiments in Fluids, 2017, 58, 1.	2.4	14
78	Gas Giants. , 2019, , 72-103.		14
79	A Lorenz/Boer energy budget for the atmosphere of Mars from a â€œreanalysisâ€•of spacecraft observations. Geophysical Research Letters, 2015, 42, 8320-8327.	4.0	13
80	Super-rotation and diffusion of axial angular momentum: I. â€˜Speed limitsâ€™ for axisymmetric flow in a rotating cylindrical fluid annulus. Quarterly Journal of the Royal Meteorological Society, 1986, 112, 231-251.	2.7	12
81	Simulating Jupiterâ€™s weather layer. Part II: Passive ammonia and water cycles. Icarus, 2019, 326, 253-268.	2.5	12
82	Bifurcations and instabilities in rotating two-layer fluids: I.f-plane. Nonlinear Processes in Geophysics, 2001, 8, 21-36.	1.3	11
83	Reconstructing the weather on Mars at the time of the MERs and Beagle 2 landings. Geophysical Research Letters, 2006, 33, .	4.0	11
84	Comparative terrestrial atmospheric circulation regimes in simplified global circulation models. Part II: Energy budgets and spectral transfers. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2558-2576.	2.7	11
85	Phase synchronization between stratospheric and tropospheric quasiâ€biennial and semiâ€annual oscillations. Quarterly Journal of the Royal Meteorological Society, 2012, 138, 1338-1349.	2.7	10
86	Data assimilation in the laboratory using a rotating annulus experiment. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 1488-1504.	2.7	9
87	A laboratory study of global-scale wave interactions in baroclinic flow with topography I: multiple flow regimes. Geophysical and Astrophysical Fluid Dynamics, 2011, 105, 128-160.	1.2	8
88	Regimes of Axisymmetric Flow and Scaling Laws in a Rotating Annulus with Local Convective Forcing. Fluids, 2017, 2, 41.	1.7	8
89	Non-axisymmetric flows in a differential-disk rotating system. Journal of Fluid Mechanics, 2015, 775, 349-386.	3.4	7
90	Investigating the semiannual oscillation on Mars using data assimilation. Icarus, 2019, 333, 404-414.	2.5	7

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91	Storm-clouds brooding on towering heights. Nature, 2011, 475, 44-45.	27.8	6
92	A laboratory study of global-scale wave interactions in baroclinic flow with topography II: vacillations and low-frequency variability. Geophysical and Astrophysical Fluid Dynamics, 2015, 109, 359-390.	1.2	6
93	Phase synchronization of baroclinic waves in a differentially heated rotating annulus experiment subject to periodic forcing with a variable duty cycle. Chaos, 2017, 27, 127001.	2.5	6
94	Wave number selection in the presence of noise: Experimental results. Chaos, 2018, 28, 053110.	2.5	6
95	Potential Vorticity of Saturn's Polar Regions: Seasonality and Instabilities. Journal of Geophysical Research E: Planets, 2019, 124, 186-201.	3.6	6
96	The turbulent dynamics of Jupiterâ€™s and Saturnâ€™s weather layers: order out of chaos?. Geoscience Letters, 2020, 7, .	3.3	6
97	An experimental investigation into topographic resonance in a baroclinic rotating annulus. Geophysical and Astrophysical Fluid Dynamics, 2015, 109, 391-421.	1.2	5
98	An experimental investigation of blocking by partial barriers in a rotating baroclinic annulus. Geophysical and Astrophysical Fluid Dynamics, 2018, 112, 97-129.	1.2	5
99	Ertel potential vorticity versus Bernoulli streamfunction on Mars. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 37-52.	2.7	4
100	Revealing the Intensity of Turbulent Energy Transfer in Planetary Atmospheres. Geophysical Research Letters, 2020, 47, e2020GL088685.	4.0	4
101	Assimilation of Both Columnâ€•and Layerâ€‐Integrated Dust Opacity Observations in the Martian Atmosphere. Earth and Space Science, 2021, 8, .	2.6	4
102	Clearer circulation on Uranus. Nature, 1987, 325, 197-198.	27.8	3
103	Atmospheric Dynamics of Terrestrial Planets. , 2018, , 1-31.		3
104	Super-rotation and diffusion of axial angular momentum: II. A review of quasi-axisymmetric models of planetary atmospheres. Quarterly Journal of the Royal Meteorological Society, 1986, 112, 253-272.	2.7	3
105	Diversity of Planetary Atmospheric Circulations and Climates in a Simplified General Circulation Model. Proceedings of the International Astronomical Union, 2012, 8, 297-302.	0.0	2
106	Plumbing the depths of Uranus and Neptune. Nature, 2013, 497, 323-324.	27.8	2
107	A Sea Change in Exoplanet Climate Models?. Astrobiology, 2014, 14, 627-628.	3.0	2
108	Predictability of the thermally driven laboratory rotating annulus. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 911-927.	2.7	2

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109	A Chorus of the Winds-On Saturn!. Journal of Geophysical Research E: Planets, 2018, 123, 1007-1011.	3.6	2
110	Raymond Hide. 17 May 1929â€"6 September 2016. Biographical Memoirs of Fellows of the Royal Society, 2019, 67, 191-215.	0.1	2
111	Thermal versus mechanical topography: an experimental investigation in a rotating baroclinic annulus. Geophysical and Astrophysical Fluid Dynamics, 2020, 114, 763-797.	1.2	2
112	Characterizing Regimes of Atmospheric Circulation in Terms of Their Global Superrotation. Journals of the Atmospheric Sciences, 2021, 78, 1245-1258.	1.7	2
113	Energy Exchanges in Saturn's Polar Regions From Cassini Observations: Eddyâ€Zonal Flow Interactions. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	1
114	Predicting chaotic climates: from Earth to super-Earths?. , 2010, , .		0
115	Assimilating and Modeling Dust Transport in the Martian Climate System. Proceedings of the International Astronomical Union, 2012, 8, 326-328.	0.0	0
116	Pen portraits of <scp>Presidents</scp> â€" <scp>Professor Raymond Hide</scp>, <scp>CBE</scp>, <scp>ScD</scp>, <scp>FRS</scp>. Weather, 2022, 77, 103-107.	0.7	0