

# Peter L Read

## List of Publications by Year in descending order

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116  
papers

5,646  
citations

70961

41  
h-index

79541

73  
g-index

133  
all docs

133  
docs citations

133  
times ranked

2899  
citing authors

#	ARTICLE	IF	CITATIONS
1	Pen portraits of <sc>Presidents</sc> â€“ <sc>Professor Raymond Hide</sc>, <sc>CBE</sc>, <sc>ScD</sc>, <sc>FRS</sc>. Weather, 2022, 77, 103-107.	0.6	0
2	Energy Exchanges in Saturn's Polar Regions From Cassini Observations: Eddyâ€Zonal Flow Interactions. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	1
3	Characterizing Regimes of Atmospheric Circulation in Terms of Their Global Superrotation. Journals of the Atmospheric Sciences, 2021, 78, 1245-1258.	0.6	2
4	Assimilation of Both Columnâ€and Layerâ€Integrated Dust Opacity Observations in the Martian Atmosphere. Earth and Space Science, 2021, 8, .	1.1	4
5	Baroclinic and barotropic instabilities in planetary atmospheres: energetics, equilibration and adjustment. Nonlinear Processes in Geophysics, 2020, 27, 147-173.	0.6	16
6	Thermal versus mechanical topography: an experimental investigation in a rotating baroclinic annulus. Geophysical and Astrophysical Fluid Dynamics, 2020, 114, 763-797.	0.4	2
7	Revealing the Intensity of Turbulent Energy Transfer in Planetary Atmospheres. Geophysical Research Letters, 2020, 47, e2020GL088685.	1.5	4
8	The turbulent dynamics of Jupiterâ€™s and Saturnâ€™s weather layers: order out of chaos?. Geoscience Letters, 2020, 7, .	1.3	6
9	Investigating the semiannual oscillation on Mars using data assimilation. Icarus, 2019, 333, 404-414.	1.1	7
10	Raymond Hide. 17 May 1929â€6 September 2016. Biographical Memoirs of Fellows of the Royal Society, 2019, 67, 191-215.	0.1	2
11	Simulating Jupiterâ€™s weather layer. Part II: Passive ammonia and water cycles. Icarus, 2019, 326, 253-268.	1.1	12
12	Simulating Jupiterâ€™s weather layer. Part I: Jet spin-up in a dry atmosphere. Icarus, 2019, 326, 225-252.	1.1	33
13	Gas Giants. , 2019, , 72-103.		14
14	Potential Vorticity of Saturn's Polar Regions: Seasonality and Instabilities. Journal of Geophysical Research E: Planets, 2019, 124, 186-201.	1.5	6
15	An experimental investigation of blocking by partial barriers in a rotating baroclinic annulus. Geophysical and Astrophysical Fluid Dynamics, 2018, 112, 97-129.	0.4	5
16	Superrotation on Venus, on Titan, and Elsewhere. Annual Review of Earth and Planetary Sciences, 2018, 46, 175-202.	4.6	64
17	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.	1.0	11
18	A hexagon in Saturnâ€™s northern stratosphere surrounding the emerging summertime polar vortex. Nature Communications, 2018, 9, 3564.	5.8	36

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19	A Chorus of the Winds-On Saturn!. Journal of Geophysical Research E: Planets, 2018, 123, 1007-1011.	1.5	2
20	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.	0.6	15
21	Atmospheric Dynamics of Terrestrial Planets. , 2018, , 1-31.		3
22	Comparative terrestrial atmospheric circulation regimes in simplified global circulation models. Part I: From cyclostrophic superrotation to geostrophic turbulence. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2537-2557.	1.0	24
23	Wave number selection in the presence of noise: Experimental results. Chaos, 2018, 28, 053110.	1.0	6
24	Ertel potential vorticity versus Bernoulli streamfunction on Mars. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 37-52.	1.0	4
25	A rotating annulus driven by localized convective forcing: a new atmosphere-like experiment. Experiments in Fluids, 2017, 58, 1.	1.1	14
26	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.	1.0	6
27	The Atmospheric Dynamics of Venus. Space Science Reviews, 2017, 212, 1541-1616.	3.7	95
28	Forward and inverse kinetic energy cascades in Jupiter's turbulent weather layer. Nature Physics, 2017, 13, 1135-1140.	6.5	71
29	Regimes of Axisymmetric Flow and Scaling Laws in a Rotating Annulus with Local Convective Forcing. Fluids, 2017, 2, 41.	0.8	8
30	Global energy budgets and "Trenberth diagrams" for the climates of terrestrial and gas giant planets. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 703-720.	1.0	28
31	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.	1.0	21
32	Predictability of the thermally driven laboratory rotating annulus. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 911-927.	1.0	2
33	The solstitial pause on Mars: 1. A planetary wave reanalysis. Icarus, 2016, 264, 456-464.	1.1	74
34	A regime diagram for ocean geostrophic turbulence. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 2411-2417.	1.0	15
35	Non-axisymmetric flows in a differential-disk rotating system. Journal of Fluid Mechanics, 2015, 775, 349-386.	1.4	7
36	An experimental study of multiple zonal jet formation in rotating, thermally driven convective flows on a topographic beta-plane. Physics of Fluids, 2015, 27, .	1.6	20

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37	A Lorenz/Boer energy budget for the atmosphere of Mars from a reanalysis of spacecraft observations. <i>Geophysical Research Letters</i> , 2015, 42, 8320-8327.	1.5	13
38	Polar vortices on Earth and Mars: A comparative study of the climatology and variability from reanalyses. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2015, 141, 550-562.	1.0	45
39	The physics of Martian weather and climate: a review. <i>Reports on Progress in Physics</i> , 2015, 78, 125901.	8.1	54
40	An assessment of the impact of local processes on dust lifting in martian climate models. <i>Icarus</i> , 2015, 252, 212-227.	1.1	17
41	A laboratory study of global-scale wave interactions in baroclinic flow with topography II: vacillations and low-frequency variability. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2015, 109, 359-390.	0.4	6
42	An experimental investigation into topographic resonance in a baroclinic rotating annulus. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2015, 109, 391-421.	0.4	5
43	A Sea Change in Exoplanet Climate Models?. <i>Astrobiology</i> , 2014, 14, 627-628.	1.5	2
44	The Mars Analysis Correction Data Assimilation (MACDA) Dataset V1.0. <i>Geoscience Data Journal</i> , 2014, 1, 129-139.	1.8	61
45	Cassini observations reveal a regime of zonostrophic macroturbulence on Jupiter. <i>Icarus</i> , 2014, 229, 295-320.	1.1	50
46	Data assimilation in the laboratory using a rotating annulus experiment. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2013, 139, 1488-1504.	1.0	9
47	Plumbing the depths of Uranus and Neptune. <i>Nature</i> , 2013, 497, 323-324.	13.7	2
48	Simulating the interannual variability of major dust storms on Mars using variable lifting thresholds. <i>Icarus</i> , 2013, 223, 344-358.	1.1	45
49	Models of Venus Atmosphere. , 2013, , 129-156.		23
50	Diversity of Planetary Atmospheric Circulations and Climates in a Simplified General Circulation Model. <i>Proceedings of the International Astronomical Union</i> , 2012, 8, 297-302.	0.0	2
51	Assimilating and Modeling Dust Transport in the Martian Climate System. <i>Proceedings of the International Astronomical Union</i> , 2012, 8, 326-328.	0.0	0
52	Phase synchronization between stratospheric and tropospheric quasi-biennial and semi-annual oscillations. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2012, 138, 1338-1349.	1.0	10
53	THE MARTIAN ATMOSPHERIC BOUNDARY LAYER. <i>Reviews of Geophysics</i> , 2011, 49, .	9.0	119
54	A laboratory study of global-scale wave interactions in baroclinic flow with topography I: multiple flow regimes. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2011, 105, 128-160.	0.4	8

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55	Generation of inertiaâ€“gravity waves in the rotating thermal annulus by a localised boundary layer instability. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2011, 105, 161-181.	0.4	19
56	Storm-clouds brooding on towering heights. <i>Nature</i> , 2011, 475, 44-45.	13.7	6
57	Predicting chaotic climates: from Earth to super-Earths?. , 2010, , .		0
58	A bulk cloud parameterization in a Venus General Circulation Model. <i>Icarus</i> , 2010, 206, 662-668.	1.1	16
59	A laboratory model of Saturnâ€™s North Polar Hexagon. <i>Icarus</i> , 2010, 206, 755-763.	1.1	69
60	Assessing atmospheric predictability on Mars using numerical weather prediction and data assimilation. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2010, 136, 1614-1635.	1.0	24
61	Testing the limits of quasi-geostrophic theory: application to observed laboratory flows outside the quasi-geostrophic regime. <i>Journal of Fluid Mechanics</i> , 2010, 649, 187-203.	1.4	23
62	Synchronization in a Pair of Thermally Coupled Rotating Baroclinic Annuli: Understanding Atmospheric Teleconnections in the Laboratory. <i>Physical Review Letters</i> , 2010, 104, 204501.	2.9	25
63	Saturn's emitted power. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	33
64	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. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	183
65	Synchronization of modulated traveling baroclinic waves in a periodically forced, rotating fluid annulus. <i>Physical Review E</i> , 2009, 79, 015202.	0.8	14
66	Saturnâ€™s rotation period from its atmospheric planetary-wave configuration. <i>Nature</i> , 2009, 460, 608-610.	13.7	105
67	Saturn Atmospheric Structure and Dynamics. , 2009, , 113-159.		38
68	Intense polar temperature inversion in the middle atmosphere on Mars. <i>Nature Geoscience</i> , 2008, 1, 745-749.	5.4	71
69	Titan's winter polar vortex structure revealed by chemical tracers. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	58
70	Temperature and Composition of Saturn's Polar Hot Spots and Hexagon. <i>Science</i> , 2008, 319, 79-81.	6.0	103
71	Turbulence, waves, and jets in a differentially heated rotating annulus experiment. <i>Physics of Fluids</i> , 2008, 20, .	1.6	44
72	Inertiaâ€“Gravity Waves Emitted from Balanced Flow: Observations, Properties, and Consequences. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 3543-3556.	0.6	70

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73	Superrotation in a Venus general circulation model. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	65
74	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. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	229
75	Dynamics of Convectively Driven Banded Jets in the Laboratory. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 4031-4052.	0.6	63
76	Assimilation of thermal emission spectrometer atmospheric data during the Mars Global Surveyor aerobraking period. <i>Icarus</i> , 2007, 192, 327-347.	1.1	91
77	Reconstructing the weather on Mars at the time of the MERs and Beagle 2 landings. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	11
78	Direct numerical simulations of bifurcations in an air-filled rotating baroclinic annulus. <i>Journal of Fluid Mechanics</i> , 2006, 561, 359.	1.4	30
79	Anisotropic turbulence and zonal jets in rotating flows with a $\hat{I}^2$ -effect. <i>Nonlinear Processes in Geophysics</i> , 2006, 13, 83-98.	0.6	94
80	Mapping potential-vorticity dynamics on Jupiter. I: Zonal-mean circulation from Cassini and Voyager 1 data. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2006, 132, 1577-1603.	1.0	63
81	Interannual variability of Martian dust storms in assimilation of several years of Mars global surveyor observations. <i>Advances in Space Research</i> , 2005, 36, 2146-2155.	1.2	51
82	On the generation mechanisms of short-scale unbalanced modes in rotating two-layer flows with vertical shear. <i>Journal of Fluid Mechanics</i> , 2005, 528, 1-22.	1.4	63
83	An intense stratospheric jet on Jupiter. <i>Nature</i> , 2004, 427, 132-135.	13.7	103
84	Exploring The Saturn System In The Thermal Infrared: The Composite Infrared Spectrometer. <i>Space Science Reviews</i> , 2004, 115, 169-297.	3.7	275
85	Upper atmosphere of Mars up to 120 km: Mars Global Surveyor accelerometer data analysis with the LMD general circulation model. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	62
86	Jupiter's and Saturn's convectively driven banded jets in the laboratory. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	42
87	The effect of a global dust storm on simulations of the Martian water cycle. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	15
88	Nonconservation of Ertel Potential Vorticity in Hydrogen Atmospheres. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 1953-1965.	0.6	14
89	A combined laboratory and numerical study of heat transport by baroclinic eddies and axisymmetric flows. <i>Journal of Fluid Mechanics</i> , 2003, 489, 301-323.	1.4	22
90	Equatorial jets in the dusty Martian atmosphere. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	33

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91	Spontaneous generation and impact of inertia-gravity waves in a stratified, two-layer shear flow. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	46
92	Modeling the Martian dust cycle, 1. Representations of dust transport processes. <i>Journal of Geophysical Research</i> , 2002, 107, 6-1-6-18.	3.3	194
93	Modeling the Martian dust cycle 2. Multiannual radiatively active dust transport simulations. <i>Journal of Geophysical Research</i> , 2002, 107, 7-1-7-15.	3.3	121
94	Bifurcations and instabilities in rotating, two-layer fluids: II. $\hat{f}^2$ -plane. <i>Nonlinear Processes in Geophysics</i> , 2002, 9, 289-309.	0.6	19
95	Bifurcations and instabilities in rotating two-layer fluids: I.f-plane. <i>Nonlinear Processes in Geophysics</i> , 2001, 8, 21-36.	0.6	11
96	Transition To Geostrophic Turbulence In The Laboratory, And As A Paradigm In Atmospheres And Oceans. <i>Surveys in Geophysics</i> , 2001, 22, 265-317.	2.1	42
97	A climate database for Mars. <i>Journal of Geophysical Research</i> , 1999, 104, 24177-24194.	3.3	299
98	Improved general circulation models of the Martian atmosphere from the surface to above 80 km. <i>Journal of Geophysical Research</i> , 1999, 104, 24155-24175.	3.3	955
99	Experiments on a barotropic rotating shear layer. Part 1. Instability and steady vortices. <i>Journal of Fluid Mechanics</i> , 1999, 383, 143-173.	1.4	56
100	Wave interactions and baroclinic chaos: a paradigm for long timescale variability in planetary atmospheres. <i>Chaos, Solitons and Fractals</i> , 1998, 9, 231-249.	2.5	30
101	Experiments on the structure of baroclinic waves and zonal jets in an internally heated, rotating, cylinder of fluid. <i>Physics of Fluids</i> , 1998, 10, 374-389.	1.6	38
102	Laboratory and numerical studies of baroclinic waves in an internally heated rotating fluid annulus: a case of wave/vortex duality?. <i>Journal of Fluid Mechanics</i> , 1997, 337, 155-191.	1.4	16
103	A laboratory study of baroclinic waves and turbulence in an internally heated rotating fluid annulus with sloping endwalls. <i>Journal of Fluid Mechanics</i> , 1997, 339, 173-198.	1.4	27
104	Wave interactions and the transition to chaos of baroclinic waves in a thermally driven rotating annulus. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 1997, 355, 101-153.	1.6	68
105	Western boundary currents in the atmosphere of Mars. <i>Nature</i> , 1994, 367, 548-551.	13.7	23
106	Quasi-periodic and chaotic flow regimes in a thermally driven, rotating fluid annulus. <i>Journal of Fluid Mechanics</i> , 1992, 238, 599-632.	1.4	83
107	Temperature time-series?. <i>Nature</i> , 1992, 355, 686-686.	13.7	23
108	Temperature oscillations. <i>Nature</i> , 1992, 359, 679-679.	13.7	14

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109	Clearer circulation on Uranus. <i>Nature</i> , 1987, 325, 197-198.	13.7	3
110	Regimes of axisymmetric flow in an internally heated rotating fluid. <i>Journal of Fluid Mechanics</i> , 1986, 168, 255.	1.4	23
111	Geostrophic Scatter Diagrams and Potential Vorticity Dynamics. <i>Journals of the Atmospheric Sciences</i> , 1986, 43, 3226-3240.	0.6	32
112	Super-rotation and diffusion of axial angular momentum: I. "Speed limits" for axisymmetric flow in a rotating cylindrical fluid annulus. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1986, 112, 231-251.	1.0	12
113	Super-rotation and diffusion of axial angular momentum: II. A review of quasi-axisymmetric models of planetary atmospheres. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1986, 112, 253-272.	1.0	53
114	Super-rotation and diffusion of axial angular momentum: II. A review of quasi-axisymmetric models of planetary atmospheres. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1986, 112, 253-272.	1.0	3
115	An isolated baroclinic eddy as a laboratory analogue of the Great Red Spot on Jupiter. <i>Nature</i> , 1984, 308, 45-48.	13.7	56
116	Long-lived eddies in the laboratory and in the atmospheres of Jupiter and Saturn. <i>Nature</i> , 1983, 302, 126-129.	13.7	46