Gerald Schubert

List of Publications by Year
in descending order

71
papers

3,609
citations

159573
30
h-index

133244
59
g-index

71
all docs

71
docs citations

71
times ranked

2381
citing authors

#	Article	IF	Citations
1	Effects of an endothermic phase transition at 670 km depth in a spherical model of convection in the Earth's mantle. Nature, 1993, 361, 699-704.	27.8	562
2	Discovery of Ganymede's magnetic field by the Galileo spacecraft. Nature, 1996, 384, 537-541.	27.8	348
3	Gravitational constraints on the internal structure of Ganymede. Nature, 1996, 384, 541-543.	27.8	243
4	Structure and circulation of the Venus atmosphere. Journal of Geophysical Research, 1980, 85, 8007-8025.	3.3	181
5	Numerical simulations of three-dimensional thermal convection in a fluid with strongly temperature-dependent viscosity. Journal of Fluid Mechanics, 1991, 233, 299-328.	3.4	168
6	Saturn's Gravitational Field, Internal Rotation, and Interior Structure. Science, 2007, 317, 1384-1387.	12.6	144
7	Galileo Gravity Results and the Internal Structure of Io. Science, 1996, 272, 709-712.	12.6	132
8	Propagation of tsunamiâ€driven gravity waves into the thermosphere and ionosphere. Journal of Geophysical Research, 2009, 114, .	3.3	112
9	Timing of the Martian dynamo. Nature, 2000, 408, 666-667.	27.8	107
10	Saturnâ€™s rotation period from its atmospheric planetary-wave configuration. Nature, 2009, 460, 608-610.	27.8	105
11	Cloud Patterns, Waves and Convection in the Venus Atmosphere. Journals of the Atmospheric Sciences, 1976, 33, 1394-1417.	1.7	101
12	Geophysical constraints on the composition and structure of the Martian interior. Journal of Geophysical Research, 2005, 110, .	3.3	70
13	Patterns of stress and strain rate in southern Africa. Journal of Geophysical Research, 2006, 111, .	3.3	69
14	Two-dimensional oscillatory convection in a gravitationally modulated fluid layer. Journal of Fluid Mechanics, 1993, 253, 663.	3.4	63
15	Chaotic, subduction-like downflows in a spherical model of convection in the Earth's mantle. Nature, 1990, 347, 274-277.	27.8	57
16	Origin of Jupiterâ€™s cloud-level zonal winds remains a puzzle even after Juno. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8499-8504.	7.1	57
17	Teleconvection: Remotely Driven Thermal Convection in Rotating Stratified Spherical Layers. Science, 2000, 290, 1944-1947.	12.6	50
18	Evolution of Icy Satellites. Space Science Reviews, 2010, 153, 447-484.	8.1	49

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19	A simple-physics global circulation model for Venus: Sensitivity assessments of atmospheric superrotation. Geophysical Research Letters, 2007, 34, .	4.0	46
20	Jupiterâ€™s moment of inertia: A possible determination by Juno. Icarus, 2011, 216, 440-448.	2.5	45
21	Acoustic waves in the upper mesosphere and lower thermosphere generated by deep tropical convection. Journal of Geophysical Research, 2003, 108, .	3.3	43
22	Atmospheric airglow fluctuations due to a tsunamiâ€driven gravity wave disturbance. Journal of Geophysical Research, 2010, 115, .	3.3	42
23	Transitions to chaotic thermal convection in a rapidly rotating spherical fluid shell. Geophysical and Astrophysical Fluid Dynamics, 1993, 69, 95-131.	1.2	40
24	THERMAL-GRAVITATIONAL WIND EQUATION FOR THE WIND-INDUCED GRAVITATIONAL SIGNATURE OF GIANT GASEOUS PLANETS: MATHEMATICAL DERIVATION, NUMERICAL METHOD, AND ILLUSTRATIVE SOLUTIONS. Astrophysical Journal, 2015, 806, 270.	4.5	40
25	Saturn's satellite Rhea is a homogeneous mix of rock and ice. Geophysical Research Letters, 2007, 34, .	4.0	39
26	LAPLACE: A mission to Europa and the Jupiter System for ESAâ€™s Cosmic Vision Programme. Experimental Astronomy, 2009, 23, 849-892.	3.7	38
27	Planetary-Scale Waves in the Venus Atmosphere. Journals of the Atmospheric Sciences, 1982, 39, 2397-2413.	1.7	36
28	Penetrative Convection and Zonal Flow on Jupiter. Science, 1996, 273, 941-943.	12.6	36
29	Angular momentum budget in General Circulation Models of superrotating atmospheres: A critical diagnostic. Journal of Geophysical Research, 2012, 117, .	3.3	34
30	Atmospheric mountain wave generation on Venus and its influence on the solid planetâ€™s rotation rate. Nature Geoscience, 2018, 11, 487-491.	12.9	34
31	Shapes of twoâ€layer models of rotating planets. Journal of Geophysical Research, 2010, 115, .	3.3	28
32	Shape, Internal Structure, Zonal Winds, and Gravitational Field of Rapidly Rotating Jupiter-Like Planets. Annual Review of Earth and Planetary Sciences, 2017, 45, 419-446.	11.0	27
33	Jupiter and Saturn rotation periods. Planetary and Space Science, 2009, 57, 1467-1473.	1.7	24
34	Physical processes in acoustic wave heating of the thermosphere. Journal of Geophysical Research, 2005, 110, .	3.3	23
35	Numerical simulations of thermal convection in a rotating spherical fluid shell at high Taylor and Rayleigh numbers. Physics of Fluids, 1995, 7, 2686-2699.	4.0	22
36	Venus atmosphere dynamics: A continuing enigma. Geophysical Monograph Series, 2007, , 101-120.	0.1	22

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37	On the convergence of the theory of figures. Icarus, 2014, 242, 138-141.	2.5	22
38	Search for the global signature of the Martian dynamo. Journal of Geophysical Research, 2010, 115, .	3.3	21
39	Numerical simulations of thermal convection in a rapidly rotating spherical shell cooled inhomogeneously from above. Geophysical and Astrophysical Fluid Dynamics, 1994, 75, 199-226.	1.2	20
40	Three-dimensional forward and backward numerical modeling of mantle plume evolution: Effects of thermal diffusion. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	20
41	ON THE VARIATION OF ZONAL GRAVITY COEFFICIENTS OF A GIANT PLANET CAUSED BY ITS DEEP ZONAL FLOWS. Astrophysical Journal, 2012, 748, 143.	4.5	20
42	Polar night vortex breakdown and large-scale stirring in the southern stratosphere. Climate Dynamics, 2010, 35, 965-975.	3.8	19
43	The spatial distribution of coronae and related features on Venus. Geophysical Research Letters, 1993, 20, 2965-2968.	4.0	18
44	Gravitational signature of rotationally distorted Jupiter caused by deep zonal winds. Icarus, 2013, 226, 1425-1430.	2.5	18
45	Stress field in the subducting lithosphere and comparison with deep earthquakes in Tonga. Journal of Geophysical Research, 2003, 108, .	3.3	17
46	Wave mean flow interactions in the thermosphere induced by a major tsunami. Journal of Geophysical Research, 2010, 115, .	3.3	17
47	A Longâ€Lived Sharp Disruption on the Lower Clouds of Venus. Geophysical Research Letters, 2020, 47, e2020GL087221.	4.0	17
48	A FULLY SELF-CONSISTENT MULTI-LAYERED MODEL OF JUPITER. Astrophysical Journal, 2016, 826, 127.	4.5	16
49	Foundering of the lithosphere at the onset of subduction. Geophysical Research Letters, 1997, 24, 1527-1529.	4.0	13
50	A nonlinear vacillating dynamo induced by an electrically heterogeneous mantle. Geophysical Research Letters, 2001, 28, 4411-4414.	4.0	12
51	A THREE-DIMENSIONAL NUMERICAL SOLUTION FOR THE SHAPE OF A ROTATIONALLY DISTORTED POLYTROPE OF INDEX UNITY. Astrophysical Journal, 2013, 763, 116.	4.5	12
52	Odd gravitational harmonics of Jupiter: Effects of spherical versus nonspherical geometry and mathematical smoothing of the equatorially antisymmetric zonal winds across the equatorial plane. Icarus, 2016, 277, 416-423.	2.5	11
53	Venus upper atmosphere revealed by a GCM: II. Model validation with temperature and density measurements. Icarus, 2021, 366, 114432.	2.5	10
54	Venusâ€™ upper atmosphere revealed by a GCM: I. Structure and variability of the circulation. Icarus, 2021, 366, 114400.	2.5	10

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55	Spatial symmetry breaking in rapidly rotating convective spherical shells. Geophysical Research Letters, 1995, 22, 1265-1268.	4.0	8
56	Experiencing Venus: Clues to the origin, evolution, and chemistry of terrestrial planets via in-situ exploration of our sister world. Geophysical Monograph Series, 2007, , 171-189.	0.1	7
57	EQUATORIAL ZONAL JETS AND JUPITER's GRAVITY. Astrophysical Journal Letters, 2014, 791, L24.	8.3	7
58	Depth of the dynamo region and zonal circulation of the molecular layer in Saturn inferred from its equatorially symmetric gravitational field. Monthly Notices of the Royal Astronomical Society, 2019, 488, 5633-5640.	4.4	7
59	Self-consistent internal structure of a rotating gaseous planet and its comparison with an approximation by oblate spheroidal equidensity surfaces. Physics of the Earth and Planetary Interiors, 2015, 249, 43-50.	1.9	6
60	Pore water convection within carbonaceous chondrite parent bodies: Temperature-dependent viscosity and flow structure. Physics of Fluids, 2005, 17, 086602.	4.0	5
61	Wind-induced odd gravitational harmonics of Jupiter. Monthly Notices of the Royal Astronomical Society: Letters, 2015, 450, L11-L15.	3.3	5
62	Using Jupiterâ€™s gravitational field to probe the Jovian convective dynamo. Scientific Reports, 2016, 6, 23497.	3.3	5
63	The effect of the equatorially symmetric zonal winds of Saturn on its gravitational field. Research in Astronomy and Astrophysics, 2018, 18, 039.	1.7	5
64	A model of Saturn inferred from its measured gravitational field. Research in Astronomy and Astrophysics, 2018, 18, 038.	1.7	5
65	On the interpretation of the equatorially antisymmetric Jovian gravitational field. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	4
66	Saturnâ€™s gravitational field induced by its equatorially antisymmetric zonal winds. Research in Astronomy and Astrophysics, 2018, 18, 050.	1.7	4
67	Interpreting the Equatorially Antisymmetric Gravitational Field of Saturn Measured by the Cassini Grand Finale. Astrophysical Journal, 2020, 890, 26.	4.5	4
68	Simulations of nonlinear pore-water convection in spherical shells. Physics of Fluids, 2008, 20, 026601.	4.0	2
69	On the gravitational signature of zonal flows in Jupiter-like planets: An analytical solution and its numerical validation. Physics of the Earth and Planetary Interiors, 2017, 263, 1-6.	1.9	2
70	Venus mountain waves in the upper atmosphere simulated by a time-invariant linear full-wave spectral model. Icarus, 2022, 377, 114922.	2.5	2
71	Breakthroughs in our Knowledge and Understanding of the Earth and Planets. Annual Review of Earth and Planetary Sciences, 2001, 29, 1-15.	11.0	1