OndÅej P ÄŒadek

List of Publications by Year
in descending order

74 papers	2,216 citations	186265 28 h-index	243625 44 g-index
75 all docs	75 docs citations	75 times ranked	1440 citing authors

#	Article	IF	Citations
1	Powering prolonged hydrothermal activity inside Enceladus. Nature Astronomy, 2017, 1, 841-847.	10.1	158
2	Enceladus's internal ocean and ice shell constrained from Cassini gravity, shape, and libration data. Geophysical Research Letters, 2016, 43, 5653-5660.	4.0	141
3	Solid tidal friction above a liquid water reservoir as the origin of the south pole hotspot on Enceladus. Icarus, 2008, 196, 642-652.	2.5	124
4	Effect of lateral viscosity variations in the top 300 km on the geoid and dynamic topography. Geophysical Journal International, 2003, 152, 566-580.	2.4	109
5	Inferences of viscosity from the oceanic geoid: Indication of a low viscosity zone below the 660-km discontinuity. Earth and Planetary Science Letters, 1997, 151, 125-137.	4.4	77
6	Tidally-induced melting events as the origin of south-pole activity on Enceladus. Icarus, 2012, 219, 655-664.	2.5	60
7	Long-term stability of Enceladusâ€™ uneven ice shell. Icarus, 2019, 319, 476-484.	2.5	59
8	Geophysical inferences of thermalâ€chemical structures in the lower mantle. Geophysical Research Letters, 1993, 20, 899-902.	4.0	57
9	A global geoid model with imposed plate velocities and partial layering. Journal of Geophysical Research, 1999, 104, 29055-29075.	3.3	51
10	TIDALLY INDUCED THERMAL RUNAWAYS ON EXTRASOLAR EARTHS: IMPACT ON HABITABILITY. Astrophysical Journal, 2011, 728, 89.	4.5	50
11	Å’DIPUS: a new tool to study the dynamics of planetary interiors. Geophysical Journal International, 2007, 170, 9-30.	2.4	49
12	Spherical harmonic expansion of the Earth's crustal thickness up to degree and order 30. Studia Geophysica Et Geodaetica, 1991, 35, 151-165.	0.5	48
13	Toroidal/poloidal energy partitioning and global lithospheric rotation during Cenozoic time. Earth and Planetary Science Letters, 1992, 109, 621-632.	4.4	46
14	Coupling mantle convection and tidal dissipation: Applications to Enceladus and Earthâ€like planets. Journal of Geophysical Research, 2010, 115, .	3.3	46
15	Ice melting and downward transport of meltwater by twoâ€phase flow in Europa's ice shell. Journal of Geophysical Research E: Planets, 2014, 119, 532-549.	3.6	46
16	Timing of water plume eruptions on Enceladus explained by interior viscosity structure. Nature Geoscience, 2015, 8, 601-604.	12.9	41
17	Structure and dynamics of Titanâ€™s outer icy shell constrained from Cassini data. Icarus, 2014, 237, 16-28.	2.5	40
18	Scoria cones on Mars: Detailed investigation of morphometry based on highâ€resolution digital elevation models. Journal of Geophysical Research E: Planets, 2015, 120, 1512-1527.	3.6	40

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19	Lower mantle thermal structure deduced from seismic tomography, mineral physics and numerical modelling. Earth and Planetary Science Letters, 1994, 121, 385-402.	4.4	38
20	Modeling the dynamic component of the geoid and topography of Venus. Journal of Geophysical Research, 2006, 111, .	3.3	38
21	Effect of lateral viscosity variations in the core-mantle boundary region on predictions of the long-wavelength geoid. Studia Geophysica Et Geodaetica, 2006, 50, 217-232.	0.5	38
22	Mantle viscosity derived by genetic algorithm using oceanic geoid and seismic tomography for whole-mantle versus blocked-flow situations. Physics of the Earth and Planetary Interiors, 1998, 107, 307-326.	1.9	37
23	Coupling of thermal evolution and despinning of early Iapetus. Icarus, 2010, 207, 959-971.	2.5	36
24	Water generation and transport below Europa's strike-slip faults. Journal of Geophysical Research E: Planets, 2016, 121, 2444-2462.	3.6	36
25	Plume Activity and Tidal Deformation on Enceladus Influenced by Faults and Variable Ice Shell Thickness. Astrobiology, 2017, 17, 941-954.	3.0	35
26	Dynamical consequences in the lower mantle with the post-perovskite phase change and strongly depth-dependent thermodynamic and transport properties. Earth and Planetary Science Letters, 2010, 298, 229-243.	4.4	34
27	European Variscan orogenic evolution as an analogue of Tibetanâ€Himalayan orogen: Insights from petrology and numerical modeling. Tectonics, 2016, 35, 1760-1780.	2.8	34
28	Tidal dissipation in Enceladus' uneven, fractured ice shell. Icarus, 2019, 328, 218-231.	2.5	32
29	Comparison Between Newtonian and Non-Newtonian Flow Driven By Internal Loads. Geophysical Journal International, 1993, 112, 103-114.	2.4	29
30	Subducted slabs and lateral viscosity variations: effects on the long-wavelength geoid. Geophysical Journal International, 2009, 179, 813-826.	2.4	28
31	Shape of scoria cones on Mars: Insights from numerical modeling of ballistic pathways. Earth and Planetary Science Letters, 2014, 406, 14-23.	4.4	28
32	Cooling patterns in rotating thin spherical shells â€" Application to Titan's subsurface ocean. Icarus, 2020, 338, 113509.	2.5	28
33	Is the longâ€wavelength geoid sensitive to the presence of postperovskite above the coreâ€mantle boundary?. Geophysical Research Letters, 2009, 36, .	4.0	27
34	Effect of the tiger stripes on the deformation of Saturn's moon Enceladus. Geophysical Research Letters, 2016, 43, 7417-7423.	4.0	26
35	Impact of tidal heating on the onset of convection in Enceladusâ€™s ice shell. Icarus, 2013, 226, 898-904.	2.5	25
36	Implications of post-perovskite transport properties for coreâ€"mantle dynamics. Physics of the Earth and Planetary Interiors, 2010, 180, 235-243.	1.9	24

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37	Slope of the geoid spectrum and constraints on mantle viscosity stratification. Geophysical Research Letters, 1996, 23, 3063-3066.	4.0	23
38	Does Titanâ€™s long-wavelength topography contain information about subsurface ocean dynamics?. Icarus, 2018, 310, 149-164.	2.5	22
39	Can long-wavelength dynamical signatures be compatible with layered mantle convection?. Geophysical Research Letters, 1997, 24, 2091-2094.	4.0	21
40	Can lower mantle slab-like seismic anomalies be explained by thermal coupling between the upper and lower mantles?. Geophysical Research Letters, 1999, 26, 1501-1504.	4.0	21
41	Geodynamical implications from the correlation of surface geology and seismic tomographic structure. Earth and Planetary Science Letters, 1995, 136, 615-627.	4.4	20
42	Radial profiles of temperature and viscosity in the Earth's mantle inferred from the geoid and lateral seismic structure. Earth and Planetary Science Letters, 1998, 164, 607-615.	4.4	20
43	Topography and geoid induced by a convecting mantle beneath an elastic lithosphere. Geophysical Journal International, 2012, 189, 55-72.	2.4	20
44	Dynamic models for mantle flow and seismic anisotropy in the North Atlantic region and comparison with observations. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	2.5	18
45	Viscoelastic relaxation of Enceladusâ€™s ice shell. Icarus, 2017, 291, 31-35.	2.5	17
46	Correlation analysis between subduction in the last 180 Myr and lateral seismic structure of the lower mantle: geodynamical implications. Geophysical Research Letters, 1995, 22, 1281-1284.	4.0	16
47	The effect of variable thermal diffusivity on kinematic models of subduction. Journal of Geophysical Research, 2012, 117, .	3.3	16
48	Mercury's lowâ€degree geoid and topography controlled by insolationâ€driven elastic deformation. Geophysical Research Letters, 2015, 42, 7327-7335.	4.0	16
49	Large cold anomalies in the deep mantle and mantle instability in the Cretaceous. Terra Nova, 1994, 6, 238-245.	2.1	14
50	A numerical model of convective heat transfer in Titanâ€™s subsurface ocean. Icarus, 2022, 376, 114853.	2.5	14
51	Spectral variational approach to the non-Newtonian stokes problem in a spherical shell. Computer Physics Communications, 1992, 71, 56-70.	7.5	13
52	The stokes problem with 3D Newtonian rheology in a spherical shell. Computer Physics Communications, 1993, 76, 63-79.	7.5	13
53	Reduced oceanic seismic anisotropy by small-scale convection. Earth and Planetary Science Letters, 2009, 284, 622-629.	4.4	13
54	The density structure of Titanâ€™s outer ice shell. Icarus, 2021, 364, 114466.	2.5	13

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55	A numerical model of exhumation of the orogenic lower crust in the Bohemian Massif during the Variscan orogeny. Studia Geophysica Et Geodaetica, 2012, 56, 595-619.	0.5	11
56	Can the 1D viscosity profiles inferred from postglacial rebound data be affected by lateral viscosity variations in the tectosphere?. Geophysical Research Letters, 2001, 28, 4403-4406.	4.0	10
57	Water transport in planetary ice shells by two-phase flow â€" a parametric study. Geophysical and Astrophysical Fluid Dynamics, 2014, 108, 639-666.	1.2	8
58	Spherical tensor approach to the solution of the mantle stress problem. Studia Geophysica Et Geodaetica, 1989, 33, 177-197.	0.5	7
59	Deformation of an elastic shell with variable thickness: a comparison of different methods. Geophysical Journal International, 2012, 190, 726-744.	2.4	7
60	Predicting surface dynamic topographies of stagnant lid planetary bodies. Geophysical Journal International, 2013, 195, 1494-1508.	2.4	7
61	Mass heterogeneities and convection in the earth's mantle inferred from gravity and core-mantle boundary irregularities. Pure and Applied Geophysics, 1991, 135, 107-123.	1.9	6
62	Effect of a Viscosity Interface at 1000 km Depth on Mantle Circulation. Studia Geophysica Et Geodaetica, 1997, 41, 297-306.	0.5	6
63	The dynamical influences from physical properties in the lower mantle and post-perovskite phase transition. Geophysical Monograph Series, 2007, , 249-270.	0.1	5
64	Despinning and shape evolution of Saturnâ€™s moon Iapetus triggered by a giant impact. Icarus, 2015, 252, 454-465.	2.5	5
65	Enceladus as a potential oasis for life: Science goals and investigations for future explorations. Experimental Astronomy, 2022, 54, 809-847.	3.7	5
66	Lateral variations of the mantle density and fluctuation of the core-mantle boundaryâ€"Comment. Physics of the Earth and Planetary Interiors, 1992, 69, 207-213.	1.9	3
67	Influence of the Load Wavelength on the Permeability of a Viscosity Interface in the Mantle. Studia Geophysica Et Geodaetica, 1997, 41, 64-72.	0.5	3
68	New Perspectives on Mantle Dynamics from High-resolution Seismic Tomographic Model P1200. , 1998, , 503-525.		3
69	Influences of lower-mantle properties on the formation of asthenosphere in oceanic upper mantle. Journal of Earth Science (Wuhan, China), 2011, 22, 143-154.	3.2	2
70	Three-dimensional modelling convection in the earth's mantle: Influence of the core-mantle boundary. Studia Geophysica Et Geodaetica, 1990, 34, 278-283.	0.5	1
71	Variational approach to modeling present-time mantle convection. Studia Geophysica Et Geodaetica, 1992, 36, 215-229.	0.5	1
72	GLOBAL GEODYNAMICS.. Terra Nova, 1993, 5, 573-590.	2.1	1

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73	Lateral variations of the mantle density and fluctuation of the core-mantle boundary â€” Reply to Z.R. Ye. Physics of the Earth and Planetary Interiors, 1992, 69, 216.	1.9	0
74	Regional Correlation Analysis between Seismic Heterogeneity in the Lower Mantle and Subduction in the Last 180 Myr: Implications for Mantle Dynamics and Rheology. , 1998, , 527-537.		0