John W Hernlund

List of Publications by Year
in descending order

38 papers	4,116 citations	236925 25 h-index	289244 40 g-index
44 all docs	44 docs citations	44 times ranked	2666 citing authors

#	Article	IF	Citations
1	Experimental evidence for hydrogen incorporation into Earthâ€™s core. Nature Communications, 2021, 12, 2588.	12.8	63
2	Seismological expression of the iron spin crossover in ferropericlase in the Earthâ€™s lower mantle. Nature Communications, 2021, 12, 5905.	12.8	11
3	A Hybrid Mechanism for Enhanced Coreâ€Mantle Boundary Chemical Interaction. Geophysical Research Letters, 2021, 48, e2021GL094456.	4.0	1
4	Discriminating lower mantle composition. Physics of the Earth and Planetary Interiors, 2020, 308, 106552.	1.9	6
5	Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: a Workshop Report. Origins of Life and Evolution of Biospheres, 2019, 49, 111-145.	1.9	19
6	Modeling Ultralow Velocity Zones as a Thin Chemically Distinct Dense Layer at the Coreâ€Mantle Boundary. Journal of Geophysical Research: Solid Earth, 2019, 124, 7902-7917.	3.4	6
7	Crystallization of a compositionally stratified basal magma ocean. Physics of the Earth and Planetary Interiors, 2018, 276, 86-92.	1.9	17
8	Crystallization of silicon dioxide and compositional evolution of the Earthâ€™s core. Nature, 2017, 543, 99-102.	27.8	161
9	Persistence of strong silica-enriched domains in the Earthâ€™s lower mantle. Nature Geoscience, 2017, 10, 236-240.	12.9	138
10	The language of exoplanet ranking metrics needs to change. Nature Astronomy, 2017, 1, .	10.1	34
11	Formation, stratification, and mixing of the cores of Earth and Venus. Earth and Planetary Science Letters, 2017, 474, 375-386.	4.4	63
12	Perovskite in Earthâ€™s deep interior. Science, 2017, 358, 734-738.	12.6	54
13	The high conductivity of iron and thermal evolution of the Earthâ€™s core. Physics of the Earth and Planetary Interiors, 2013, 224, 88-103.	1.9	251
14	Ponded melt at the boundary between the lithosphere and asthenosphere. Nature Geoscience, 2013, 6, 1041-1044.	12.9	144
15	Mantle fabric unravelled?. Nature Geoscience, 2013, 6, 516-518.	12.9	2
16	Composition and State of the Core. Annual Review of Earth and Planetary Sciences, 2013, 41, 657-691.	11.0	246
17	Temperature distributions in the laser-heated diamond anvil cell from 3-D numerical modeling. Journal of Applied Physics, 2013, 114, .	2.5	25
18	Lattice thermal conductivity of MgSiO3 perovskite and post-perovskite at the coreâ€“mantle boundary. Earth and Planetary Science Letters, 2012, 349-350, 109-115.	4.4	113

#	Article	IF	Citations
19	Hernlund receives 2010 Jason Morgan Early Career Award: Response. Eos, 2011, 92, 221-221.	0.1	0
20	Crystallization of a basal magma ocean recorded by Helium and Neon. Earth and Planetary Science Letters, 2011, 308, 193-199.	4.4	58
21	Spin crossover and iron-rich silicate melt in the Earthâ€™s deep mantle. Nature, 2011, 473, 199-202.	27.8	212
22	THERMODYNAMIC LIMITS ON MAGNETODYNAMOS IN ROCKY EXOPLANETS. Astrophysical Journal, 2010, 718, 596-609.	4.5	77
23	Upside-down differentiation and generation of a â€˜primordialâ€™ lower mantle. Nature, 2010, 463, 930-933.	27.8	149
24	Dynamics and structure of a stirred partially molten ultralow-velocity zone. Earth and Planetary Science Letters, 2010, 296, 1-8.	4.4	66
25	On the interaction of the geotherm with a post-perovskite phase transition in the deep mantle. Physics of the Earth and Planetary Interiors, 2010, 180, 222-234.	1.9	21
26	Coreâ€“mantle boundary heat flow. Nature Geoscience, 2008, 1, 25-32.	12.9	412
27	Buoyant melting instabilities beneath extending lithosphere: 1. Numerical models. Journal of Geophysical Research, 2008, 113, .	3.3	25
28	Buoyant melting instabilities beneath extending lithosphere: 2. Linear analysis. Journal of Geophysical Research, 2008, 113, .	3.3	11
29	Modeling mantle convection in the spherical annulus. Physics of the Earth and Planetary Interiors, 2008, 171, 48-54.	1.9	108
30	On the statistical distribution of seismic velocities in Earth's deep mantle. Earth and Planetary Science Letters, 2008, 265, 423-437.	4.4	106
31	Some dynamical consequences of partial melting in Earthâ€™s deep mantle. Physics of the Earth and Planetary Interiors, 2007, 162, 149-163.	1.9	53
32	Influence of the post-perovskite transition on thermal and thermo-chemical mantle convection. Geophysical Monograph Series, 2007, , 229-247.	0.1	11
33	Geophysically consistent values of the perovskite to post-perovskite transition Clapeyron slope. Geophysical Research Letters, 2007, 34, .	4.0	36
34	A crystallizing dense magma ocean at the base of the Earthâ€™s mantle. Nature, 2007, 450, 866-869.	27.8	634
35	A numerical model for steady-state temperature distributions in solid-medium high-pressure cell assemblies. American Mineralogist, 2006, 91, 295-305.	1.9	103
36	A Post-Perovskite Lens and D'' Heat Flux Beneath the Central Pacific. Science, 2006, 314, 1272-1276.	12.6	242

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37	A doubling of the post-perovskite phase boundary and structure of the Earth's lowermost mantle. Nature, 2005, 434, 882-886.	27.8	345
38	Numerical and laboratory studies of mantle convection: Philosophy, accomplishments, and thermochemical structure and evolution. Geophysical Monograph Series, 2005, , 83-99.	0.1	25