

John W Hernlund

List of Publications by Year in descending order

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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	A crystallizing dense magma ocean at the base of the Earth's mantle. <i>Nature</i> , 2007, 450, 866-869.	27.8	634
2	Core-mantle boundary heat flow. <i>Nature Geoscience</i> , 2008, 1, 25-32.	12.9	412
3	A doubling of the post-perovskite phase boundary and structure of the Earth's lowermost mantle. <i>Nature</i> , 2005, 434, 882-886.	27.8	345
4	The high conductivity of iron and thermal evolution of the Earth's core. <i>Physics of the Earth and Planetary Interiors</i> , 2013, 224, 88-103.	1.9	251
5	Composition and State of the Core. <i>Annual Review of Earth and Planetary Sciences</i> , 2013, 41, 657-691.	11.0	246
6	A Post-Perovskite Lens and D'' Heat Flux Beneath the Central Pacific. <i>Science</i> , 2006, 314, 1272-1276.	12.6	242
7	Spin crossover and iron-rich silicate melt in the Earth's deep mantle. <i>Nature</i> , 2011, 473, 199-202.	27.8	212
8	Crystallization of silicon dioxide and compositional evolution of the Earth's core. <i>Nature</i> , 2017, 543, 99-102.	27.8	161
9	Upside-down differentiation and generation of a primordial lower mantle. <i>Nature</i> , 2010, 463, 930-933.	27.8	149
10	Ponded melt at the boundary between the lithosphere and asthenosphere. <i>Nature Geoscience</i> , 2013, 6, 1041-1044.	12.9	144
11	Persistence of strong silica-enriched domains in the Earth's lower mantle. <i>Nature Geoscience</i> , 2017, 10, 236-240.	12.9	138
12	Lattice thermal conductivity of MgSiO ₃ perovskite and post-perovskite at the core-mantle boundary. <i>Earth and Planetary Science Letters</i> , 2012, 349-350, 109-115.	4.4	113
13	Modeling mantle convection in the spherical annulus. <i>Physics of the Earth and Planetary Interiors</i> , 2008, 171, 48-54.	1.9	108
14	On the statistical distribution of seismic velocities in Earth's deep mantle. <i>Earth and Planetary Science Letters</i> , 2008, 265, 423-437.	4.4	106
15	A numerical model for steady-state temperature distributions in solid-medium high-pressure cell assemblies. <i>American Mineralogist</i> , 2006, 91, 295-305.	1.9	103
16	THERMODYNAMIC LIMITS ON MAGNETODYNAMOS IN ROCKY EXOPLANETS. <i>Astrophysical Journal</i> , 2010, 718, 596-609.	4.5	77
17	Dynamics and structure of a stirred partially molten ultralow-velocity zone. <i>Earth and Planetary Science Letters</i> , 2010, 296, 1-8.	4.4	66
18	Formation, stratification, and mixing of the cores of Earth and Venus. <i>Earth and Planetary Science Letters</i> , 2017, 474, 375-386.	4.4	63

#	ARTICLE	IF	CITATIONS
19	Experimental evidence for hydrogen incorporation into Earth's core. <i>Nature Communications</i> , 2021, 12, 2588.	12.8	63
20	Crystallization of a basal magma ocean recorded by Helium and Neon. <i>Earth and Planetary Science Letters</i> , 2011, 308, 193-199.	4.4	58
21	Perovskite in Earth's deep interior. <i>Science</i> , 2017, 358, 734-738.	12.6	54
22	Some dynamical consequences of partial melting in Earth's deep mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2007, 162, 149-163.	1.9	53
23	Geophysically consistent values of the perovskite to post-perovskite transition Clapeyron slope. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	36
24	The language of exoplanet ranking metrics needs to change. <i>Nature Astronomy</i> , 2017, 1, .	10.1	34
25	Numerical and laboratory studies of mantle convection: Philosophy, accomplishments, and thermochemical structure and evolution. <i>Geophysical Monograph Series</i> , 2005, , 83-99.	0.1	25
26	Buoyant melting instabilities beneath extending lithosphere: 1. Numerical models. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	25
27	Temperature distributions in the laser-heated diamond anvil cell from 3-D numerical modeling. <i>Journal of Applied Physics</i> , 2013, 114, .	2.5	25
28	On the interaction of the geotherm with a post-perovskite phase transition in the deep mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 180, 222-234.	1.9	21
29	Hidden Concepts in the History and Philosophy of Origins-of-Life Studies: a Workshop Report. <i>Origins of Life and Evolution of Biospheres</i> , 2019, 49, 111-145.	1.9	19
30	Crystallization of a compositionally stratified basal magma ocean. <i>Physics of the Earth and Planetary Interiors</i> , 2018, 276, 86-92.	1.9	17
31	Influence of the post-perovskite transition on thermal and thermo-chemical mantle convection. <i>Geophysical Monograph Series</i> , 2007, , 229-247.	0.1	11
32	Buoyant melting instabilities beneath extending lithosphere: 2. Linear analysis. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	11
33	Seismological expression of the iron spin crossover in ferropericlase in the Earth's lower mantle. <i>Nature Communications</i> , 2021, 12, 5905.	12.8	11
34	Modeling Ultralow Velocity Zones as a Thin Chemically Distinct Dense Layer at the Core-Mantle Boundary. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 7902-7917.	3.4	6
35	Discriminating lower mantle composition. <i>Physics of the Earth and Planetary Interiors</i> , 2020, 308, 106552.	1.9	6
36	Mantle fabric unravelled?. <i>Nature Geoscience</i> , 2013, 6, 516-518.	12.9	2

#	ARTICLE	IF	CITATIONS
37	A Hybrid Mechanism for Enhanced Core-Mantle Boundary Chemical Interaction. Geophysical Research Letters, 2021, 48, e2021GL094456.	4.0	1
38	Hernlund receives 2010 Jason Morgan Early Career Award: Response. Eos, 2011, 92, 221-221.	0.1	0