

Eran Greenberg

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3175821/publications.pdf>

Version: 2024-02-01

101
papers

3,688
citations

201385

27
h-index

138251

58
g-index

103
all docs

103
docs citations

103
times ranked

3334
citing authors

#	ARTICLE	IF	CITATIONS
1	Superconductivity at 250 K in lanthanum hydride under high pressures. <i>Nature</i> , 2019, 569, 528-531.	13.7	960
2	Superconductivity up to 243 K in the yttrium-hydrogen system under high pressure. <i>Nature Communications</i> , 2021, 12, 5075.	5.8	202
3	Anomalous High-Temperature Superconductivity in YH ₆ . <i>Advanced Materials</i> , 2021, 33, e2006832.	11.1	196
4	Polymorphism in a high-entropy alloy. <i>Nature Communications</i> , 2017, 8, 15687.	5.8	192
5	Ice-VII inclusions in diamonds: Evidence for aqueous fluid in Earth's deep mantle. <i>Science</i> , 2018, 359, 1136-1139.	6.0	166
6	Synthesis of clathrate cerium superhydride CeH ₉ at 80-100 GPa with atomic hydrogen sublattice. <i>Nature Communications</i> , 2019, 10, 4453.	5.8	117
7	Ambient- and low-temperature synchrotron x-ray diffraction study of BaFe ₂ As ₂	1.1	101
8	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. <i>Science Advances</i> , 2018, 4, eaat9776.	4.7	82
9	Ultra-high-pressure isostructural electronic transitions in hydrogen. <i>Nature</i> , 2019, 573, 558-562.	13.7	78
10	High-pressure synthesis of ultraincompressible hard rhenium nitride pernitride Re ₂ (N ₂)(N) ₂ stable at ambient conditions. <i>Nature Communications</i> , 2019, 10, 2994.	5.8	65
11	Portable laser-heating system for diamond anvil cells. <i>Journal of Synchrotron Radiation</i> , 2009, 16, 737-741.	1.0	61
12	Carbon-boron clathrates as a new class of sp ³ -bonded framework materials. <i>Science Advances</i> , 2020, 6, eaay8361.	4.7	61
13	Superconductivity in La and Y hydrides: Remaining questions to experiment and theory. <i>Matter and Radiation at Extremes</i> , 2020, 5, .	1.5	61
14	Stable high-pressure phases in the H-S system determined by chemically reacting hydrogen and sulfur. <i>Physical Review B</i> , 2017, 95, .	1.1	60
15	Raman spectroscopy and x-ray diffraction of sp ³ CaC ₃ O ₃ at lower mantle pressures. <i>Physical Review B</i> , 2017, 96, .	1.1	54
16	Pressure-induced tuning of lattice distortion in a high-entropy oxide. <i>Communications Chemistry</i> , 2019, 2, .	2.0	53
17	Tungsten Hexanitride with Single-Bonded Armchairlike Hexazine Structure at High Pressure. <i>Physical Review Letters</i> , 2021, 126, 065702.	2.9	52
18	Reconciliation of Experiments and Theory on Transport Properties of Iron and the Geodynamo. <i>Physical Review Letters</i> , 2020, 125, 078501.	2.9	47

#	ARTICLE	IF	CITATIONS
19	Pressure-Induced Hydrogen Bond Symmetrization in Iron Oxyhydroxide. <i>Physical Review Letters</i> , 2013, 111, 175501.	2.9	46
20	Advanced integrated optical spectroscopy system for diamond anvil cell studies at GSECARS. <i>High Pressure Research</i> , 2019, 39, 457-470.	0.4	44
21	Lower mantle electrical conductivity based on measurements of Al, Fe-bearing perovskite under lower mantle conditions. <i>Earth and Planetary Science Letters</i> , 2014, 393, 165-172.	1.8	41
22	Chenmingite, FeCr ₂ O ₄ in the CaFe ₂ O ₄ -type structure, a shock-induced, high-pressure mineral in the Tissint martian meteorite. <i>American Mineralogist</i> , 2019, 104, 1521-1525.	0.9	40
23	Synthesis of Xenon and Iron-Nickel Intermetallic Compounds at Earth's Core Thermodynamic Conditions. <i>Physical Review Letters</i> , 2018, 120, 096001.	2.9	39
24	High-Pressure Geophysical Properties of fcc Phase Fe _X . <i>Geochemistry, Geophysics, Geosystems</i> , 2018, 19, 305-314.	1.0	37
25	Intriguing sequence of GaFeO structures and electronic states to 70 GPa. <i>Physical Review B</i> , 2011, 84, .	1.1	33
26	Pressure-Induced Site-Selective Mott Insulator-Metal Transition in Fe ₂ O ₃ . <i>Physical Review X</i> , 2018, 8, .	1.8	32
27	Abundant polymorphic transitions in the Al _{0.6} CoCrFeNi high-entropy alloy. <i>Materials Today Physics</i> , 2019, 8, 1-9.	2.9	27
28	A Boosted Critical Temperature of 166 K in Superconducting D ₃ S Synthesized from Elemental Sulfur and Hydrogen. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 18970-18974.	7.2	27
29	Facile diamond synthesis from lower diamondoids. <i>Science Advances</i> , 2020, 6, eaay9405.	4.7	26
30	Melting behavior of the lower-mantle ferropericlase across the spin crossover: Implication for the ultra-low velocity zones at the lowermost mantle. <i>Earth and Planetary Science Letters</i> , 2018, 503, 1-9.	1.8	25
31	Insufficient Energy From MgO Exsolution to Power Early Geodynamo. <i>Geophysical Research Letters</i> , 2017, 44, 11,376.	1.5	24
32	Melting curve of vanadium up to 256 GPa: Consistency between experiments and theory. <i>Physical Review B</i> , 2020, 102, .	1.1	24
33	Stabilization of hexazine rings in potassium polynitride at high pressure. <i>Nature Chemistry</i> , 2022, 14, 794-800.	6.6	22
34	On the compressibility of ferrite spinels: a high-pressure X-ray diffraction study of Mg ₂ Fe ₂ O ₄ (M = Mg, Co, Zn). <i>High Pressure Research</i> , 2009, 29, 764-779.	0.4	21
35	High-pressure magnetic, electronic, and structural properties of Fe ₂ O ₃ .		

#	ARTICLE	IF	CITATIONS
37	Stability of Fe-bearing hydrous phases and element partitioning in the system MgO-Al ₂ O ₃ -Fe ₂ O ₃ -SiO ₂ -H ₂ O in Earth's lowermost mantle. Earth and Planetary Science Letters, 2019, 1, 8 524, 115714.		21
38	Transport properties of Fe-Ni-Si alloys at Earth's core conditions: Insight into the viability of thermal and compositional convection. Earth and Planetary Science Letters, 2021, 553, 116614.	1.8	21
39	Synthesis and stability of tantalum hydride at high pressures. Physical Review B, 2019, 99, .	1.1	20
40	Pressure-induced structural transition in chalcopyrite ZnSiP ₂ . Applied Physics Letters, 2017, 110, 182106.	1.5	17
41	Mott transition in CaFe ₂ O ₄ at around 50 GPa. Physical Review B, 2013, 88, .	1.1	16
42	Phase transitions beyond post-perovskite in NaMgF ₃ to 160 GPa. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 19324-19329.	3.3	16
43	Effects of pressure on the structure and lattice dynamics of β -glycine: a combined experimental and theoretical study. CrystEngComm, 2019, 21, 4457-4464.	1.3	16
44	Effect of Carbon on the Volume of Solid Iron at High Pressure: Implications for Carbon Substitution in Iron Structures and Carbon Content in the Earth's Inner Core. Minerals (Basel, Switzerland), 2019, 9, 720.	0.8	16
45	Anharmonicity-induced first-order isostructural phase transition of zirconium under pressure. Physical Review B, 2018, 98, .	1.1	15
46	Low Melting Temperature of Anhydrous Mantle Materials at the Core-Mantle Boundary. Geophysical Research Letters, 2020, 47, e2020GL089345.	1.5	15
47	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. Matter and Radiation at Extremes, 2020, 5, .	1.5	15
48	High-Pressure Tetrahedral Amorphous Carbon Synthesized by Compressing Glassy Carbon at Room Temperature. Journal of Physical Chemistry C, 2020, 124, 5489-5494.	1.5	14
49	Superconductivity in multiple phases of compressed GeS ₂ . Physical Review B, 2017, 95, .	1.1	13
50	Band gap closure, incommensurability and molecular dissociation of dense chlorine. Nature Communications, 2019, 10, 1134.	5.8	13
51	Modifying Carbon Nitride through Extreme Phosphorus Substitution. , 2019, 1, 14-19.		13
52	Reversal of carbonate-silicate cation exchange in cold slabs in Earth's lower mantle. Nature Communications, 2021, 12, 1712.	5.8	13
53	Superconducting Phase Induced by a Local Structure Transition in Amorphous Sb ₂ under High Pressure. Physical Review Letters, 2021, 127, 127002.	2.9	13
54	Pressure-induced structural phase transition of the iron end-member of ringwoodite (Fe_2SiO_4) investigated by X-ray diffraction and Mossbauer spectroscopy. American Mineralogist, 2011, 96, 833-840.	0.9	12

#	ARTICLE	IF	CITATIONS
55	Synthesis and properties of selenium trihydride at high pressures. <i>Physical Review B</i> , 2018, 97, .	1.1	12
56	Synthesis of new nickel hydrides at high pressure. <i>Physical Review Materials</i> , 2018, 2, .	0.9	12
57	Dehydration of $\hat{1}$ -AlOOH in Earth's Deep Lower Mantle. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 384.	0.8	11
58	Thermal conductivity of Fe-Si alloys and thermal stratification in Earth's core. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	11
59	Pressure-Induced Insulator-to-Metal Transition in $\text{TbBaCo}_2\text{O}_x$. <i>Physical Review Letters</i> , 2009, 103, 125501.	1.1	10
60	FeCr ₂ O ₄ spinel to near megabar pressures: Orbital moment collapse and site-inversion facilitated spin crossover. <i>Physical Review B</i> , 2017, 95, .	1.1	10
61	A High-Pressure Compound of Argon and Nickel: Noble Gas in the Earth's Core?. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2517-2524.	1.2	10
62	Site-specific spin crossover in FeTi_2O_7 . <i>Physical Review B</i> , 2017, 96, .	1.1	8
63	Electronic and structural properties of the honeycomb iridates A_2IrO_3 (A=Na, Li) at elevated pressures. <i>Physical Review B</i> , 2020, 102, .	1.1	8
64	Pressure-induced spin crossover in disordered LiFeO_2 . <i>Physical Review B</i> , 2016, 94, .	1.1	7
65	Equation of state of the GeS_2 . <i>Physical Review B</i> , 2016, 94, .	1.1	7
66	Phases of PbO . <i>Physical Review B</i> , 2018, 98, .	1.1	7
67	A Paris-Edinburgh Cell for High-Pressure and High-Temperature Structure Studies on Silicate Liquids Using Monochromatic Synchrotron Radiation. <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 715.	0.8	7
68	Hydrous olivine alteration on Mars and Earth. <i>Meteoritics and Planetary Science</i> , 2020, 55, 1011-1030.	0.7	7
69	Effects of composition and pressure on electronic states of iron in bridgmanite. <i>American Mineralogist</i> , 2020, 105, 1030-1039.	0.9	7
70	The crystal structures of Fe-bearing MgCO_3 - and CaCO_3 -carbonates at 98 GPa from single-crystal X-ray diffraction using synchrotron radiation. <i>Acta Crystallographica Section E: Crystallographic Communications</i> , 2020, 76, 715-719.	0.2	7
71	Verwey-Type Charge Ordering and Site-Selective Mott Transition in Fe_4O_5 under Pressure. <i>Journal of the American Chemical Society</i> , 2022, 144, 10259-10269.	6.6	7
72	Structural phase transitions in SrTiO_3 nanoparticles. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	6

#	ARTICLE	IF	CITATIONS
73	Effects of pressure on the structure and lattice dynamics of ammonium perchlorate: A combined experimental and theoretical study. <i>Journal of Chemical Physics</i> , 2018, 149, 034501.	1.2	6
74	Ultrahigh-Pressure Behavior of AO ₂ (A = Sn, Pb, Hf) Compounds. <i>Journal of Physical Chemistry C</i> , 2019, 123, 27735-27741.	1.5	6
75	The O ²⁻ Bonding and Hydrogen Storage in the Pyrite-type PtO ₂ . <i>Inorganic Chemistry</i> , 2019, 58, 8300-8307.	1.9	6
76	Prediction and Synthesis of Dysprosium Hydride Phases at High Pressure. <i>Inorganic Chemistry</i> , 2020, 59, 5303-5312.	1.9	6
77	Latent heat method to detect melting and freezing of metals at megabar pressures. <i>Physical Review Materials</i> , 2021, 5, .	0.9	6
78	Interplay between structural and magnetic-electronic responses of FeA ₂ O ₄ to a megabar: Site inversion and spin crossover. <i>Physical Review B</i> , 2018, 97, .	1.1	5
79	Helium-hydrogen immiscibility at high pressures. <i>Journal of Chemical Physics</i> , 2019, 150, 114504.	1.2	5
80	High pressure chemical reactivity and structural study of the Na ⁺ P and Li ⁺ P systems. <i>Journal of Materials Chemistry A</i> , 2020, 8, 21797-21803.	5.2	5
81	A new hydrous iron oxide phase stable at mid-mantle pressures. <i>Earth and Planetary Science Letters</i> , 2020, 550, 116551.	1.8	5
82	Tuning to more compressible phase in TiZrHfNb high entropy alloy by pressure. <i>Applied Physics Letters</i> , 2020, 116, 031901.	1.5	5
83	Effect of nickel on the high-pressure phases in FeH. <i>Physical Review B</i> , 2021, 104, .	1.1	5
84	Thermal equation of state of post-aragonite CaCO ₃ -Pmmn. <i>American Mineralogist</i> , 2020, 105, 1365-1374.	0.9	4
85	Multiple phase transitions in Sc doped Sb ₂ Te ₃ amorphous nanocomposites under high pressure. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	4
86	Free-surface velocity measurements of opaque materials in laser-driven shock-wave experiments using photonic Doppler velocimetry. <i>Matter and Radiation at Extremes</i> , 2021, 6, 046902.	1.5	4
87	Pressure-induced high-spin/low-spin disproportionated state in the Mott insulator FeBO ₃ . <i>Scientific Reports</i> , 2022, 12, .	1.6	4
88	High-pressure structural and electronic properties of CuMO ₂ (M=Cr, Mn) delafossite-type oxides. <i>Physical Review B</i> , 2020, 101, .	1.1	3
89	Structural transition in cold-compressed glassy carbon. <i>Physical Review Materials</i> , 2019, 3, .	0.9	3
90	Effects of Hydrogen on the Phase Relations in Fe ⁺ FeS at Pressures of Mars-Sized Bodies. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006942.	1.5	3

#	ARTICLE	IF	CITATIONS
91	Melting of the Fe-C-H System and Earth's Deep Carbon-Hydrogen Cycle. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	3
92	A multi-faceted experimental study on the dynamic behavior of MgSiO ₃ glass in the Earth's deep interior. <i>American Mineralogist</i> , 2022, 107, 1313-1324.	0.9	2
93	Mott transition and magnetic collapse in iron-bearing compounds under high pressure. <i>High Pressure Research</i> , 2017, 37, 96-118.	0.4	1
94	Diamond anvils with a round table designed for high pressure experiments in DAC. <i>High Pressure Research</i> , 2017, 37, 475-485.	0.4	1
95	A Boosted Critical Temperature of 166 K in Superconducting D ₃ S Synthesized from Elemental Sulfur and Hydrogen. <i>Angewandte Chemie</i> , 2020, 132, 19132-19136.	1.6	1
96	High-pressure structural study of δ -Mn: Experiments and calculations. <i>Physical Review B</i> , 2021, 103, .	1.1	1
97	HP-PdF ₂ -type FeCl ₂ as a potential Cl-carrier in the deep Earth. <i>American Mineralogist</i> , 2022, 107, 313-317.	0.9	1
98	Superconductor-insulator transitions in three-dimensional indium-oxide at high pressures. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 135402.	0.7	1
99	Reply to "Comment on "Synthesis and properties of selenium trihydride at high pressures". <i>Physical Review B</i> , 2018, 98, .	1.1	0
100	Pressure-induced crystallization of an amorphous martensite alloy. <i>Journal of Applied Physics</i> , 2020, 128, 085901.	1.1	0
101	High-pressure structural and electronic transitions in lithium ferrites. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2017, 73, C1432-C1432.	0.0	0