

Eran Greenberg

List of Publications by Year in descending order

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Version: 2024-02-01

101
papers

3,688
citations

201385

27
h-index

138251

58
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103
all docs

103
docs citations

103
times ranked

3334
citing authors

#	ARTICLE	IF	CITATIONS
1	A multi-faceted experimental study on the dynamic behavior of MgSiO ₃ glass in the Earth's deep interior. American Mineralogist, 2022, 107, 1313-1324.	0.9	2
2	HP-PdF ₂ -type FeCl ₂ as a potential Cl-carrier in the deep Earth. American Mineralogist, 2022, 107, 313-317.	0.9	1
3	Superconductor-insulator transitions in three-dimensional indium-oxide at high pressures. Journal of Physics Condensed Matter, 2022, 34, 135402.	0.7	1
4	Thermal conductivity of Fe-Si alloys and thermal stratification in Earth's core. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
5	Stabilization of hexazine rings in potassium polynitride at high pressure. Nature Chemistry, 2022, 14, 794-800.	6.6	22
6	Verwey-Type Charge Ordering and Site-Selective Mott Transition in Fe ₄ O ₅ under Pressure. Journal of the American Chemical Society, 2022, 144, 10259-10269.	6.6	7
7	Pressure-induced high-spin/low-spin disproportionated state in the Mott insulator FeBO ₃ . Scientific Reports, 2022, 12, .	1.6	4
8	Melting of the Fe-C-H System and Earth's Deep Carbon-Hydrogen Cycle. Geophysical Research Letters, 2022, 49, .	1.5	3
9	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
10	High-pressure structural study of \pm -Mn: Experiments and calculations. Physical Review B, 2021, 103, .	1.1	1
11	Tungsten Hexanitride with Single-Bonded Armchairlike Hexazine Structure at High Pressure. Physical Review Letters, 2021, 126, 065702.	2.9	52
12	Latent heat method to detect melting and freezing of metals at megabar pressures. Physical Review Materials, 2021, 5, .	0.9	6
13	Reversal of carbonate-silicate cation exchange in cold slabs in Earth's lower mantle. Nature Communications, 2021, 12, 1712.	5.8	13
14	Anomalous High-Temperature Superconductivity in YH ₆ . Advanced Materials, 2021, 33, e2006832.	11.1	196
15	Free-surface velocity measurements of opaque materials in laser-driven shock-wave experiments using photonic Doppler velocimetry. Matter and Radiation at Extremes, 2021, 6, 046902.	1.5	4
16	Superconductivity up to 243%K in the yttrium-hydrogen system under high pressure. Nature Communications, 2021, 12, 5075.	5.8	202
17	Superconducting Phase Induced by a Local Structure Transition in Amorphous Sb_2Mn under High Pressure. Physical Review Letters, 2021, 127, 127002.	2.9	13
18	Effects of Hydrogen on the Phase Relations in Fe-FeS at Pressures of Mars-Sized Bodies. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006942.	1.5	3

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19	Effect of nickel on the high-pressure phases in FeH. <i>Physical Review B</i> , 2021, 104, .	1.1	5
20	Carbon-boron clathrates as a new class of sp ³ -bonded framework materials. <i>Science Advances</i> , 2020, 6, eaay8361.	4.7	61
21	Low Melting Temperature of Anhydrous Mantle Materials at the Core–Mantle Boundary. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089345.	1.5	15
22	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
23	Reconciliation of Experiments and Theory on Transport Properties of Iron and the Geodynamo. <i>Physical Review Letters</i> , 2020, 125, 078501.	2.9	47
24	A new hydrous iron oxide phase stable at mid-mantle pressures. <i>Earth and Planetary Science Letters</i> , 2020, 550, 116551.	1.8	5
25	Electronic and structural properties of the honeycomb iridates A ₂ IrO ₃ (A=Na, Li) at elevated pressures. <i>Physical Review B</i> , 2020, 102, .	1.1	8
26	Thermal equation of state of post-aragonite CaCO ₃ -Pmmn. <i>American Mineralogist</i> , 2020, 105, 1365-1374.	0.9	4
27	Pressure-induced crystallization of an amorphous martensite alloy. <i>Journal of Applied Physics</i> , 2020, 128, 085901.	1.1	0
28	Melting curve of vanadium up to 256 GPa: Consistency between experiments and theory. <i>Physical Review B</i> , 2020, 102, .	1.1	24
29	Hydrous olivine alteration on Mars and Earth. <i>Meteoritics and Planetary Science</i> , 2020, 55, 1011-1030.	0.7	7
30	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
31	Superconductivity in La and Y hydrides: Remaining questions to experiment and theory. <i>Matter and Radiation at Extremes</i> , 2020, 5, .	1.5	61
32	Prediction and Synthesis of Dysprosium Hydride Phases at High Pressure. <i>Inorganic Chemistry</i> , 2020, 59, 5303-5312.	1.9	6
33	Effects of composition and pressure on electronic states of iron in bridgmanite. <i>American Mineralogist</i> , 2020, 105, 1030-1039.	0.9	7
34	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
35	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
36	Facile diamond synthesis from lower diamondoids. <i>Science Advances</i> , 2020, 6, eaay9405.	4.7	26

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37	Tuning to more compressible phase in TiZrHfNb high entropy alloy by pressure. Applied Physics Letters, 2020, 116, 031901.	1.5	5
38	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
39	Multiple phase transitions in Sc doped Sb ₂ Te ₃ amorphous nanocomposites under high pressure. Applied Physics Letters, 2020, 116, .	1.5	4
40	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. Matter and Radiation at Extremes, 2020, 5, .	1.5	15
41	Dehydration of $\tilde{\Gamma}$ -AlOOH in Earth's Deep Lower Mantle. Minerals (Basel, Switzerland), 2020, 10, 384.	0.8	11
42	The crystal structures of Fe-bearing MgCO ₃ - and $\langle i \rangle \langle sp \rangle \langle i \rangle \langle sup \rangle \langle 2 \rangle \langle sup \rangle$ - and $\langle i \rangle \langle sp \rangle \langle i \rangle \langle sup \rangle \langle 3 \rangle \langle sup \rangle$ -carbonates at 98â€¦GPa from single-crystal X-ray diffraction using synchrotron radiation. Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 715-719.	0.2	7
43	Stability of Fe-bearing hydrous phases and element partitioning in the system MgOâ€“Al ₂ O ₃ â€“Fe ₂ O ₃ â€“SiO ₂ â€“H ₂ O in Earth's lowermost mantle. Earth and Planetary Science Letters, 2019, 1, 8 524, 115714.	1.8	21
44	Advanced integrated optical spectroscopy system for diamond anvil cell studies at GSECARS. High Pressure Research, 2019, 39, 457-470.	0.4	44
45	High-pressure synthesis of ultraincompressible hard rhenium nitride pernitride Re ₂ (N ₂)(N) ₂ stable at ambient conditions. Nature Communications, 2019, 10, 2994.	5.8	65
46	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
47	Ultrahigh-Pressure Behavior of AO ₂ (A = Sn, Pb, Hf) Compounds. Journal of Physical Chemistry C, 2019, 123, 27735-27741.	1.5	6
48	Chenmingite, FeCr ₂ O ₄ in the CaFe ₂ O ₄ -type structure, a shock-induced, high-pressure mineral in the Tissint martian meteorite. American Mineralogist, 2019, 104, 1521-1525.	0.9	40
49	Synthesis of clathrate cerium superhydride CeH ₉ at 80-100 GPa with atomic hydrogen sublattice. Nature Communications, 2019, 10, 4453.	5.8	117
50	Pressure-induced tuning of lattice distortion in a high-entropy oxide. Communications Chemistry, 2019, 2, .	2.0	53
51	A High-Pressure Compound of Argon and Nickel: Noble Gas in the Earth's Core?. ACS Earth and Space Chemistry, 2019, 3, 2517-2524.	1.2	10
52	Effects of pressure on the structure and lattice dynamics of $\tilde{\Gamma}$ -glycine: a combined experimental and theoretical study. CrystEngComm, 2019, 21, 4457-4464.	1.3	16
53	Synthesis and stability of tantalum hydride at high pressures. Physical Review B, 2019, 99, .	1.1	20
54	The Oâ€“O Bonding and Hydrogen Storage in the Pyrite-type PtO ₂ . Inorganic Chemistry, 2019, 58, 8300-8307.	1.9	6

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55	Superconductivity at 250 K in lanthanum hydride under high pressures. <i>Nature</i> , 2019, 569, 528-531.	13.7	960
56	Helium-hydrogen immiscibility at high pressures. <i>Journal of Chemical Physics</i> , 2019, 150, 114504.	1.2	5
57	Band gap closure, incommensurability and molecular dissociation of dense chlorine. <i>Nature Communications</i> , 2019, 10, 1134.	5.8	13
58	Modifying Carbon Nitride through Extreme Phosphorus Substitution. , 2019, 1, 14-19.		13
59	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. <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 720.	0.8	16
60	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
61	Ultrahigh-pressure isostructural electronic transitions in hydrogen. <i>Nature</i> , 2019, 573, 558-562.	13.7	78
62	Abundant polymorphic transitions in the Al _{0.6} CoCrFeNi high-entropy alloy. <i>Materials Today Physics</i> , 2019, 8, 1-9.	2.9	27
63	Structural transition in cold-compressed glassy carbon. <i>Physical Review Materials</i> , 2019, 3, .	0.9	3
64	Ice-VII inclusions in diamonds: Evidence for aqueous fluid in Earth's deep mantle. <i>Science</i> , 2018, 359, 1136-1139.	6.0	166
65	Synthesis and properties of selenium trihydride at high pressures. <i>Physical Review B</i> , 2018, 97, .	1.1	12
66	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
67	Interplay between structural and magnetic-electronic responses of FeA_2O_4 to a megabar: Site inversion and spin crossover. <i>Physical Review B</i> , 2018, 97, .	1.1	5
68	High-Pressure Geophysical Properties of FeH_X Phase. <i>Geochemistry, Geophysics, Geosystems</i> , 2018, 19, 305-314.	1.0	37
69	Superconductor-insulator transition in GeS_2 at elevated pressures. <i>Physical Review B</i> , 2018, 97, .	1.1	7
70	Equations of State and Anisotropy of Fe-Ni-Si Alloys. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 4647-4675.	1.4	21
71	Anharmonicity-induced first-order isostructural phase transition of zirconium under pressure. <i>Physical Review B</i> , 2018, 98, .	1.1	15
72	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

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73	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. Science Advances, 2018, 4, eaat9776.	4.7	82
74	Equation of state of the PbO_2 and PbO phases of PbO . Physical Review B, 2018, 98, .	1.1	7
75	Pressure-induced Site-Selective Mott Insulator-Metal Transition in FeO . Physical Review X, 2018, 8, .	2.8	2
76	Reply to "Comment on "Synthesis and properties of selenium trihydride at high pressures". Physical Review B, 2018, 98, .	1.1	0
77	Effects of pressure on the structure and lattice dynamics of ammonium perchlorate: A combined experimental and theoretical study. Journal of Chemical Physics, 2018, 149, 034501.	1.2	6
78	Synthesis of new nickel hydrides at high pressure. Physical Review Materials, 2018, 2, .	0.9	12
79	FeCr_2O_4 spinel to near megabar pressures: Orbital moment collapse and site-inversion facilitated spin crossover. Physical Review B, 2017, 95, .	1.1	10
80	Pressure-induced structural transition in chalcopyrite ZnSiP_2 . Applied Physics Letters, 2017, 110, 182106.	1.5	17
81	Polymorphism in a high-entropy alloy. Nature Communications, 2017, 8, 15687.	5.8	192
82	Mott transition and magnetic collapse in iron-bearing compounds under high pressure. High Pressure Research, 2017, 37, 96-118.	0.4	1
83	Diamond anvils with a round table designed for high pressure experiments in DAC. High Pressure Research, 2017, 37, 475-485.	0.4	1
84	Raman spectroscopy and x-ray diffraction of CaC_3 at lower mantle pressures. Physical Review B, 2017, 96, .	1.1	54
85	Structural phase transitions in SrTiO_3 nanoparticles. Applied Physics Letters, 2017, 111, .	1.5	6
86	Insufficient Energy From MgO Exsolution to Power Early Geodynamo. Geophysical Research Letters, 2017, 44, 11,376.	1.5	24
87	Stable high-pressure phases in the H-S system determined by chemically reacting hydrogen and sulfur. Physical Review B, 2017, 95, .	1.1	60
88	Site-specific spin crossover in FeTiO_3 . Physical Review B, 2017, 96, .	1.1	8
89	Phase diagram of FeTiO_3 . Physical Review B, 2017, 96, .	1.1	8

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91	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
92	Pressure-induced spin crossover in disordered LiFeO_2 . <i>Physical Review B</i> , 2016, 94, .	1.1	7
93	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
94	Pressure-Induced Hydrogen Bond Symmetrization in Iron Oxyhydroxide. <i>Physical Review Letters</i> , 2013, 111, 175501.	2.9	46
95	Mott transition in CaFe_2O_4 at around 50 GPa. <i>Physical Review B</i> , 2013, 88, .	1.1	16
96	Intriguing sequence of GaFeO_3 structures and electronic states to 70 GPa. <i>Physical Review B</i> , 2011, 84, .	1.1	33
97	Study of BaFe_2O_7 As BaFe_2O_7	1.1	101
98	Pressure-induced structural phase transition of the iron end-member of ringwoodite (Fe_2SiO_4) investigated by X-ray diffraction and Mossbauer spectroscopy. <i>American Mineralogist</i> , 2011, 96, 833-840.	0.9	12
99	Pressure-Induced Insulator-to-Metal Transition in $\text{TbBaCo}_3\text{O}_{5.48}$. <i>Physical Review Letters</i> , 2009, 103, 125501.		10
100	Portable laser-heating system for diamond anvil cells. <i>Journal of Synchrotron Radiation</i> , 2009, 16, 737-741.	1.0	61
101	On the compressibility of ferrite spinels: a high-pressure X-ray diffraction study of $\text{Mg}_2\text{Fe}_2\text{O}_4$ ($\text{M}=\text{Mg, Co, Zn}$). <i>High Pressure Research</i> , 2009, 29, 764-779.	0.4	21