Colloquium : High pressure and road to room ter

Reviews of Modern Physics
90,
DOI: 10.1103/revmodphys.90.011001

Citation Report

#	Article	IF	Citations
1	Enhanced superconducting transition temperature in electroplated rhenium. Applied Physics Letters, 2018, 112, .	3.3	21
2	Understanding Novel Superconductors with Ab Initio Calculations. , 2018, , 1-41.		1
3	High-throughput research on superconductivity. Chinese Physics B, 2018, 27, 127402.	1.4	10
4	Nanoarchitecture: Toward Quantumâ€Size Tuning of Superconductivity. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1800317.	2.4	9
5	Gradual reduction of the superconducting transition temperature of H3S by partial replacing sulfur with phosphorus. Physica C: Superconductivity and Its Applications, 2018, 554, 38-43.	1.2	13
6	Materials characterization by synchrotron x-ray microprobes and nanoprobes. Reviews of Modern Physics, 2018, 90, .	45.6	93
7	Unusual sulfur isotope effect and extremely high critical temperature in H3S superconductor. Scientific Reports, 2018, 8, 6037.	3.3	21
8	High-Tc Hydrides: Interplay of Optical and Acoustic Modes and Comments Regarding the Upper Limit of Tc. Journal of Superconductivity and Novel Magnetism, 2018, 31, 3391-3395.	1.8	3
9	Pressure-Enhanced Transitional Transport of Electronic Fluids in EuFe2As2. Journal of Superconductivity and Novel Magnetism, 2019, 32, 609-613.	1.8	0
10	Classifying hydrogen-rich superconductors. Materials Research Express, 2019, 6, 106002.	1.6	21
11	Resonant inelastic X-ray scattering of magnetic excitations under pressure. Journal of Synchrotron Radiation, 2019, 26, 1725-1732.	2.4	8
12	Electronâ€“Phonon Coupling in Eliashbergâ€“McMillan Theory Beyond Adiabatic Approximation. Journal of Experimental and Theoretical Physics, 2019, 128, 455-463.	0.9	11
13	Exploring Topological Superconductivity in Topological Materials. Advanced Quantum Technologies, 2019, 2, 1800112.	3.9	34
14	Defecton Contribution to the High-Temperature Superconductivity of Hydrides. Physics of the Solid State, 2019, 61, 1176-1179.	0.6	1
15	Synthesis of clathrate cerium superhydride CeH9 at 80-100 GPa with atomic hydrogen sublattice. Nature Communications, 2019, 10, 4453.	12.8	117
16	Progress in superconductivity. Physics Today, 2019, 72, 44-45.	0.3	6
17	Superconducting phaseÂdiagram of H3S under high magnetic fields. Nature Communications, 2019, 10, 2522.	12.8	62
18	Classifying superconductivity in compressed H3S. Modern Physics Letters B, 2019, 33, 1950195.	1.9	27

#	Article	IF	Citations
19	Superconductivity at 250 K in lanthanum hydride under high pressures. Nature, 2019, 569, 528-531.	27.8	960
20	Electronic Structure, Lattice Dynamics, and Superconducting Properties of Mercury-Alkaline Earth Metal Compounds: a First-Principles Study. Journal of Superconductivity and Novel Magnetism, 2019, 32, 3425-3430.	1.8	2
21	Antiadiabatic Phonons, Coulomb Pseudopotential, and Superconductivity in Eliashbergâ€"McMillan Theory. JETP Letters, 2019, 109, 166-170.	1.4	14
22	Electric-field-controlled superconductorâ€"ferromagnetic insulator transition. Science Bulletin, 2019, 64, 653-658.	9.0	21
23	Hydrogen Effect on Electron-Phonon Interactions in L10 FePd. Journal of Superconductivity and Novel Magnetism, 2019, 32, 3125-3133.	1.8	2
24	A physical picture of superconductivity: Close-shell inversion. Modern Physics Letters B, 2019, 33, 1950393.	1.9	2
25	Magnetic measurements on micrometer-sized samples under high pressure using designed NV centers. Science, 2019, 366, 1359-1362.	12.6	89
26	Possible Superconductivity in the Brain. Journal of Superconductivity and Novel Magnetism, 2019, 32, 1121-1134.	1.8	9
27	Ab Initio Approach and Its Impact on Superconductivity. Journal of Superconductivity and Novel Magnetism, 2019, 32, 53-60.	1.8	29
28	Color Centers in Diamond as Novel Probes of Superconductivity. Journal of Superconductivity and Novel Magnetism, 2019, 32, 85-95.	1.8	18
29	Antiadiabatic Phonons and Superconductivity in Eliashbergâ€"McMillan Theory. Journal of Superconductivity and Novel Magnetism, 2020, 33, 19-26.	1.8	8
30	Superconducting Zirconium Polyhydrides at Moderate Pressures. Journal of Physical Chemistry Letters, 2020, 11, 646-651.	4.6	26
31	Pressure-induced high-temperature superconductivity in hypothetical H3X (X=As, Se, Br, Sb, Te and I) in the H3S structure with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e4268" altimg="si18.svg"><mml:mrow><mml:mi>I</mml:mi><mml:mi>m</mml:mi><mml:mover accent="false" class="mml-overline"><mml:mrow><mml:mn>3</mml:mn></mml:mrow><mml:mo accent="true">Â¯</mml:mo></mml:mover><mml:mi>m</mml:mi></mml:mrow></mml:math>symmetry. Journal of Physics and Chemistry of Solids, 2020, 139, 109315.	4.0	12
32	High-TC Superconductivity in Hydrogen Clathrates Mediated by Coulomb Interactions Between Hydrogen and Central-Atom Electrons. Journal of Superconductivity and Novel Magnetism, 2020, 33, 2945-2961.	1.8	6
33	Hydrogen Pentagraphenelike Structure Stabilized by Hafnium: A High-Temperature Conventional Superconductor. Physical Review Letters, 2020, 125, 217001.	7.8	87
34	High- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>T</mml:mi><mml:mi>c</mml:mi></mml:msub></mml:ma state of lanthanum hydrides. Physical Review B, 2020, 102, .	3.2	7
35	Advanced McMillanâ€™s equation and its application for the analysis of highly-compressed superconductors. Superconductor Science and Technology, 2020, 33, 094009.	3.5	19
36	Prediction and Synthesis of Dysprosium Hydride Phases at High Pressure. Inorganic Chemistry, 2020, 59, 5303-5312.	4.0	6

#	Article	IF	Citations
37	A Boosted Critical Temperature of 166â€...K in Superconducting D₃S Synthesized from Elemental Sulfur and Hydrogen. Angewandte Chemie - International Edition, 2020, 59, 18970-18974.	13.8	27
38	Pair correlation in nano systems. Annals of Physics, 2020, 417, 168141.	2.8	7
39	A Boosted Critical Temperature of 166â€...K in Superconducting D 3 S Synthesized from Elemental Sulfur and Hydrogen. Angewandte Chemie, 2020, 132, 19132-19136.	2.0	1
40	A perspective on conventional high-temperature superconductors at high pressure: Methods and materials. Physics Reports, 2020, 856, 1-78.	25.6	304
41	Unconventional superconductivity in highly-compressed unannealed sulphur hydride. Results in Physics, 2020, 16, 102993.	4.1	6
42	Switchable crossed spin conductance in a graphene-based junction: The role of spin-orbit coupling. Scientific Reports, 2020, 10, 2009.	3.3	2
43	Magnetism of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mrow><mml:mo>(</mml:mo><mml:msub><mm		

#	Article	IF	Citations
57	Low-pressure superconductivity in lithium-doped methane predicted by first principles. International Journal of Modern Physics C, 2021, 32, 2150032.	1.7	2
58	A Schematic Two Overlapping-Band Model for Superconducting Sulfur Hydrides: The Isotope Mass Exponent. Advances in Condensed Matter Physics, 2019, 2019, 1-7.	1.1	9
59	High T _c Superconductivity in Heavy Rare Earth Hydrides. Chinese Physics Letters, 2021, 38, 107401.	3.3	40
60	Possible coexistence of charge density wave and superconductivity and enhancement of the transition temperature for the layered quasi-two-dimensional superconductor 2H-NbSe2. Journal of Physics Communications, 2021, 5, 105010.	1.2	3
61	Enhancing the critical temperature of strained Niobium films. Materials Research Express, 2020, 7, 076001.	1.6	2
62	Ab initio investigation of hydrogen-based high T _c superconductor that is stable under ambient environment. New Journal of Physics, 2020, 22, 123017.	2.9	2
63	Understanding Novel Superconductors with Ab Initio Calculations. , 2020, , 73-112.		0
64	Resonant multi-gap superconductivity at room temperature near a Lifshitz topological transition in sulfur hydrides. Journal of Applied Physics, 2021, 130, .	2.5	10
65	Hole superconductivity xOr hot hydride superconductivity. Journal of Applied Physics, 2021, 130, .	2.5	12
66	Cryogenic C-band wavelength division multiplexing system using an AIM Photonics Foundry process design kit. Optics Express, 2020, 28, 35651.	3.4	3
67	Hydrides under High Pressure. Journal of Superconductivity and Novel Magnetism, 0, , 1.	1.8	2
68	Reply to the â€˜Comment on â€œHigh-temperature superconductivity in transition metallic hydrides MH₁₁ (M = Mo, W, Nb, and Ta) under high pressureâ€â€™ by X. Zheng and J. Zheng, Phys. Chem. Chem. Phys., 2022, 24, DOI: 10.1039/D1CP01474A. Physical Chemistry Chemical Physics, 2022, 24, 1898-1899.	2.8	1
70	Design Principles for High-Temperature Superconductors with a Hydrogen-Based Alloy Backbone at Moderate Pressure. Physical Review Letters, 2022, 128, 047001.	7.8	91
71	Research Progress of FeSe-based Superconductors Containing Ammonia/Organic Molecules Intercalation. Topics in Current Chemistry, 2022, 380, 11.	5.8	6
72	Applied electric field instead of pressure in H-based superconductors. European Physical Journal B, 2022, 95, 1.	1.5	0
73	The Impact of Hydrogenation on Structural and Superconducting Properties of FeTe0.65Se0.35 Single Crystals. Materials, 2021, 14, 7900.	2.9	0
74	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoB</mml:mi><mml:mn>2</mml:mn></mml:msub></mm under pressure: Superconducting Mo enhanced by boron. Physical Review B, 2021, 104, .	3.2	14
75	Method to extracting the penetration field in superconductors from DC magnetization data. Review of Scientific Instruments, 2022, 93, .	1.3	2

#	Article	IF	Citations
76	Effect of Pressure on the Superconducting Transition Temperature and Physical Properties of CaPd₂P₂: A DFT Investigation. ACS Omega, 2022, 7, 21528-21536.	3.5	5
77	Lattice Induced Short-Range Attraction between Like-Charged Colloidal Particles. Physical Review Letters, 2022, 129, .	7.8	1
78	Two-gap superconductivity in a Janus MoSH monolayer. Physical Review B, 2022, 105, .	3.2	24
79	High Tc superconductivity in layered hydrides XH15 (X = Ca, Sr, Y, La) under high pressures. Frontiers of Physics, 2022, 17, .	5.0	3
80	Superconductivity of Compressed H2S in the Framework of the Generalized BCS equations. European Physical Journal Plus, 2022, 137, .	2.6	4
81	Doping effects on the stability and superconductivity of penta-graphene-like <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">ZrH</mml:mi><mml:mn>10</mml:mn></mml:msub></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">HfH</mml:mi><mml:mn>10</mml:mn></mml:msub></mml:math> under pressure. Physical Review B, 2022, 105, .	3.2	0
82	Pressure-induced <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>high</mml:mi><mml:mtext>â^'</mml:mtext><mml:msub> superconductivity in the ternary clathrate system Y-Ca-H. Physical Review B, 2022, 106, .	3.2	14
83	On the Temperature- and Magnetic Fieldâ€“Dependent Critical Current Density of Compressed Hydrogen Sulphide. Journal of Superconductivity and Novel Magnetism, 2022, 35, 3119-3126.	1.8	3
84	Room-Temperature Superconductivity in Yb/Lu Substituted Clathrate Hexahydrides under Moderate Pressure. Research, 2022, 2022, .	5.7	12
85	Peierls Instability of the Lieb Lattice. JETP Letters, 2022, 116, 307-312.	1.4	1
86	Modulations in Superconductors: Probes of Underlying Physics. Advanced Materials, 2023, 35, .	21.0	0
87	Recent advances on applications of NV^{â^'} magnetometry in condensed matter physics. Photonics Research, 2023, 11, 393.	7.0	10
88	Pressure-induced high-temperature superconductivity in ternary Yâ€“Zrâ€“H compounds. Physical Chemistry Chemical Physics, 2023, 25, 5237-5243.	2.8	4
89	On the Generalized BCS Equations Incorporating Chemical Potential for the Tc and the Calculation of the Coherence Length of Some Elements and Compressed H3S. Journal of Low Temperature Physics, 0, , .	1.4	2
90	Spectroscopic evidence for the superconductivity of elemental metal Y under pressure. NPG Asia Materials, 2023, 15, .	7.9	2
91	Symmetry of Identical Particles, Modern Achievements in the Pauli Exclusion Principle, in Superconductivity and in Some Other Phenomena. Symmetry, 2023, 15, 701.	2.2	0
92	First-Principles Studies in Pd-Based $${varvec{R}}{{varvec{P}}{varvec{d}}}_{2}{{varvec{P}}}_{2}$$ÂÂ(Râ€‰=â€‰Pr and Nd) Superconductors Under Pressure. Journal of Superconductivity and Novel Magnetism, 2023, 36, 885-902.	1.8	3
93	Investigation of the Influence of Pressure on the Physical Properties and Superconducting Transition Temperature of Chiral Noncentrosymmetric TaRh₂B₂ and NbRh₂B₂. ACS Omega, 2023, 8, 21813-21822.	3.5	2

#	Article	IF	Citations
94	Novel Topological Motifs and Superconductivity in Li-Cs System. Nano Letters, 2023, 23, 5012-5018.	9.1	3
95	Estimation of Superconducting Critical-temperature of Molybdenum as a Function of Pressure. Journal of Superconductivity and Novel Magnetism, 0, , .	1.8	0
96	A Dynamical Approach to the Explanation of the Upper Critical Field Data of Compressed H₃S. World Journal of Condensed Matter Physics, 2023, 13, 79-89.	0.2	1
97	BCS-BEC crossover in a quasi-two-dimensional Fermi superfluid.. New Journal of Physics, 0, , .	2.9	0
98	Multiband Superconductivity in High-Pressure Sulfur Hydrides. Condensed Matter, 2023, 8, 69.	1.8	0
99	Pressure-dependent structural, electronic, optical, and mechanical properties of superconductor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="bold">C</mml:mi><mml:mi mathvariant="bold">e</mml:mi><mml:mi mathvariant="bold">R</mml:mi><mml:mi mathvariant="bold">h</mml:mi></mml:mrow><mml:mn mathvariant="bold">2</mml:mn></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="bold">A	2.7	2
100	First-Principles Investigation of Stability and Superconductivity in Ternary Yttriumâ€“Praseodymium Hydrides under High Pressure. Journal of Physical Chemistry C, 2023, 127, 21242-21249.	3.1	1
101	Anatomy of the Band Structure of the Newest Apparent Near-Ambient Superconductor LuH3 â€“ xNx. JETP Letters, 2023, 118, 693-699.	1.4	4
102	Emergent superconductivity from suppression of charge order in pressurized <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Re</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> Physical Review B, 2023, 108, .	3.2	0
103	Effect of doping on the phase stability and superconductivity in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>La</mml:mi><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>10</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Materials, 2023, 7, .	2.4	1
104	Sodalite-like carbon based superconductors with T_c about 77 K at ambient pressure. Journal of Materials Chemistry C, 0, , .	5.5	0
105	Analysis of superconducting critical temperature using numerical method. Journal of Physics: Conference Series, 2023, 2653, 012054.	0.4	0
106	Exploring high-temperature superconductivity in the extended Hubbard model with antiferromagnetic tendencies. Physical Review B, 2024, 109, .	3.2	0
108	(La,Th)H₁₀: Potential High-T_c (242 K) Superconductors Stabilized Thermodynamically below 200 GPa. Journal of Physical Chemistry C, 2024, 128, 2656-2665.	3.1	2
109	Predicting superconductivity near 70ÂK in 1166-type boron-carbon clathrates at ambient pressure. Physical Review B, 2024, 109, .	3.2	0
110	First-principles study of high-pressure structural phase transition and superconductivity of YBeH8. Journal of Chemical Physics, 2024, 160, .	3.0	0