

Jian Sun

List of Publications by Year in descending order

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127
docs citations

127
times ranked

5024
citing authors

#	ARTICLE	IF	CITATIONS
1	Superionic Silica-Water and Silica-Hydrogen Compounds in the Deep Interiors of Uranus and Neptune. <i>Physical Review Letters</i> , 2022, 128, 035702.	2.9	19
2	Route to a novel tetragonal carbon allotrope via T-carbon. <i>Diamond and Related Materials</i> , 2022, , 108895.	1.8	0
3	Fermi Level Pinning Dependent 2D Semiconductor Devices: Challenges and Prospects. <i>Advanced Materials</i> , 2022, 34, e2108425.	11.1	80
4	High Energy Density Polymeric Nitrogen Nanotubes inside Carbon Nanotubes. <i>Chinese Physics Letters</i> , 2022, 39, 036101.	1.3	8
5	Reconfigurable Quasi-Nonvolatile Memory/Subthermionic FET Functions in Ferroelectric 2D Semiconductor vdW Architectures. <i>Advanced Materials</i> , 2022, 34, e2200032.	11.1	18
6	Comprehensive Modulation of Conductance Anisotropy in Low-Symmetry ReS_2 Transistors. <i>Physical Review Applied</i> , 2022, 17, .	1.5	2
7	High-energy-density metal nitrides with armchair chains. <i>Matter and Radiation at Extremes</i> , 2022, 7, .	1.5	10
8	Temperature-induced electricle transition in dense lithium. <i>Physical Review B</i> , 2022, 105, .	1.1	4
9	High-energy-density pentazolate salts: CaN ₁₀ and BaN ₁₀ . <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	19
10	Electronically Driven 1D Cooperative Diffusion in a Simple Cubic Crystal. <i>Physical Review X</i> , 2021, 11, .	2.8	12
11	Mixed Coordination Silica at Megabar Pressure. <i>Physical Review Letters</i> , 2021, 126, 035701.	2.9	20
12	Double quantum dot-like transport in controllably doped graphene nanoribbon. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	2
13	Tungsten Hexanitride with Single-Bonded Armchairlike Hexazine Structure at High Pressure. <i>Physical Review Letters</i> , 2021, 126, 065702.	2.9	52
14	Isotropic all-electric spin analyzer based on a quantum ring with spin-orbit couplings. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	1
15	Filamentary superconductivity in wrinkled PtSe ₂ . <i>Journal Physics D: Applied Physics</i> , 2021, 54, 215302.	1.3	1
16	Topological insulators in the NaCaBi family with large spin-orbit coupling gaps. <i>Physical Review Research</i> , 2021, 3, .	1.3	7
17	Negative linear compressibility and unusual dynamic behavior of NaB ₃ . <i>Physical Review Materials</i> , 2021, 5, .	0.9	1
18	Modulated Anisotropic Growth of 2D SnSe Based on the Difference in <i>a</i> - <i>b</i> - <i>c</i> -Axis Edge Atomic Structures. <i>Chemistry of Materials</i> , 2021, 33, 4231-4239.	3.2	8

#	ARTICLE	IF	CITATIONS
19	Current-induced Complementary Doping to Graphene from Hydrogen Silsesquioxane Passivation Layer. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100151.	1.2	1
20	High performance WSe ₂ p-MOSFET with intrinsic n-channel based on back-to-back pn junctions. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	26
21	Magnetic sensors-A review and recent technologies. <i>Engineering Research Express</i> , 2021, 3, 022005.	0.8	95
22	Formation of copper boride on Cu(111). <i>Fundamental Research</i> , 2021, 1, 482-487.	1.6	15
23	Enhancing crystal structure prediction by decomposition and evolution schemes based on graph theory. <i>Fundamental Research</i> , 2021, 1, 466-471.	1.6	23
24	Pressure-induced structural and electronic transitions in InTe. <i>Physical Review B</i> , 2021, 104, .	1.1	3
25	Epitaxial Growth of Single-Phase 1T' WSe ₂ Monolayer with Assistance of Enhanced Interface Interaction. <i>Advanced Materials</i> , 2021, 33, e2004930.	11.1	28
26	Controlling Carrier Transport in Vertical MoTe ₂ /MoS ₂ van der Waals Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54294-54300.	4.0	7
27	Icosahedral silicon boride: A potential hybrid photovoltaic-thermoelectric for energy harvesting. <i>Physical Review Materials</i> , 2021, 5, .	0.9	4
28	Proton-assisted growth of ultra-flat graphene films. <i>Nature</i> , 2020, 577, 204-208.	13.7	111
29	Ferromagnetic Semiconducting V ₃ Single-Chain Nanowire. <i>Journal of Physical Chemistry C</i> , 2020, 124, 2096-2103.	1.5	7
30	Determining dimensionalities and multiplicities of crystal nets. <i>Npj Computational Materials</i> , 2020, 6, .	3.5	8
31	Spin filtering in germanium/silicon core/shell nanowires with pseudo-helical gap. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	3
32	Charge Density Depinning in Defective MoTe ₂ Transistor by Oxygen Intercalation. <i>Advanced Functional Materials</i> , 2020, 30, 2004880.	7.8	20
33	Electron-phonon coupling and superconductivity in the doped topological crystalline insulator (Pb _{0.5} Sn _{0.5}) _{1-x} In _x Te. <i>Physical Review B</i> , 2020, 102, .	1.1	5
34	Charge-Ferroelectric Transition in Ultrathin Na _{0.5} Bi _{4.5} Ti ₄ O ₁₅ Flakes Probed via a Dual-Gated Full van der Waals Transistor. <i>Advanced Materials</i> , 2020, 32, e2004813.	11.1	28
35	Directly Probing Effective-Mass Anisotropy of Two-Dimensional ReSe_2 in Schottky Tunnel Transistors. <i>Physical Review Applied</i> , 2020, 13, .	1.5	10
36	Self-Terminated Surface Monolayer Oxidation Induced Robust Degenerate Doping in MoTe ₂ for Low Contact Resistance. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 26586-26592.	4.0	34

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37	Asymmetric Fermi velocity induced chiral magnetotransport anisotropy in the type-II Dirac semi-metal PtSe ₂ . Communications Physics, 2020, 3, .	2.0	8
38	Evidence for magnon-phonon coupling in the topological magnet CuMnAs . Physical Review B, 2020, 101, .	1.3	18
39	Coexistence of plastic and partially diffusive phases in a helium-methane compound. National Science Review, 2020, 7, 1540-1547.	4.6	33
40	Prediction of quasi-one-dimensional superconductivity in metastable two-dimensional boron. Physical Review B, 2020, 101, .	1.1	12
41	Van Hove singularity arising from Mexican-hat-shaped inverted bands in the topological insulator Sn-doped Bi_2S_3 . Physical Review B, 2020, 101, .	1.1	11
42	Ferromagnetic MnSn Monolayer Epitaxially Grown on Silicon Substrate. Chinese Physics Letters, 2020, 37, 077502.	1.3	13
43	Pressure engineering of the Dirac fermions in quasi-one-dimensional TiMo_6Se_6 . Journal of Physics Condensed Matter, 2020, 32, 215402.	0.7	5
44	Plastic and Superionic Helium Ammonia Compounds under High Pressure and High Temperature. Physical Review X, 2020, 10, .	2.8	28
45	Tunable electronic structure of two-dimensional transition metal chalcogenides for optoelectronic applications. Nanophotonics, 2020, 9, 1675-1694.	2.9	44
46	Tunable large-area phase reversion in chemical vapor deposited few-layer MoTe_2 films. Journal of Materials Chemistry C, 2019, 7, 10598-10604.	2.7	14
47	Ground states of Au_2Pb and pressure-enhanced superconductivity. Physical Review B, 2019, 100, .	1.1	9
48	Improve the performance of machine-learning potentials by optimizing descriptors. Journal of Chemical Physics, 2019, 150, 244110.	1.2	14
49	Multiple superionic states in helium "water" compounds. Nature Physics, 2019, 15, 1065-1070.	6.5	69
50	Electrostatic force driven helium insertion into ammonia and water crystals under pressure. Communications Chemistry, 2019, 2, .	2.0	15
51	Predictions on High-Power Trivalent Metal Pentazolate Salts. Journal of Physical Chemistry Letters, 2019, 10, 6166-6173.	2.1	62
52	Predicting three-dimensional icosahedron-based boron B_{60} . Physical Review B, 2019, 99, .	1.1	21
53	Quantum oscillations on the surface of InAs epilayer. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 114, 113604.	1.3	3
54	Quantum Dot Formation in Controllably Doped Graphene Nanoribbon. ACS Nano, 2019, 13, 7502-7507.	7.3	10

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55	Ambipolar MoS ₂ Field-Effect Transistor by Spatially Controlled Chemical Doping. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1900208.	1.2	15
56	Composite topological nodal lines penetrating the Brillouin zone in orthorhombic AgF ₂ . <i>Npj Computational Materials</i> , 2019, 5, .	3.5	11
57	The influence of tensile strain on water adsorbed on Fe (100) surface: Surface chemistry aspect of stress corrosion cracking. <i>Applied Surface Science</i> , 2019, 481, 192-199.	3.1	7
58	Growth and Thermo-driven Crystalline Phase Transition of Metastable Monolayer 1Tâ€²-WSe ₂ Thin Film. <i>Scientific Reports</i> , 2019, 9, 2685.	1.6	19
59	Robust double Weyl semimetal phase in a nonmagnetic hexagonal lattice system. <i>Physical Review B</i> , 2019, 99, .	1.1	3
60	Pressure-Stabilized High-Energy-Density Alkaline-Earth-Metal Pentazolate Salts. <i>Journal of Physical Chemistry C</i> , 2019, 123, 10205-10211.	1.5	69
61	Superconducting Single-Layer T-Graphene and Novel Synthesis Routes*. <i>Chinese Physics Letters</i> , 2019, 36, 097401.	1.3	61
62	Experimental evidence of crystal symmetry protection for the topological nodal line semimetal state in ZrSiS. <i>Physical Review B</i> , 2019, 100, .	1.1	19
63	Gate Tunable Hole Charge Qubit Formed in a Ge/Si Nanowire Double Quantum Dot Coupled to Microwave Photons. <i>Nano Letters</i> , 2019, 19, 1052-1060.	4.5	20
64	Prediction of pressure-induced stabilization of noble-gas-atom compounds with alkali oxides and alkali sulfides. <i>Physical Review Materials</i> , 2019, 3, .	0.9	20
65	High-pressure phases of Weyl semimetals NbP, NbAs, TaP, and TaAs. <i>Science China: Physics, Mechanics and Astronomy</i> , 2018, 61, 1.	2.0	16
66	Unveiling the charge density wave inhomogeneity and pseudogap state in 1 T -TiSe ₂ . <i>Science Bulletin</i> , 2018, 63, 426-432.	4.3	17
67	Nonsymmorphic symmetry protected node-line semimetal in the trigonal YH ₃ . <i>Scientific Reports</i> , 2018, 8, 1467.	1.6	12
68	Pressure-induced structural and electronic transitions in bismuth iodide. <i>Physical Review B</i> , 2018, 98, .	1.1	15
69	Electrically tunable localized states in sub-band of bilayer graphene nanoribbon. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	4
70	Anharmonic effect driven topological phase transition in PbO ₂ predicted by first-principles calculations. <i>Physical Review B</i> , 2018, 98, .	1.1	7
71	Helical Hole State in Multiple Conduction Modes in Ge/Si Core/Shell Nanowire. <i>Nano Letters</i> , 2018, 18, 6144-6149.	4.5	19
72	A novel superhard tungsten nitride predicted by machine-learning accelerated crystal structure search. <i>Science Bulletin</i> , 2018, 63, 817-824.	4.3	102

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91	Nanocrystalline tin oxide: Possible origin of its weak ferromagnetism deduced from nuclear magnetic resonance and X-ray photoelectron spectroscopies. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2016, 380, 3138-3143.	0.9	6
92	Pressure-induced superconductivity in a three-dimensional topological material ZrTe ₅ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 2904-2909.	3.3	124
93	Novel electronic and phonon-related properties of the newly discovered silicide superconductor Li ₂ IrSi ₃ . <i>Europhysics Letters</i> , 2015, 110, 17003.	0.7	16
94	Solvation shell resolved THz spectra of simple aqua ions – distinct distance- and frequency-dependent contributions of solvation shells. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 8323-8329.	1.3	45
95	Solvothermal Synthesis of Lateral Heterojunction Sb ₂ Te ₃ /Bi ₂ Te ₃ Nanoplates. <i>Nano Letters</i> , 2015, 15, 5905-5911.	4.5	56
96	Novel structural phases and superconductivity of iridium telluride under high pressures. <i>Scientific Reports</i> , 2014, 4, 6433.	1.6	11
97	Direct Band Gap Silicon Allotropes. <i>Journal of the American Chemical Society</i> , 2014, 136, 9826-9829.	6.6	151
98	Understanding THz Spectra of Aqueous Solutions: Glycine in Light and Heavy Water. <i>Journal of the American Chemical Society</i> , 2014, 136, 5031-5038.	6.6	88
99	Stable All-Nitrogen Metallic Salt at Terapascal Pressures. <i>Physical Review Letters</i> , 2013, 111, 175502.	2.9	62
100	Persistence and Eventual Demise of Oxygen Molecules at Terapascal Pressures. <i>Physical Review Letters</i> , 2012, 108, 045503.	2.9	55
101	Understanding the Origins of Dipolar Couplings and Correlated Motion in the Vibrational Spectrum of Water. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 2135-2140.	2.1	41
102	Controlling the Bonding and Band Gaps of Solid Carbon Monoxide with Pressure. <i>Physical Review Letters</i> , 2011, 106, 145502.	2.9	60
103	Yao <i>et al.</i> Reply. <i>Physical Review Letters</i> , 2010, 104, .	2.9	0
104	Dissecting the THz spectrum of liquid water from first principles via correlations in time and space. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 12068-12073.	3.3	374
105	Glycine in aqueous solution: solvation shells, interfacial water, and vibrational spectroscopy from <i>ab initio</i> molecular dynamics. <i>Journal of Chemical Physics</i> , 2010, 133, 114508.	1.2	61
106	A tetragonal phase of superhard BC ₂ N. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	32
107	Structural Prediction and Phase Transformation Mechanisms in Calcium at High Pressure. <i>Physical Review Letters</i> , 2009, 103, 055503.	2.9	65
108	Comment on “New Metallic Carbon Crystal”. <i>Physical Review Letters</i> , 2009, 102, 229601.	2.9	55

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109	High-pressure polymeric phases of carbon dioxide. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6077-6081.	3.3	104
110	High-pressure structures and vibrational spectra of barium fluoride: Results obtained under nearly hydrostatic conditions. Physical Review B, 2009, 79, .	1.1	13
111	Structural transformations in carbon under extreme pressure: Beyond diamond. Journal of Chemical Physics, 2009, 130, 194512.	1.2	56
112	Structures and superconducting properties of the high-pressure IV and V phases of calcium from first principles. Physical Review B, 2008, 78, .	1.1	33
113	Theoretical hardness of the cubic BC ₂ N. Diamond and Related Materials, 2007, 16, 526-530.	1.8	36
114	Most likely phase of superhard BC_2N from first principles calculations. Physical Review B, 2007, 76, .	1.1	62
115	Bond ionicities and hardness of B ₁₃ C ₂ -like structured ByX crystals (X=C,N,O,P,As). Physical Review B, 2006, 73, .	1.1	42
116	Infrared and Raman spectra of BC_2N from first principles calculations. Physical Review B, 2006, 74, .	1.1	17
117	Chalcopyrite polymorph for superhard BC ₂ N. Applied Physics Letters, 2006, 89, 151911.	1.5	41
118	First-principles study of electronic structure and optical properties of heterodiamond BC ₂ N. Physical Review B, 2006, 73, .	1.1	113
119	Ab initio investigations of optical properties of the high-pressure phases of ZnO. Physical Review B, 2005, 71, .	1.1	363
120	Optical properties of heterodiamond B ₂ CN using first-principles calculations. Applied Physics Letters, 2004, 84, 4544-4546.	1.5	78
121	High efficiency single- and dual-wavelength Nd:GdVO ₄ lasers pumped by a fiber-coupled diode. Applied Physics B: Lasers and Optics, 2004, 79, 301-304.	1.1	54
122	Conical Second Harmonic Generation in a Two-Dimensional Γ_2 Photonic Crystal: A Hexagonally Poled LiTaO ₃ Crystal. Physical Review Letters, 2004, 93, 133904.	2.9	108
123	Pressure-induced phase transitions in the ZrXY (X= Si, Ge, Sn; Y= S, Se, Te) family compounds. Chinese Physics B, 0, , .	0.7	0
124	Partially Diffusive Helium-Silica Compound under High Pressure. Chinese Physics Letters, 0, , .	1.3	3