

Katsuya Shimizu

List of Publications by Year in descending order

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141
papers

3,990
citations

136950

32
h-index

128289

60
g-index

146
all docs

146
docs citations

146
times ranked

3141
citing authors

#	ARTICLE	IF	CITATIONS
1	Crystal structure of the superconducting phase of sulfur hydride. Nature Physics, 2016, 12, 835-838.	16.7	392
2	Superconductivity in compressed lithium at 20â€‰%K. Nature, 2002, 419, 597-599.	27.8	321
3	Superconductivity in the non-magnetic state of iron under pressure. Nature, 2001, 412, 316-318.	27.8	269
4	Direct observation of a pressure-induced metal-to-semiconductor transition in lithium. Nature, 2009, 458, 186-189.	27.8	228
5	Experimental determination of the electrical resistivity of iron at Earthâ€™s core conditions. Nature, 2016, 534, 95-98.	27.8	209
6	The Electrical Conductivity of Post-Perovskite in Earth's D'' Layer. Science, 2008, 320, 89-91.	12.6	127
7	Superconductivity of Ca Exceeding 25 K at Megabar Pressures. Journal of the Physical Society of Japan, 2006, 75, 083703.	1.6	119
8	Experimental and Theoretical Evidence for Pressure-Induced Metallization in FeO with Rocksalt-Type Structure. Physical Review Letters, 2012, 108, 026403.	7.8	111
9	Superconductivity of CeRhIn5 under High Pressure. Journal of the Physical Society of Japan, 2001, 70, 3362-3367.	1.6	98
10	Superconducting state of Ca-VII below a critical temperature of 29 K at a pressure of 216 GPa. Physical Review B, 2011, 83, .	3.2	80
11	Phase boundary of hot dense fluid hydrogen. Scientific Reports, 2015, 5, 16560.	3.3	72
12	New High-Pressure Phase of Calcium. Journal of the Physical Society of Japan, 2005, 74, 2391-2392.	1.6	70
13	Pressure-induced Superconductivity in Elemental Materials. Journal of the Physical Society of Japan, 2005, 74, 1345-1357.	1.6	66
14	Superconducting phaseâ€‰diagram of H3S under high magnetic fields. Nature Communications, 2019, 10, 2522.	12.8	62
15	Observation of Pressure-Induced Superconductivity of Sulfur. Journal of the Physical Society of Japan, 1997, 66, 2564-2565.	1.6	59
16	Electrical conductivities of pyrolitic mantle and MORB materials up to the lowermost mantle conditions. Earth and Planetary Science Letters, 2010, 289, 497-502.	4.4	59
17	Superconductivity of Calcium under High Pressures. Journal of the Physical Society of Japan, 1996, 65, 1924-1926.	1.6	57
18	Superconducting H5S2 phase in sulfur-hydrogen system under high-pressure. Scientific Reports, 2016, 6, 23160.	3.3	56

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19	Multiferroicity in orthorhombic RMnO_3 (R=Dy, Tb, and Gd) under high pressure. <i>Physical Review B</i> , 2015, 91, .	3.2	48
20	Crystal Structures of Calcium IV and V under High Pressure. <i>Physical Review Letters</i> , 2008, 101, 095503.	7.8	47
21	Suppression of metal-insulator transition at high pressure and pressure-induced magnetic ordering in pyrochlore oxide $\text{Nd}_2\text{Ir}_2\text{O}_{10}$. <i>Physical Review B</i> , 2019, 99, 080407.	3.2	47
22	Pressure-Induced Superconductivity in Antiferromagnet CePd_5Al_2 . <i>Journal of the Physical Society of Japan</i> , 2008, 77, 043701.	1.6	42
23	Ca-VI: A high-pressure phase of calcium above 158 GPa. <i>Physical Review B</i> , 2010, 81, .	3.2	39
24	Superconductivity in room-temperature stable electride and high-pressure phases of alkali metals. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2015, 373, 20140450.	3.4	39
25	Emergence of double-dome superconductivity in ammoniated metal-doped FeSe. <i>Scientific Reports</i> , 2015, 5, 9477.	3.3	39
26	Materials informatics based on evolutionary algorithms: Application to search for superconducting hydrogen compounds. <i>Physical Review B</i> , 2019, 100, .	3.2	39
27	Superconductivity of the hydrogen-rich metal hydride Li_5MoH under high pressure. <i>Physical Review B</i> , 2019, 99, 080407.	3.2	39
28	Pressure-Induced Superconductivity in Filled Skutterudite $\text{PrRu}_4\text{P}_{12}$. <i>Journal of the Physical Society of Japan</i> , 2004, 73, 2370-2372.	1.6	38
29	Ca-VII: A Chain Ordered Host-Guest Structure of Calcium above 210 ÅGPa. <i>Physical Review Letters</i> , 2013, 110, 235501.	7.8	38
30	Pressure-Induced Superconductivity of Iodine. <i>Journal of the Physical Society of Japan</i> , 1992, 61, 3853-3855.	1.6	36
31	Magnetic Properties of RCoGe_3 (R: Ce, Pr, and Nd) and Strong Anisotropy of the Upper Critical Field in Non-centrosymmetric Compound CeCoGe_3 . <i>Journal of the Physical Society of Japan</i> , 2009, 78, 124713.	1.6	35
32	Generation of Multi-Megabar Pressure Using Nano-Polycrystalline Diamond Anvils. <i>Japanese Journal of Applied Physics</i> , 2007, 46, L640-L641.	1.5	34
33	The effect of iron spin transition on electrical conductivity of (Mg,Fe)O magnesiowuestite. <i>Proceedings of the Japan Academy Series B: Physical and Biological Sciences</i> , 2007, 83, 97-100.	3.8	33
34	Superconductivity of Pure H_3S Synthesized from Elemental Sulfur and Hydrogen. <i>Journal of the Physical Society of Japan</i> , 2019, 88, 123701.	1.6	33
35	Pressure effects on the magnetoelectric properties of a multiferroic triangular-lattice antiferromagnet CuCrO_2 . <i>Physical Review B</i> , 2013, 87, .	3.2	31
36	Electrical resistivity of CeTl_5 (T=Rh, Ir) under high pressure. <i>Physica C: Superconductivity and Its Applications</i> , 2003, 388-389, 539-540.	1.2	29

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37	High-pressure experimental evidence for metal FeO with normal NiAs-type structure. <i>Physical Review B</i> , 2010, 82, .	3.2	29
38	The electrical resistance measurements of (Mg,Fe)SiO ₃ perovskite at high pressures and implications for electronic spin transition of iron. <i>Physics of the Earth and Planetary Interiors</i> , 2010, 180, 154-158.	1.9	28
39	On the phase-transition in anthracene induced by high pressure. <i>Solid State Communications</i> , 2004, 129, 103-106.	1.9	27
40	Pressure-induced superconductivity in non-centrosymmetric compound CeIrGe ₃ . <i>Physica C: Superconductivity and Its Applications</i> , 2010, 470, S543-S544.	1.2	27
41	Enhancement of Superconducting Transition Temperature in CeCu ₂ Ge ₂ under High Pressures. <i>Journal of the Physical Society of Japan</i> , 1998, 67, 996-999.	1.6	26
42	Compression of polyhedral graphite up to 43 GPa and x-ray diffraction study on elasticity and stability of the graphite phase. <i>Applied Physics Letters</i> , 2004, 84, 5112-5114.	3.3	26
43	Superconductivity in aromatic hydrocarbons. <i>Physica C: Superconductivity and Its Applications</i> , 2015, 514, 199-205.	1.2	25
44	First-Principles Study on Superconductivity of P- and Cl-Doped H ₃ S. <i>Journal of the Physical Society of Japan</i> , 2018, 87, 124711.	1.6	25
45	Pressure-Induced Valence Transition and Heavy Fermion State in Eu ₂ Ni ₃ Ge ₅ and EuRhSi ₃ . <i>Journal of the Physical Society of Japan</i> , 2015, 84, 053701.	1.6	24
46	Superconductivity of platinum hydride. <i>Physical Review B</i> , 2019, 99, .	3.2	23
47	Pressure-induced superconductivity of iodanil. <i>European Physical Journal D</i> , 1996, 46, 817-818.	0.4	19
48	Valence ordering in the intermediate-valence magnet YbPd. <i>Physical Review B</i> , 2013, 88, .	3.2	19
49	Pressure-induced superconducting state in crystalline boron nanowires. <i>Physical Review B</i> , 2009, 79, .	3.2	18
50	Superconductivity in $\hat{1}\pm$ -boron at Mbar pressure. <i>Physica C: Superconductivity and Its Applications</i> , 2010, 470, S631-S632.	1.2	18
51	Hall Effect of Iodine in High Pressure. <i>Journal of the Physical Society of Japan</i> , 1994, 63, 3207-3209.	1.6	17
52	Pressure-induced phase transition, metallization, and superconductivity in boron triiodide. <i>Physical Review B</i> , 2010, 82, .	3.2	17
53	Cryogenic implementation of charging diamond anvil cells with H ₂ and D ₂ . <i>Review of Scientific Instruments</i> , 2011, 82, 105109.	1.3	16
54	Origin of Pressure-induced Superconducting Phase in KxFe ₂ âˆ“ySe ₂ studied by Synchrotron X-ray Diffraction and Spectroscopy. <i>Scientific Reports</i> , 2016, 6, 30946.	3.3	16

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73	Superconductivity from magnetic elements under high pressure. <i>Physica B: Condensed Matter</i> , 2006, 378-380, 632-635.	2.7	9
74	Structural and electrical transport properties of FeH ₂ under high pressures and low temperatures. <i>High Pressure Research</i> , 2011, 31, 64-67.	1.2	9
75	Pressure-Induced Metallization of Yttrium Trihydride, YH ₃ . <i>Journal of the Physical Society of Japan</i> , 2012, 81, SB041.	1.6	9
76	Interplay between Charge and Magnetic Orderings in YbPd. <i>Journal of the Physical Society of Japan</i> , 2013, 82, 084706.	1.6	9
77	Magnetic - nonmagnetic transition of U ₃ P ₄ at high pressures. <i>Journal of Nuclear Science and Technology</i> , 2002, 39, 191-194.	1.3	8
78	New superconductors under very high pressure. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 125207.	1.8	8
79	Superconducting and Martensitic Transitions of V ₃ Si and Nb ₃ Sn under High Pressure. <i>Journal of the Physical Society of Japan</i> , 2012, 81, SB026.	1.6	8
80	Development of the Valence Fluctuation in the Nearly Divalent Compound YbCu ₂ Ge ₂ under High Pressure. <i>Journal of the Physical Society of Japan</i> , 2012, 81, SB054.	1.6	8
81	Investigation of Superconductivity in Hydrogen-rich Systems. <i>Journal of the Physical Society of Japan</i> , 2020, 89, 051005.	1.6	8
82	Electrical Properties of YH ₃ under High Pressure. <i>Journal of the Physical Society of Japan</i> , 2007, 76, 86-87.	1.6	7
83	Pressure investigation of superconductivity of V ₃ Si. <i>Journal of Physics: Conference Series</i> , 2010, 200, 012202.	0.4	7
84	Review on distorted face-centered cubic phase in yttrium via genetic algorithm. <i>High Pressure Research</i> , 2015, 35, 37-41.	1.2	7
85	Chemical Trend of Superconducting Critical Temperatures in Hole-Doped CuBO ₂ , CuAlO ₂ , CuGaO ₂ , and CuInO ₂ . <i>Journal of the Physical Society of Japan</i> , 2016, 85, 094711.	1.6	7
86	Lithium polyhydrides synthesized under high pressure and high temperature. <i>Journal of Raman Spectroscopy</i> , 2017, 48, 1222-1228.	2.5	7
87	Electrical transport measurements for superconducting sulfur hydrides using boron-doped diamond electrodes on beveled diamond anvil. <i>Superconductor Science and Technology</i> , 2020, 33, 124005.	3.5	7
88	Pressure Dependence of the Superconductivity in Strontium. <i>Journal of the Physical Society of Japan</i> , 2007, 76, 23-24.	1.6	6
89	First-principles study on superconductivity of simple cubic, modulated and simple hexagonal phases in phosphorus. <i>High Pressure Research</i> , 2012, 32, 3-10.	1.2	6
90	Phase Stability and Superconductivity of Compressed Argon-Hydrogen Compounds from First-Principles. <i>Journal of the Physical Society of Japan</i> , 2017, 86, 124711.	1.6	6

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91	Conical support for double-stage diamond anvil apparatus. High Pressure Research, 2020, 40, 12-21.	1.2	6
92	The phase transition of PbHPO ₄ . Physica B: Condensed Matter, 2005, 359-361, 1303-1305.	2.7	5
93	The phase transition of CuCrZrS ₄ at high pressure. Physica B: Condensed Matter, 2005, 359-361, 1213-1215.	2.7	5
94	Metallization of solid iodine in phase I: X-ray diffraction measurements, electrical resistance measurements, and <i>ab initio</i> calculations. High Pressure Research, 2013, 33, 186-190.	1.2	5
95	Preparation and characterization of a new graphite superconductor: Ca _{0.5} Sr _{0.5} C ₆ . Scientific Reports, 2017, 7, 7436.	3.3	5
96	Specific heat and effect of pressure on the electrical resistivity of CePtGa single crystal. Physica B: Condensed Matter, 2000, 284-288, 1321-1322.	2.7	4
97	Pressure-induced metal-insulator transition of the mott insulator Ba ₂ IrO ₄ . Journal of the Korean Physical Society, 2013, 63, 349-351.	0.7	4
98	Pressure dependence of superconductive transition temperature on KxFe ₂ -ySe ₂ . Journal of Physics: Conference Series, 2015, 592, 012070.	0.4	4
99	Pressure-induced superconductivity in Li and Fe. Physica C: Superconductivity and Its Applications, 2004, 408-410, 750-753.	1.2	3
100	High-pressure effect on the electrical resistivity in and. Physica B: Condensed Matter, 2005, 359-361, 266-268.	2.7	3
101	Pressure-induced novel superconductivity and heavy fermion state in rare earth compounds. Journal of Physics: Conference Series, 2012, 400, 022028.	0.4	3
102	First-Principles Molecular Dynamics Simulation for Calcium under High-Pressure: Thermodynamic Effect on Simple Cubic Structure. Journal of the Physical Society of Japan, 2012, 81, 124601.	1.6	3
103	First-principles study on superconductivity of solid oxygen. High Pressure Research, 2012, 32, 457-463.	1.2	3
104	Superconductivity of compressed solid argon from first principles. Physical Review B, 2015, 91, .	3.2	3
105	Beryllium polyhydride BeH_8 synthesized at high pressure and temperature. Physical Review Materials, 2020, 4, .	0.0	3
106	Pressure-Induced Superconductivity of SnI ₄ . Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 7, 595-597.	0.0	3
107	Insulator-metal transition and crossover from negative to positive magnetoresistance in Cu_2S under high pressure. Physical Review B, 2022, 105, .	0.0	3
108	Observation of superconductivity of calcium under high pressures. European Physical Journal D, 1996, 46, 869-870.	0.4	2

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109	Crystal Structure of High-Pressure Phases V and VI of Potassium Dihydrogen Phosphate. Journal of the Physical Society of Japan, 2012, 81, 064706.	1.6	2
110	The Novel Phase Diagram of YbPd. Journal of Physics: Conference Series, 2012, 391, 012045.	0.4	2
111	Electrical resistance of SrFeO ₂ at ultra high pressure. Journal of Physics: Conference Series, 2015, 592, 012041.	0.4	2
112	Structural phase transition of potassium under high-pressure and low-temperature condition. Journal of Physics: Conference Series, 2017, 950, 042020.	0.4	2
113	Mixed-valence state and structure changes of EuH ($x\hat{\epsilon}^{-}=\hat{\epsilon}^{-}2$ and $2\hat{\epsilon}^{-}<\hat{\epsilon}^{-}x\hat{\epsilon}^{-}\hat{\epsilon}^{-}3$) under high-pressure H ₂ atmosphere, Journal of Alloys and Compounds, 2021, 865, 158637.	3.5	2
114	Molecular Solid. Metallization and Superconductivity in Oxygen under High Pressure.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2000, 10, 194-199.	0.0	1
115	PRESSURE-INDUCED SUPERCONDUCTIVITY IN SYMPLE METALS. International Journal of Modern Physics B, 2005, 19, 259-261.	2.0	1
116	Sample dependence of superconductivity for V₃Si under high pressure. Journal of Physics: Conference Series, 2011, 273, 012105.	0.4	1
117	First-principles molecular dynamics study on simple cubic calcium: comparison with simple cubic phosphorus. High Pressure Research, 2012, 32, 11-17.	1.2	1
118	First-principles study on superconductivity of the goldâ€“indium alloy under high pressure. High Pressure Research, 2013, 33, 152-157.	1.2	1
119	Searching for Superconducting Hydrides â€”The Experimental Achievementsâ€”. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2018, 28, 268-280.	0.0	1
120	Hydrogen-Storing Salt NaCl(H₂) Synthesized at High Pressure and High Temperature. Journal of Physical Chemistry C, 2019, 123, 25074-25080.	3.1	1
121	Surface structure on diamond foils generated by spatially nonuniform laser irradiation. Scientific Reports, 2020, 10, 9017.	3.3	1
122	Pressure-Induced Metallization of Molecular Crystal BI3. Journal of the Physical Society of Japan, 2007, 76, 33-34.	1.6	1
123	Electrical Resistance Measurement Techniques for Metal Hydrides under High-Pressure H ₂ Conditions & Electrical Transport and Structural Properties of FeH _x . Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2011, 21, 190-196.	0.0	1
124	Introduction to DAC Techniques. Low Temperature Technique for DAC.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 8, 41-48.	0.0	1
125	Introduction to DAC Technique. II. Application of DAC for Exploring Superconductivity.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1999, 9, 293-299.	0.0	1
126	Superconductivity in Compressed Lithium at 20 K.. ChemInform, 2003, 34, no-no.	0.0	0

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127	Structural analysis of the filled skutterudite at high pressure and low temperature. Physica B: Condensed Matter, 2006, 378-380, 199-200.	2.7	0
128	Review of High-Pressure Induced Superconductivity in Single Elements. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2010, 20, 133-139.	0.0	0
129	(P,T) Phase Diagram of Clathrate Superconductor Ba ₂₄ Ge ₁₀₀ . Journal of Physics: Conference Series, 2011, 273, 012079.	0.4	0
130	Magnetic-field-induced ferroelectric polarization flop under pressure in TbMnO ₃ . Journal of Physics: Conference Series, 2015, 592, 012118.	0.4	0
131	Electronic Properties of Elements at Mbar Pressure and Low Temperature. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2017, 27, 144-148.	0.0	0
132	Recent Progress on High-Temperature Superconducting Sulfur Hydride. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2018, 28, 251-259.	0.0	0
133	Antiferromagnetism and Valence Fluctuation of EuCd ₁₁ at High Pressure. , 2020, , .		0
134	15 years of Searching for Superconductivity under Ultra-high Pressure.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2002, 12, 315-322.	0.0	0
135	Pressure-Induced Superconductivity of the Filled Skutterudite. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2006, 16, 350-356.	0.0	0
136	Measurements of Electrical Conductivity of (Mg,Fe)SiO ₃ Post-Perovskite using Laser-Heated Diamond-Anvil Cell. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2008, 18, 260-266.	0.0	0
137	Observation of Superconductivity at Very High Pressure and Low Temperature -Pressure-Induced High Temperature Superconductivity of Calcium-. Zairyo/Journal of the Society of Materials Science, Japan, 2012, 61, 399-401.	0.2	0
138	Experiments under Extreme Conditions of Very Low Temperature and Ultra High Pressure Using Diamond Anvil Cell.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1994, 3, 375-377.	0.0	0
139	Simultaneous Measurements of Dielectric Properties and AC Calorimetry under High Pressure with Using Diamond Anvil Cell. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2015, 25, 298-307.	0.0	0
140	Room Temperature Superconductivity: Exploration and Prospects by Material Science at Extreme Conditions. Journal of the Institute of Electrical Engineers of Japan, 2022, 142, 89-92.	0.0	0
141	Persistent Spin-Orbit Mott Insulating State in Highly Compressed Post-Perovskite CaIrO ₃ . Journal of the Physical Society of Japan, 2022, 91, .	1.6	0