Optical Evidence for the Metallization of Xenon at 132(5

Physical Review Letters 62, 665-668 DOI: 10.1103/physrevlett.62.665

Citation Report

#	Article	IF	CITATIONS
1	Ruby at high pressure. I. Optical line shifts to 156 GPa. Physical Review B, 1989, 40, 5724-5732.	3.2	120
2	Highâ€pressure equations of state of krypton and xenon by a statistical mechanical theory. Journal of Chemical Physics, 1989, 91, 3133-3147.	3.0	29
3	Optical Studies of Hydrogen Above 200 Gigapascals: Evidence for Metallization by Band Overlap. Science, 1989, 244, 1462-1465.	12.6	191
4	Equation of state and metallization in compressed solid krypton. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 140, 117-121.	2.1	9
5	Possible superconductivity in metallic Xenon. High Pressure Research, 1990, 3, 129-131.	1.2	4
6	The initial scientific program at the NSLS infrared beamline. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1990, 291, 8-12.	1.6	56
7	In Reply: Evidence for Band Overlap Metallization of Hydrogen. Science, 1990, 247, 863-864.	12.6	7
8	Evidence for Band Overlap Metallization of Hydrogen. Science, 1990, 247, 863-863.	12.6	21
9	The metal-insulator transition in Si:P. , 1990, , 95-111.		16
10	Infrared reflectance measurements of the insulator-metal transition in solid hydrogen. Physical Review Letters, 1990, 65, 484-487.	7.8	82
11	Metalinsulator transition induced by pressure in chemically bonded solids. High Pressure Research, 1990, 2, 109-134.	1.2	14
12	Experimental study of the transition from van der Waals, over covalent to metallic bonding in mercury clusters. Journal of the Chemical Society, Faraday Transactions, 1990, 86, 2473.	1.7	109
13	The closing diamond anvil optical window in multimegabar research. Journal of Applied Physics, 1991, 69, 6413-6416.	2.5	56
14	Electrical conductivity and thermal EMF of CsI at high pressures. High Pressure Research, 1991, 6, 349-356.	1.2	30
15	On the origin and early evolution of terrestrial planet atmospheres and meteoritic volatiles. Icarus, 1991, 92, 2-79.	2.5	465
16	Optical absorption measurements of hydrogen at megabar pressures. Physical Review B, 1991, 43, 8767-8770.	3.2	46
17	Timeâ€resolved spectroscopic reflection measurements in shockâ€compressed materials. Journal of Applied Physics, 1991, 69, 918-928.	2.5	11
18	Absorption and reflectance in hydrogen up to 230 GPa: Implications for metallization. Physical Review Letters, 1991, 66, 193-196.	7.8	71

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#	Article	IF	CITATIONS
19	High-pressure optical studies on sulfur to 121 GPa: Optical evidence for metallization. Physical Review Letters, 1991, 67, 2998-3001.	7.8	100
20	Metallization of solid hydrogen at megabar pressures: A first-principles quasiparticle study. Physical Review Letters, 1991, 66, 64-67.	7.8	94
21	Metal-Insulator Transition in Solid Xenon at High Pressures. Europhysics Letters, 1991, 14, 65-70.	2.0	8
22	Pressure-induced insulator-metal transitions in solid xenon and hydrogen: A first-principles quasiparticle study. Physical Review B, 1992, 46, 6688-6699.	3.2	50
23	Simple technique for loading hydrogen and other condensable gases in a diamond anvil cell. Review of Scientific Instruments, 1992, 63, 3108-3111.	1.3	1
24	Liquid xenon study under shock and quasi-isentropic compression. High Pressure Research, 1992, 8, 595-605.	1.2	33
25	Production and metrology of 5 μm xâ€ray apertures for 100 keV diffraction studies in the diamond anvil cell. Review of Scientific Instruments, 1993, 64, 3462-3466.	1.3	17
26	d-orbital theory for an octahedral-site-symmetry crystal and pressure-induced spectral shifts in ruby. Physical Review B, 1993, 48, 68-72.	3.2	2
27	High Pressure Equations of State: Theory and Applications. , 1993, , 1-41.		0
28	Accretion and early degassing of the Earth: Constraints from Puâ€Uâ€Iâ€Xe Isotopic systematics. Meteoritics, 1993, 28, 609-621.	1.4	34
29	Compression of Ar(H2)2up to 175 GPa: A new path for the dissociation of molecular hydrogen?. Physical Review Letters, 1994, 72, 1360-1363.	7.8	108
30	Optical, x-ray, and band-structure studies of iodine at pressures of several megabars. Physical Review B, 1994, 49, 3725-3733.	3.2	40
31	First-principles study of solid Ar and Kr under high compression. Physical Review B, 1995, 52, 15165-15169.	3.2	46
32	High-pressure melting curves of alkali halides. Physical Review B, 1996, 53, 556-563.	3.2	67
33	Tight-binding computations of elastic anisotropy of Fe, Xe, and Si under compression. Physical Review B, 1997, 56, 8575-8589.	3.2	99
34	X-ray diffraction and absorption at extreme pressures. Review of Scientific Instruments, 1997, 68, 1629-1647.	1.3	17
35	Direct elementary reactions of boron and nitrogen at high pressures and temperatures. Physical Review B, 1997, 56, 140-146.	3.2	62
36	Structure, Bonding, and Geochemistry of Xenon at High Pressures. Science, 1997, 277, 930-933.	12.6	94

		CITATION REPORT		
#	Article		IF	CITATIONS
37	Physical properties of dense, low-temperature plasmas. Physics Reports, 1997, 282, 35	-157.	25.6	166
38	Quasi-isentropic compression of liquid argon up to 500 GPa. Journal of Experimental ar Physics, 1997, 84, 1145-1148.	nd Theoretical	0.9	9
39	Dissociation and Thermodynamics in Dense Hydrogen Fluid. Contributions To Plasma F 115-128.	'hysics, 1997, 37,	1.1	17
40	Solid hydrogen at 342 GPa: no evidence for an alkali metal. Nature, 1998, 393, 46	-49.	27.8	230
41	Effect of overlap of localized orbitals on the band structure of insulators under pressur the Solid State, 1998, 40, 1330-1338.	e. Physics of	0.6	3
42	Electronic and magnetic studies of materials to megabar pressures. , 2000, 128, 323-3	43.		13
43	The use of high pressure in basic, materials, and life sciences. , 2000, 128, 3-27.			12
44	Quasi-isentropic compression of liquid xenon to a density of 20 g/cm3 at a pressure of Temperature, 2000, 38, 210-214.	â^¼720 GPa. High	1.0	4
45	Electrical Conductivity of Xenon at Megabar Pressures. Physical Review Letters, 2000,	85, 2797-2800.	7.8	98
46	Shock compression of simple liquids: Implications for deuterium. High Pressure Researd 371-387.	ch, 2000, 16,	1.2	7
47	Structural and electronic properties of Xe. Journal of Physics Condensed Matter, 2000,	12, 9869-9883.	1.8	6
48	Quasiparticle Calculations in Solids. Solid State Physics, 2000, 54, 1-218.		0.5	514
49	Synthesis experiments on B-Sb, Ge-Sb, and Xe-Pd systems using a laser heated diamon Pressure Research, 2001, 21, 41-50.	d anvil cell. High	1.2	5
50	High-Pressure Melting Curves of Argon, Krypton, and Xenon: Deviation from Correspor Theory. Physical Review Letters, 2001, 86, 5731-5734.	iding States	7.8	113
51	Martensitic fcc-to-hcp Transformation Observed in Xenon at High Pressure. Physical Re 2001, 86, 4552-4555.	view Letters,	7.8	109
52	Progress in Cryocrystals at Megabar Pressures. Journal of Low Temperature Physics, 20	01, 122, 331-344.	1.4	22
53	Equations of State for Rare Gas Solids under Strong Compression. Journal of Low Temp Physics, 2001, 122, 401-412.	erature	1.4	14
54	Equation of state of rare-gas crystals near their metallization. Physics of the Solid State 1345-1352.	2, 2001, 43,	0.6	10

	CHATION R	CITATION REPORT		
#	ARTICLE	IF	CITATIONS	
55	Lattice Dynamics of Solid Xenon under Pressure. Physical Review Letters, 2002, 88, 075504.	7.8	37	
56	Metallization of molecular condensates and superconductivity. Technical Physics Letters, 2002, 28, 211-215.	0.7	0	
57	The forbidden gap and insulator-metal transition under pressure. Physics of the Solid State, 2002, 44, 1370-1379.	0.6	7	
58	Pressure-produced ionization of nonideal plasma in a megabar range of dynamic pressures. Journal of Experimental and Theoretical Physics, 2003, 97, 259-278.	0.9	153	
59	Crystal structure of bent carbon dioxide phase IV. Physical Review B, 2003, 68, .	3.2	52	
60	Measurement of refractive index and equation of state in dense He,H2,H2O,and Ne under high pressure in a diamond anvil cell. Physical Review B, 2003, 67, .	3.2	102	
62	Dipole interactions and electrical polarity in nanosystems: The Clausius–Mossotti and related models. Journal of Chemical Physics, 2004, 120, 2951-2962.	3.0	39	
63	Elastic constants of noble-gas crystals under pressure and the cauchy relations. Physics of the Solid State, 2004, 46, 249-253.	0.6	6	
64	Influence of impurities on the metallization of inert gases at high pressures. JETP Letters, 2004, 79, 32-35.	1.4	2	
65	Use of amorphous hydrogenated carbon as high-pressure cell for investigating trapped noble gases as a function of pressure. Thin Solid Films, 2004, 469-470, 112-114.	1.8	2	
66	Metallization and metallicity: Universal conductivity limits. Current Opinion in Solid State and Materials Science, 2004, 8, 385-395.	11.5	2	
67	Electrical Conductivity of Noble Gases at High Pressures. Contributions To Plasma Physics, 2005, 45, 61-69.	1.1	39	
68	Dynamic Compression of Rare Gases and Deuterium at High Pressures. Contributions To Plasma Physics, 2005, 45, 243-253.	1.1	3	
69	Diamond cells and new materials. Materials Today, 2005, 8, 34-42.	14.2	85	
70	Synthesis of superhard materials. Materials Today, 2005, 8, 44-51.	14.2	108	
71	High Pressure Materials Research. , 2005, , 165-188.		1	
72	Xenon Melting Curve to 80ÂGPa and5pâ^'dHybridization. Physical Review Letters, 2005, 95, 257801.	7.8	43	
73	Properties of a bound ensemble of repelling atoms. Physical Review B, 2005, 71, .	3.2	6	

	CITATION RE	CITATION REPORT	
#	Article	IF	CITATIONS
74	Phase transitions and adjacent phenomena in simple atomic systems. Physics-Uspekhi, 2005, 48, 345-388.	2.2	46
75	Crystal structure prediction usingab initioevolutionary techniques: Principles and applications. Journal of Chemical Physics, 2006, 124, 244704.	3.0	2,044
76	High-pressure alloying of iron and xenon: "Missing―Xe in the Earth's core?. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	25
77	Chapter 2 Predicting Materials and Properties: Theory of the Ground and Excited State. Contemporary Concepts of Condensed Matter Science, 2006, , 9-53.	0.5	8
78	Interatomic potential and elastic constants of rare-gas crystals under pressure. Physica Status Solidi (B): Basic Research, 2006, 243, 2672-2686.	1.5	19
79	Optical properties of methane to 288GPa at 300K. Journal of Physics and Chemistry of Solids, 2006, 67, 2603-2608.	4.0	38
80	High pressure studies on silane to 210 GPa at 300 K: optical evidence of an insulator–semiconductor transition. Journal of Physics Condensed Matter, 2006, 18, 8573-8580.	1.8	21
81	Theory and Practice – Measuring High-Pressure Electronic and Magnetic Properties. , 2007, , 293-337.		1
82	Electronic and structural properties of implanted xenon in amorphous silicon. Applied Physics Letters, 2007, 90, 164104.	3.3	4
83	Many-body interactions and high-pressure equations of state in rare-gas solids. Low Temperature Physics, 2007, 33, 545-552.	0.6	45
84	Electron-phonon coupling in the high-pressure hcp phase of xenon: A first-principles study. Physical Review B, 2007, 75, .	3.2	20
85	Atypical compounds of gases, which have been called â€~noble'. Chemical Society Reviews, 2007, 36, 1632.	38.1	258
86	The Chemical Imagination at Work inVery Tight Places. Angewandte Chemie - International Edition, 2007, 46, 3620-3642.	13.8	393
88	The fusion curves of xenon, krypton, and argon. Journal of Chemical Thermodynamics, 2008, 40, 618-624.	2.0	14
89	Free electron in compressed inert gases. Journal of Experimental and Theoretical Physics, 2008, 107, 274.	0.9	0
90	Lattice dynamics in heavy rare-gas crystals under pressure. Physics of the Solid State, 2008, 50, 724-732.	0.6	0
91	Many-body model of rare gases at high pressures. Physical Review B, 2008, 78, .	3.2	39
92	Raman scattering in hcp rare gas solids under pressure. Physical Review B, 2008, 78, .	3.2	30

#	Article	IF	CITATIONS
93	Low-temperature electrical discharge through solid xenon. Low Temperature Physics, 2008, 34, 952-959.	0.6	0
94	From molecular to polymeric CO2: bonding transformations under pressure. High Pressure Research, 2009, 29, 113-117.	1.2	1
95	Structural stability, phase transformations and band-tuning of actinide and rare earth based intermetallics under high pressure: a perspective. Indian Journal of Physics, 2010, 84, 485-499.	1.8	11
96	Pressure-induced bonding and compound formation in xenon–hydrogen solids. Nature Chemistry, 2010, 2, 50-53.	13.6	127
97	Two- and three-dimensional extended solids and metallization of compressed XeF2. Nature Chemistry, 2010, 2, 784-788.	13.6	40
98	Evolutionary Crystal Structure Prediction as a Method for the Discovery of Minerals and Materials. Reviews in Mineralogy and Geochemistry, 2010, 71, 271-298.	4.8	182
99	Shock Compression of a Fifth Period Element: Liquid Xenon to 840ÂGPa. Physical Review Letters, 2010, 105, 085501.	7.8	84
100	Evolutionary Crystal Structure Prediction and Novel High-Pressure Phases. NATO Science for Peace and Security Series B: Physics and Biophysics, 2010, , 293-323.	0.3	0
101	Insulator-metal transition of highly compressed carbon disulfide. Physical Review B, 2011, 84, .	3.2	20
102	Refractive index of lithium fluoride ramp compressed to 800 GPa. Journal of Applied Physics, 2011, 109, .	2.5	58
103	High-pressure study of silane to 150 GPa. Physical Review B, 2011, 83, .	3.2	53
104	Oxygen impurities reduce the metallization pressure of xenon. Physical Review B, 2012, 86, .	3.2	23
105	Chemical Bond. , 2012, , 51-157.		2
106	Extreme Conditions. , 2012, , 413-471.		0
107	Energy Balance for a Sonoluminescence Bubble Yields a Measure of Ionization Potential Lowering. Physical Review Letters, 2013, 111, 234301.	7.8	18
108	Elastic properties of heavy rare-gas crystals under pressure in the model of deformable atoms. Physics of the Solid State, 2013, 55, 2335-2344.	0.6	9
109	Small but Strong Lessons from Chemistry for Nanoscience. Angewandte Chemie - International Edition, 2013, 52, 93-103.	13.8	88
111	Hydrogen phase IV revisited via synchrotron infrared measurements in H <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:mrow </mml:msub>and D<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow< td=""><td>3.2</td><td>46</td></mml:mrow<></mml:msub></mml:math </mml:math 	3.2	46

#	Article	IF	CITATIONS
112	High-Pressure Optical Properties and Chemical Stability of Picene. Journal of Physical Chemistry C, 2013, 117, 5343-5351.	3.1	32
113	Solidification and fcc to metastable hcp phase transition in krypton under variable compression rates. Physical Review B, 2014, 90, .	3.2	15
114	Prediction of the Xe–He binary phase diagram at high pressures. Chemical Physics Letters, 2015, 640, 115-118.	2.6	11
115	Adiabatic potential and elastic properties of compressed rareâ€gas crystals in the model of deformable atoms. Physica Status Solidi (B): Basic Research, 2015, 252, 709-720.	1.5	5
116	Pressure-Induced Insulator to Metal Transition and Superconductivity of the Inert Gases. Journal of Superconductivity and Novel Magnetism, 2015, 28, 3525-3533.	1.8	3
117	On the occurrence of metallic character in the periodic table of the chemical elements. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140477.	3.4	6
118	Diamonds on Diamond: structural studies at extreme conditions on the Diamond Light Source. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20130158.	3.4	6
119	Opacity and conductivity measurements in noble gases at conditions of planetary and stellar interiors. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7925-7930.	7.1	48
120	Many-body interaction and deformation of the atomic electron shells in the lattice dynamics of compressed atomic cryocrystals. Low Temperature Physics, 2016, 42, 411-420.	0.6	8
121	The electronic structure of the xenon insertion compounds XXe–MX2 (X = F, Cl, Br, I; M = B, Al, Ga). Polyhedron, 2016, 117, 97-109.	2.2	3
122	Decaying shock studies of phase transitions in MgO‣iO ₂ systems: Implications for the superâ€Earths' interiors. Geophysical Research Letters, 2016, 43, 9475-9483.	4.0	48
123	Evidence of a first-order phase transition to metallic hydrogen. Physical Review B, 2016, 93, .	3.2	118
124	Formation of xenon-nitrogen compounds at high pressure. Scientific Reports, 2016, 6, 34896.	3.3	23
125	Synthesis and stability of xenon oxides Xe2O5 and Xe3O2 under pressure. Nature Chemistry, 2016, 8, 784-790.	13.6	89
126	Ultraincompressible, Superhard Materials. Annual Review of Materials Research, 2016, 46, 465-485.	9.3	92
127	Reaction between nickel or iron and xenon under high pressure. High Pressure Research, 2017, 37, 137-146.	1.2	17
128	First-principles study of conducting behavior of warm dense neon. Physics of Plasmas, 2017, 24, 082709.	1.9	2
129	Elastic properties of compressed rare-gas crystals in a model of deformable atoms. Physics of the Solid State, 2017, 59, 132-140.	0.6	3

#	Article	IF	CITATIONS
130	Unexpected robustness of the band gaps of TiO2 under high pressures. Journal of Physics Communications, 2017, 1, 055014.	1.2	3
132	Ab initio theory of the equation of state for compressed rare gas crystals. Physics of the Solid State, 2018, 60, 153-161.	0.6	2
133	Absolute Instability of FCC Lattice of Rare-Gas Crystals under Pressure. Physics of the Solid State, 2019, 61, 30-38.	0.6	5
134	Equation of state, ionic structure, and phase diagram of warm dense krypton. Physical Review E, 2019, 100, 033214.	2.1	6
135	Metallization and positive pressure dependency of bandgap in solid neon. Journal of Chemical Physics, 2019, 150, 111103.	3.0	5
136	Novel high/ultrahigh pressure structures of TiO2 with low band gaps. Computational Materials Science, 2019, 166, 303-310.	3.0	4
137	Noble Gas Reactivity in Planetary Interiors. Frontiers in Physics, 2020, 8, .	2.1	6
138	Efficiency of core-level interatomic Coulombic decay in rare-gas dimers. Physical Review A, 2020, 101, .	2.5	3
139	Chemistry under extreme conditions: Pressure evolution of chemical bonding and structure in dense solids. Matter and Radiation at Extremes, 2020, 5, .	3.9	55
140	Phases of the hydrogen isotopes under pressure: metallic hydrogen. Advances in Physics: X, 2021, 6, .	4.1	5
141	Spontaneous formation of filled-shell CsI-Xenon solid solutions under high temperature and high pressure. Computational Materials Science, 2021, 192, 110355.	3.0	0
142	High-pressure compression behavior of isoelectronic pairs of alkali metal halides and noble gas solids. Physical Review B, 2021, 104, .	3.2	0
143	Quasiparticle Theory of Electron Excitations in Solids. Kluwer International Series in Engineering and Computer Science, 1996, , 83-99.	0.2	9
144	Solid Hydrogen at Ultra High Pressure. NATO ASI Series Series B: Physics, 1991, , 101-114.	0.2	5
145	Inert Gas Bubbles in Metals: A Review. NATO ASI Series Series B: Physics, 1991, , 117-132.	0.2	15
146	Possible Mechanisms Limiting the Pressure in Inert Gas Bubbles in Metals. NATO ASI Series Series B: Physics, 1991, , 369-383.	0.2	5
147	Many-body interactions and high-pressure equations of state in rare-gas solids. , 0, .		1
148	The Equation of State of Xenonunder High Pressure. Journal of the Physical Society of Japan, 1991, 60, 3579-3580.	1.6	1

#	ARTICLE	IF	CITATIONS
151	Progress in Experimental Studies of Insulator-Metal Transitions at Multimegabar Pressures. , 2001, , 201-216.		1
152	First Principles Studies of Earth's Constituents and Related Materials. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2004, 14, 173-183.	0.0	0
153	Behavior of Xenon-Iron System under the Core Pressure. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2011, 21, 109-114.	0.0	0
154	Evidence for Band Overlap Metallization of Hydrogen. Science, 1990, 247, 863-863.	12.6	0
155	STATIC COMPRESSION TO MULTIMEGABAR PRESSURES. , 1992, , 27-38.		1
156	On the Frontier of the Pressure-Induced Molecular Dissociation. Experiments on the Metallization of Rare Gas Solids under High Pressure Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1996, 5, 150-155.	0.0	0
157	Search for Metallic Phases of Hydrogen and Hydrides. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2018, 28, 281-290.	0.0	0
158	Ab Initio Theory of the Equations of State for Light Rare-Gas Crystals. Springer Proceedings in Physics, 2019, , 213-229.	0.2	0
159	Establishing consistent equations of state for solid noble gases: Implication for partitioning behaviors of noble gases in the lower mantle. Earth-Science Reviews, 2022, 224, 103872.	9.1	0
160	Synthesis and characterization of XeAr2 under high pressure. Journal of Chemical Physics, 2023, 159, .	3.0	0
161	Experimental and computational study of the core-level crossing transition in iridium at high pressure. Physical Review B, 2024, 109, .	3.2	0
162	Developing correlation-consistent numeric atom-centered orbital basis sets for krypton: Applications in RPA-based correlated calculations. Journal of Chemical Physics, 2024, 160, .	3.0	0
163	Equation of state and Hugoniot of warm dense xenon: Application of average atom-in-jellium model. High Energy Density Physics, 2024, 50, 101083.	1.5	0
164	Unexpected Strength of Noble Gas Solids in Diamond Anvil Cells. Journal of Physical Chemistry C, 2024, 128, 4839-4847.	3.1	0