ValentÃ-n G Baonza

List of Publications by Year
in descending order

115 papers	2,212 citations	201674 27 h-index	276875 41 g-index
116 all docs	116 docs citations	116 times ranked	2768 citing authors

#	Article	IF	Citations
1	Pressure-Tuning of Magnetism and Linkage Isomerism in Iron(II) Hexacyanochromate. Journal of the American Chemical Society, 2005, 127, 4580-4581.	13.7	185
2	Pressure-Induced Magnetic Switching and Linkage Isomerism in K0.4Fe4[Cr(CN)6]2.8Â·16H2O: X-ray Absorption and Magnetic Circular Dichroism Studies. Journal of the American Chemical Society, 2008, 130, 15519-15532.	13.7	121
3	A detailed Raman and X-ray study of UO_{2+x} oxides and related structure transitions. Physical Chemistry Chemical Physics, 2016, 18, 28209-28216.	2.8	80
4	Universal compressibility behavior of dense phases. Physical Review B, 1995, 51, 28-37.	3.2	78
5	Properties of Sizeable [n]Cycloparaphenylenes as Molecular Models of Singleâ€Wall Carbon Nanotubes Elucidated by Raman Spectroscopy: Structural and Electronâ€Transfer Responses under Mechanical Stress. Angewandte Chemie - International Edition, 2014, 53, 7033-7037.	13.8	77
6	Nonlinear strain effects in double-resonance Raman bands of graphite, graphene, and related materials. Physical Review B, 2012, 85, .	3.2	66
7	Verdigris pigment: a mixture of compounds. Input from Raman spectroscopy. Journal of Raman Spectroscopy, 2010, 41, 1468-1476.	2.5	53
8	Nanocrystalline diamond: Effect of confinement, pressure, and heating on phonon modes. Physical Review B, 1997, 56, 5978-5984.	3.2	51
9	Effect of Pressure on Hydrogen Bonding in Liquid Methanol. Physical Review Letters, 2002, 89, 195504.	7.8	47
10	Universal features of the equation of state of solids from a pseudospinodal hypothesis. Physical Review B, 1996, 53, 5252-5258.	3.2	46
11	Carbon Monoxide: Spectroscopic Characterization of the Highâ€“Pressure Polymerized Phase. Journal of Low Temperature Physics, 1998, 111, 247-256.	1.4	45
12	Pressure-Induced Conductivity in a Neutral Nonplanar Spin-Localized Radical. Journal of the American Chemical Society, 2016, 138, 11517-11525.	13.7	38
13	Prediction of bulk modulus at high temperatures from longitudinal phonon frequencies: Application to diamond,câ^'BN, and3Câ^'SiC. Physical Review B, 2006, 73, .	3.2	36
14	Morphological changes in carbon nanohorns under stress: a combined Raman spectroscopy and TEM study. RSC Advances, 2016, 6, 49543-49550.	3.6	36
15	Diamond as pressure sensor in high-pressure Raman spectroscopy using sapphire and other gem anvil cells. Journal of Raman Spectroscopy, 2003, 34, 264-270.	2.5	35
16	Simple equation of state for solids under compression. Physical Review B, 1996, 54, 7034-7045.	3.2	33
17	Raman characterization of carbon materials under non-hydrostatic conditions. Carbon, 2011, 49, 973-979.	10.3	33
18	Reference Raman spectra of synthesized CaCl₂â€‰Â·â€‰nH₂O solids (nâ€‰=â€‰0,) Tj ETQ	2.5	33

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19	New Multiresponsive Chromic Soft Materials: Dynamic Interconversion of Short 2,7â€Dicyanomethylenecarbazoleâ€Based Biradicaloid and the Corresponding Cyclophane Tetramer. Chemistry - A European Journal, 2017, 23, 13776-13783.	3.3	33
20	Thermodynamic regularities in compressed liquids: I. The thermal expansion coefficient. Journal of Physics Condensed Matter, 2003, 15, 2979-2989.	1.8	32
21	Application of Raman microscopy to the characterization of different verdigris variants obtained using recipes from old treatises. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2007, 68, 1120-1125.	3.9	31
22	Chameleon-like behaviour of cyclo[n]paraphenylenes in complexes with C₇₀: on their impressive electronic and structural adaptability as probed by Raman spectroscopy. Faraday Discussions, 2014, 173, 157-171.	3.2	30
23	From linear to cyclic oligoparaphenylenes: electronic and molecular changes traced in the vibrational Raman spectra and reformulation of the bond length alternation pattern. Physical Chemistry Chemical Physics, 2016, 18, 11683-11692.	2.8	30
24	Anions in metallic matrices model: application to the aluminium crystal chemistry. Acta Crystallographica Section B: Structural Science, 2006, 62, 220-227.	1.8	29
25	Raman modes and GrÃ¼neisen parameters of graphite under compressive biaxial stress. Carbon, 2012, 50, 4600-4606.	10.3	28
26	Laserâ€induced oxidation of UO₂: A Raman study. Journal of Raman Spectroscopy, 2018, 49, 878-884.	2.5	28
27	Universal Behavior of Compressed Liquids. The Journal of Physical Chemistry, 1994, 98, 4955-4958.	2.9	27
28	Raman Spectra of Double-Wall Carbon Nanotubes under Extreme Uniaxial Stress. Nano Letters, 2008, 8, 2215-2218.	9.1	27
29	Extended analytical equation of state for liquids from expansivity data analysis. The Journal of Physical Chemistry, 1993, 97, 10813-10817.	2.9	26
30	The temperature dependence of the equation of state at high pressures revisited: a universal model for solids. Journal of Physics and Chemistry of Solids, 2002, 63, 1705-1715.	4.0	26
31	Speed of Sound in Liquid Water from (253.15 to 348.15) K and Pressures from (0.1 to 700) MPa. Journal of Chemical & Engineering Data, 2011, 56, 4800-4807.	1.9	26
32	Refractive index of benzene and methyl derivatives: temperature and wavelength dependencies. Experimental Thermal and Fluid Science, 2004, 28, 887-891.	2.7	25
33	Pseudoatoms and preferred skeletons in crystals. Acta Crystallographica Section B: Structural Science, 2007, 63, 339-345.	1.8	25
34	Waterâ€Soluble Reduced Graphene Oxideâ€“Carboxymethylcellulose Hybrid Nanomaterial for Electrochemical Biosensor Design. ChemPlusChem, 2014, 79, 1334-1341.	2.8	23
35	Raman study of the oxidation in (U, Pu)O 2 as a function of Pu content. Journal of Nuclear Materials, 2017, 495, 484-491.	2.7	23
36	The spinodal as a reference curve for the high-pressure volumetric behavior of liquids. Chemical Physics Letters, 1993, 216, 579-584.	2.6	22

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37	Pressure tuning of the Fermi resonance in liquid methanol: Implications for the analysis of high-pressure vibrational spectroscopy experiments. Journal of Chemical Physics, 2005, 123, 214502.	3.0	21
38	The Raman fingerprint of cyclic conjugation: the case of the stabilization of cations and dications in cycloparaphenylenes. Chemical Science, 2016, 7, 3494-3499.	7.4	21
39	Generalized Stress-Redox Equivalence: A Chemical Link between Pressure and Electronegativity in Inorganic Crystals. Inorganic Chemistry, 2020, 59, 5281-5291.	4.0	21
40	Temperature dependence of the Raman spectrum of UO2. Journal of Nuclear Materials, 2018, 503, 191-194.	2.7	18
41	Overview of the techniques used for the study of non-terrestrial bodies: Proposition of novel non-destructive methodology. TrAC - Trends in Analytical Chemistry, 2018, 98, 36-46.	11.4	18
42	Raman spectroscopic study of the formation of fossil resin analogues. Journal of Raman Spectroscopy, 2014, 45, 1230-1235.	2.5	17
43	Stressâ€dependent correlations for resonant Raman bands in graphite with defects. Journal of Raman Spectroscopy, 2014, 45, 476-480.	2.5	16
44	Estimation of the Spinodal Curve for Liquids: Application to 2,3-Dimethylbutane. The Journal of Physical Chemistry, 1994, 98, 1993-1998.	2.9	14
45	Thermodynamic Properties of Compressed Liquid Methanol in the Vicinity of the Freezing Line. Journal of Chemical & Engineering Data, 2007, 52, 481-486.	1.9	14
46	Local pressures in Zn chalcogenide polymorphs. Europhysics Letters, 2012, 98, 56002.	2.0	14
47	Pre- and post-oxidation Raman analysis of (U, Ce)O2 oxides. Journal of Nuclear Materials, 2018, 508, 116-122.	2.7	14
48	Equation of state and derived thermodynamic properties of liquid tetramethylsilane from 198 to 298 K and pressures up to 102 MPa. Journal of Chemical Thermodynamics, 1989, 21, 1045-1052.	2.0	13
49	Thermophysical properties of liquid m-xylene at high pressures. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 1217-1221.	1.7	13
50	Highs and Lows of Bond Lengths: Is There Any Limit?. Angewandte Chemie - International Edition, 2021, 60, 17028-17036.	13.8	13
51	High-pressure compressibility behavior of liquids referred to a pseudospinodal curve. Chemical Physics Letters, 1994, 228, 137-143.	2.6	12
52	Thermodynamic behaviour of liquid p-xylene near freezing. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 3645-3649.	1.7	12
53	A dynamic light scattering study of the hypersonic relaxation in liquid toluene. Journal of Chemical Physics, 2001, 115, 4681-4688.	3.0	12
54	Chemical pressureâ€“chemical knowledge: squeezing bonds and lone pairs within the valence shell electron pair repulsion model. Physical Chemistry Chemical Physics, 2019, 21, 12585-12596.	2.8	12

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55	Application of simple expressions for the high-pressure volumetric behaviour of liquid mesitylene. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 553.	1.7	11
56	Structure, Metastability, and Electron Density of Al Lattices in Light of the Model of Anions in Metallic Matrices. Journal of Physical Chemistry B, 2006, 110, 18609-18618.	2.6	11
57	Dynamic Covalent Properties of a Novel Indolo[3,2â€•b]carbazole Diradical. Chemistry - A European Journal, 2021, 27, 5509-5520.	3.3	11
58	Structural similarities between Ti metal and titanium oxides: implications on the high-pressure behavior of oxygen in metallic matrices. Solid State Sciences, 2004, 6, 809-814.	3.2	10
59	3D Raman mapping of uniaxially loaded 6Hâ€SiC crystals. Journal of Raman Spectroscopy, 2013, 44, 758-762.	2.5	10
60	Probing the Stress Effect on the Electronic Structure of Graphite by Resonant Raman Spectroscopy. Journal of Physical Chemistry C, 2014, 118, 25132-25140.	3.1	10
61	Highâ€Pressure Chemistry and the Mechanochemical Polymerization of [5]â€Cycloâ€pâ€phenylene. Chemistry - A European Journal, 2017, 23, 16593-16604.	3.3	10
62	Prediction of vapor-liquid equilibrium and second virial coefficient of pure substances from deiters equation of state. Fluid Phase Equilibria, 1992, 78, 43-59.	2.5	9
63	Equation of state of liquid o-xylene at low temperatures and high pressures. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 3527-3532.	1.7	9
64	The self-absorption phenomenon in quantitative Raman spectroscopy and how to correct its effects. Microchemical Journal, 2018, 139, 134-138.	4.5	9
65	Mechanochemistry in [6]Cycloparaphenylene: A Combined Raman Spectroscopy and Density Functional Theory Study. ChemPhysChem, 2018, 19, 1903-1916.	2.1	9
66	Thermodynamic properties of liquid carbon disulfide. Journal of Chemical Thermodynamics, 1993, 25, 555-559.	2.0	8
67	General behavior of longitudinal optical phonons in cubic diatomic crystals. Solid State Communications, 2004, 130, 383-386.	1.9	8
68	Phase transitions in cyclohexane up to 10 GPa. Chemical Physics Letters, 2004, 398, 175-179.	2.6	8
69	n-pentanol at high pressures: Rotational isomerism in the liquid phase and the liquid-solid phase transition. Journal of Chemical Physics, 2006, 124, 044508.	3.0	8
70	First-principles study of structure and stability in Siâ€“Câ€“O-based materials. Theoretical Chemistry Accounts, 2013, 132, 1.	1.4	8
71	Local Hydration Pressures in Methanol Aqueous Solution: A Raman Spectroscopy Analysis. Journal of Physical Chemistry B, 2014, 118, 9919-9925.	2.6	8
72	Local, solvation pressures and conformational changes in ethylenediamine aqueous solutions probed using Raman spectroscopy. Physical Chemistry Chemical Physics, 2016, 18, 26192-26198.	2.8	8

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73	Evidence of low-density water to high-density water structural transformation in milk during high-pressure processing. Innovative Food Science and Emerging Technologies, 2016, 38, 238-242.	5.6	8
74	Theoretical (DFT) and experimental (Raman and FTIR) spectroscopic study on communic acids, main components of fossil resins. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2020, 224, 117405.	3.9	8
75	Phase transitions and hindered rotation in dimethylacetylene at high pressures probed by Raman spectroscopy. Journal of Chemical Physics, 2004, 121, 11156.	3.0	7
76	Modeling graphite under stress: Equations of state, vibrational modes, and interlayer friction. Physical Review B, 2014, 90, .	3.2	7
77	A novel crystalline SiCO compound. Physical Chemistry Chemical Physics, 2015, 17, 25055-25060.	2.8	7
78	New Ramanâ€“visible nearâ€infrared database of inorganic and mineralogical planetary and terrestrial compounds and its implications for Mars: Phyllosilicates. Journal of Raman Spectroscopy, 2020, 51, 1750-1760.	2.5	7
79	Automerization in tetramethyl-cyclobutadiene. Chemical Physics Letters, 2008, 454, 387-390.	2.6	6
80	A local topological view of pressure-induced polymorphs in SiO2. Theoretical Chemistry Accounts, 2014, 133, 1.	1.4	6
81	Diradicals acting through diamagnetic phenylene vinylene bridges: Raman spectroscopy as a probe to characterize spin delocalization. Journal of Chemical Physics, 2014, 140, 164903.	3.0	6
82	Osmotic coefficients of dilute aqueous solutions of unsymmetrical cobalt-amine type salts at 0ï¿½C. Journal of Solution Chemistry, 1991, 20, 613-621.	1.2	5
83	Measurements of (p,Ï±,T,x) for {x CS2 + (1-x) Si(CH3)4}(1) from 198 to 298 K and pressures up to 104 MPa. Experimental results and derived thermodynamic properties. Fluid Phase Equilibria, 1993, 90, 365-387.	2.5	5
84	Dynamic light scattering in liquid and supercooled diphenylmethane. Journal of Chemical Physics, 2004, 120, 1426-1435.	3.0	5
85	Thermodynamic regularities in compressed liquids: II. The reduced bulk modulus. Journal of Physics Condensed Matter, 2006, 18, 10213-10222.	1.8	5
86	Raman spectroscopy of aqueous methanol solutions under pressure. High Pressure Research, 2006, 26, 407-410.	1.2	5
87	Characterization of Salting-Out Processes during CO₂-Clathrate Formation Using Raman Spectroscopy: Planetological Application. Spectroscopy Letters, 2012, 45, 407-412.	1.0	5
88	Spent fuel matrix oxidation studies under dry storage conditions. MRS Advances, 2017, 2, 675-680.	0.9	5
89	Molecules under Pressure: The Case of [n]Cycloparaphenylenes. Chemistry of Materials, 2019, 31, 6443-6452.	6.7	5
90	Highs and Lows of Bond Lengths: Is There Any Limit?. Angewandte Chemie, 2021, 133, 17165-17173.	2.0	5

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91	Equation of State for Representing the Thermodynamic Properties of Liquids at High Pressure. The Journal of Physical Chemistry, 1995, 99, 8856-8862.	2.9	4
92	Universal compressibility behaviour of ions in ionic crystals. High Pressure Research, 2009, 29, 97-102.	1.2	4
93	Effects of high pressure on unsaturated fatty acids. High Pressure Research, 2014, 34, 428-433.	1.2	4
94	Infrared spectroscopic study of the formation of fossil resin analogs with temperature using trans-communic acid as precursor. Microchemical Journal, 2018, 141, 294-300.	4.5	4
95	Energetics of the encapsulation of <i>o</i>-, <i>m</i>-, and <i>p</i>-hydroxybenzoic acids by Î²-cyclodextrin and its methylated and hydroxypropylated derivatives in aqueous solution. Canadian Journal of Chemistry, 1999, 77, 348-355.	1.1	4
96	Raman Spectroscopy of Gases, Water and other Geological Fluids. , 0, , 279-320.		4
97	High pressure chemistry of molecular systems: Recent experimental results and developments. High Pressure Research, 2000, 18, 379-389.	1.2	3
98	Direct measurement of the liquid 4:1 methanolâ€“ethanol equation of state up to 5ÂGPa. High Pressure Research, 2008, 28, 637-640.	1.2	3
99	Modeling high pressure reactivity in unsaturated systems: Application to dimethylacetylene. Journal of Computational Chemistry, 2009, 30, 415-422.	3.3	3
100	Role of Water Structure on the High Pressure Micellization and Phase Transformations of Sodium Dodecanoate Aqueous Solutions. Langmuir, 2014, 30, 7343-7352.	3.5	3
101	Computational Modeling of Tensile Stress Effects on the Structure and Stability of Prototypical Covalent and Layered Materials. Nanomaterials, 2019, 9, 1483.	4.1	3
102	Linear, Non-Conjugated Cyclic and Conjugated Cyclic Paraphenylene under Pressure. Molecules, 2019, 24, 3496.	3.8	3
103	Prediction of surface tension of liquids. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1994, 98, 960-963.	0.9	2
104	Light-scattering study of vibrational relaxation in liquid xylenes. Journal of Chemical Physics, 2006, 124, 014503.	3.0	2
105	Extension of the Szigeti equations: Average longitudinal-transverse frequencies and effective charges. Physical Review B, 2006, 73, .	3.2	2
106	An experimental device for accurate ultrasounds measurements in liquid foods at high pressure. IOP Conference Series: Materials Science and Engineering, 2012, 42, 012044.	0.6	2
107	Tunneling phenomena in aligned multi-walled carbon nanotube sheets: conductivity and Raman correlations. Materials Research Express, 2014, 1, 045603.	1.6	2
108	Liquid mixtures at high pressures referred to a pseudospinodal curve: ethanolâ€“methylcyclopentane and carbon disulfideâ€“tetramethylsilane. Journal of the Chemical Society, Faraday Transactions, 1995, 91, 59-63.	1.7	1

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109	Graphite under non-hydrostatic conditions. High Pressure Research, 2008, 28, 583-586.	1.2	1
110	A modified commercial scanner as an image plate for table-top optical applications. Review of Scientific Instruments, 2009, 80, 013104.	1.3	1
111	Anharmonicity effects in the frictionlike mode of graphite. Physical Review B, 2016, 93, .	3.2	1
112	Correlation between electrical resistance and defect concentration in graphite under non-hydrostatic stress. Carbon, 2017, 113, 205-211.	10.3	1
113	High pressure heat capacity of benzene derivatives from pVT measurements. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1994, 98, 563-567.	0.9	0
114	Temperature effects on the friction-like mode of graphite. Theoretical Chemistry Accounts, 2017, 136, 1.	1.4	0
115	Pressure as driving force in the formation of Fossil Resins: Pressure Induced Changes intrans-Communic Acid studied by Raman Spectroscopy. Journal of Physics: Conference Series, 2017, 950, 042052.	0.4	0