

Mercedes Taravillo

List of Publications by Year in descending order

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67
papers

1,190
citations

394421

19
h-index

414414

32
g-index

68
all docs

68
docs citations

68
times ranked

1726
citing authors

#	ARTICLE	IF	CITATIONS
1	DFT+ <i>U</i> calculations of crystal lattice, electronic structure, and phase stability under pressure of TiO ₂ polymorphs. <i>Journal of Chemical Physics</i> , 2011, 135, 054503.	3.0	221
2	Properties of Sizeable [<i>n</i>]Cycloparaphenylenes as Molecular Models of Single-Wall Carbon Nanotubes Elucidated by Raman Spectroscopy: Structural and Electron-Transfer Responses under Mechanical Stress. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 7033-7037.	13.8	77
3	Nonlinear strain effects in double-resonance Raman bands of graphite, graphene, and related materials. <i>Physical Review B</i> , 2012, 85, .	3.2	66
4	Effect of Pressure on Hydrogen Bonding in Liquid Methanol. <i>Physical Review Letters</i> , 2002, 89, 195504.	7.8	47
5	Universal features of the equation of state of solids from a pseudospinodal hypothesis. <i>Physical Review B</i> , 1996, 53, 5252-5258.	3.2	46
6	Morphological changes in carbon nanohorns under stress: a combined Raman spectroscopy and TEM study. <i>RSC Advances</i> , 2016, 6, 49543-49550.	3.6	36
7	Diamond as pressure sensor in high-pressure Raman spectroscopy using sapphire and other gem anvil cells. <i>Journal of Raman Spectroscopy</i> , 2003, 34, 264-270.	2.5	35
8	Simple equation of state for solids under compression. <i>Physical Review B</i> , 1996, 54, 7034-7045.	3.2	33
9	Raman characterization of carbon materials under non-hydrostatic conditions. <i>Carbon</i> , 2011, 49, 973-979.	10.3	33
10	Thermodynamic regularities in compressed liquids: I. The thermal expansion coefficient. <i>Journal of Physics Condensed Matter</i> , 2003, 15, 2979-2989.	1.8	32
11	Chameleon-like behaviour of cyclo[<i>n</i>]paraphenylenes in complexes with C ₇₀ : on their impressive electronic and structural adaptability as probed by Raman spectroscopy. <i>Faraday Discussions</i> , 2014, 173, 157-171.	3.2	30
12	From linear to cyclic oligoparaphenylenes: electronic and molecular changes traced in the vibrational Raman spectra and reformulation of the bond length alternation pattern. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 11683-11692.	2.8	30
13	Raman modes and Grüneisen parameters of graphite under compressive biaxial stress. <i>Carbon</i> , 2012, 50, 4600-4606.	10.3	28
14	Raman Spectra of Double-Wall Carbon Nanotubes under Extreme Uniaxial Stress. <i>Nano Letters</i> , 2008, 8, 2215-2218.	9.1	27
15	The temperature dependence of the equation of state at high pressures revisited: a universal model for solids. <i>Journal of Physics and Chemistry of Solids</i> , 2002, 63, 1705-1715.	4.0	26
16	Speed of Sound in Liquid Water from (253.15 to 348.15) K and Pressures from (0.1 to 700) MPa. <i>Journal of Chemical & Engineering Data</i> , 2011, 56, 4800-4807.	1.9	26
17	Refractive index of benzene and methyl derivatives: temperature and wavelength dependencies. <i>Experimental Thermal and Fluid Science</i> , 2004, 28, 887-891.	2.7	25
18	Pressure tuning of the Fermi resonance in liquid methanol: Implications for the analysis of high-pressure vibrational spectroscopy experiments. <i>Journal of Chemical Physics</i> , 2005, 123, 214502.	3.0	21

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19	The Raman fingerprint of cyclic conjugation: the case of the stabilization of cations and dications in cycloparaphenylenes. <i>Chemical Science</i> , 2016, 7, 3494-3499.	7.4	21
20	Shocked materials at the intersection of experiment and simulation. <i>Scientific Modeling and Simulation SMNS</i> , 2008, 15, 159-186.	0.8	17
21	Raman spectroscopic study of the formation of fossil resin analogues. <i>Journal of Raman Spectroscopy</i> , 2014, 45, 1230-1235.	2.5	17
22	Stress-dependent correlations for resonant Raman bands in graphite with defects. <i>Journal of Raman Spectroscopy</i> , 2014, 45, 476-480.	2.5	16
23	Thermodynamic Properties of Compressed Liquid Methanol in the Vicinity of the Freezing Line. <i>Journal of Chemical & Engineering Data</i> , 2007, 52, 481-486.	1.9	14
24	Thermophysical properties of liquid m-xylene at high pressures. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1994, 90, 1217-1221.	1.7	13
25	Highs and Lows of Bond Lengths: Is There Any Limit?. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 17028-17036.	13.8	13
26	Thermodynamic behaviour of liquid p-xylene near freezing. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1994, 90, 3645-3649.	1.7	12
27	A dynamic light scattering study of the hypersonic relaxation in liquid toluene. <i>Journal of Chemical Physics</i> , 2001, 115, 4681-4688.	3.0	12
28	Refractive index temperature and wavelength dependencies of normal saturated fatty acids in liquid state. <i>Experimental Thermal and Fluid Science</i> , 2005, 29, 681-684.	2.7	12
29	Chemical pressure—chemical knowledge: squeezing bonds and lone pairs within the valence shell electron pair repulsion model. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 12585-12596.	2.8	12
30	3D Raman mapping of uniaxially loaded 6H-SiC crystals. <i>Journal of Raman Spectroscopy</i> , 2013, 44, 758-762.	2.5	10
31	Probing the Stress Effect on the Electronic Structure of Graphite by Resonant Raman Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2014, 118, 25132-25140.	3.1	10
32	High-Pressure Chemistry and the Mechanochemical Polymerization of [5]cycloparaphenylene. <i>Chemistry - A European Journal</i> , 2017, 23, 16593-16604.	3.3	10
33	Equation of state of liquid o-xylene at low temperatures and high pressures. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1994, 90, 3527-3532.	1.7	9
34	Mechanochemistry in [6]Cycloparaphenylene: A Combined Raman Spectroscopy and Density Functional Theory Study. <i>ChemPhysChem</i> , 2018, 19, 1903-1916.	2.1	9
35	n-pentanol at high pressures: Rotational isomerism in the liquid phase and the liquid-solid phase transition. <i>Journal of Chemical Physics</i> , 2006, 124, 044508.	3.0	8
36	Evidence of low-density water to high-density water structural transformation in milk during high-pressure processing. <i>Innovative Food Science and Emerging Technologies</i> , 2016, 38, 238-242.	5.6	8

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37	Theoretical (DFT) and experimental (Raman and FTIR) spectroscopic study on communic acids, main components of fossil resins. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2020, 224, 117405.	3.9	8
38	Pressure-Driven Metallization in Hafnium Diselenide. <i>Inorganic Chemistry</i> , 2021, 60, 1746-1754.	4.0	8
39	Phase transitions and hindered rotation in dimethylacetylene at high pressures probed by Raman spectroscopy. <i>Journal of Chemical Physics</i> , 2004, 121, 11156.	3.0	7
40	Modeling graphite under stress: Equations of state, vibrational modes, and interlayer friction. <i>Physical Review B</i> , 2014, 90, .	3.2	7
41	Diradicals acting through diamagnetic phenylene vinylene bridges: Raman spectroscopy as a probe to characterize spin delocalization. <i>Journal of Chemical Physics</i> , 2014, 140, 164903.	3.0	6
42	Dynamic light scattering in liquid and supercooled diphenylmethane. <i>Journal of Chemical Physics</i> , 2004, 120, 1426-1435.	3.0	5
43	Thermodynamic regularities in compressed liquids: II. The reduced bulk modulus. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 10213-10222.	1.8	5
44	Raman spectroscopy of aqueous methanol solutions under pressure. <i>High Pressure Research</i> , 2006, 26, 407-410.	1.2	5
45	Characterization of Salting-Out Processes during CO ₂ -Clathrate Formation Using Raman Spectroscopy: Planetological Application. <i>Spectroscopy Letters</i> , 2012, 45, 407-412.	1.0	5
46	Molecules under Pressure: The Case of [n]Cycloparaphenylenes. <i>Chemistry of Materials</i> , 2019, 31, 6443-6452.	6.7	5
47	Highs and Lows of Bond Lengths: Is There Any Limit?. <i>Angewandte Chemie</i> , 2021, 133, 17165-17173.	2.0	5
48	Equation of State for Representing the Thermodynamic Properties of Liquids at High Pressure. <i>The Journal of Physical Chemistry</i> , 1995, 99, 8856-8862.	2.9	4
49	Universal compressibility behaviour of ions in ionic crystals. <i>High Pressure Research</i> , 2009, 29, 97-102.	1.2	4
50	Effects of high pressure on unsaturated fatty acids. <i>High Pressure Research</i> , 2014, 34, 428-433.	1.2	4
51	Infrared spectroscopic study of the formation of fossil resin analogs with temperature using trans-communic acid as precursor. <i>Microchemical Journal</i> , 2018, 141, 294-300.	4.5	4
52	Application of a new equation of state for solids. <i>High Temperatures - High Pressures</i> , 1998, 30, 97-103.	0.3	4
53	Direct measurement of the liquid 4:1 methanol-ethanol equation of state up to 5 ÅPa. <i>High Pressure Research</i> , 2008, 28, 637-640.	1.2	3
54	Role of Water Structure on the High Pressure Micellization and Phase Transformations of Sodium Dodecanoate Aqueous Solutions. <i>Langmuir</i> , 2014, 30, 7343-7352.	3.5	3

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55	Linear, Non-Conjugated Cyclic and Conjugated Cyclic Paraphenylene under Pressure. <i>Molecules</i> , 2019, 24, 3496.	3.8	3
56	Light-scattering study of vibrational relaxation in liquid xylenes. <i>Journal of Chemical Physics</i> , 2006, 124, 014503.	3.0	2
57	Extension of the Szigeti equations: Average longitudinal-transverse frequencies and effective charges. <i>Physical Review B</i> , 2006, 73, .	3.2	2
58	An experimental device for accurate ultrasounds measurements in liquid foods at high pressure. <i>IOP Conference Series: Materials Science and Engineering</i> , 2012, 42, 012044.	0.6	2
59	Tunneling phenomena in aligned multi-walled carbon nanotube sheets: conductivity and Raman correlations. <i>Materials Research Express</i> , 2014, 1, 045603.	1.6	2
60	Graphite under non-hydrostatic conditions. <i>High Pressure Research</i> , 2008, 28, 583-586.	1.2	1
61	Aqueous solutions of tris(1,2-diaminoethane)cobalt(III) chloride and tris(1,3-diaminopropane)cobalt(III) chloride at T= 278.15 K. Enthalpy of dilution. <i>Journal of Chemical Thermodynamics</i> , 2001, 33, 1277-1284.	2.0	0
62	Enthalpies of Dilution of Cobalt(II) Amine-Type Salts in Aqueous Solutions at 25°C. <i>Journal of Solution Chemistry</i> , 2001, 30, 1091-1100.	1.2	0
63	Pressure as a Tool to Investigate Vibrational Fermi Resonance in Molecular Liquids: Study of Liquid Methanol up to 20 kbar by Raman Microscopy. <i>Defect and Diffusion Forum</i> , 2002, 208-209, 125-128.	0.4	0
64	Shocked materials at the intersection of experiment and simulation. <i>Lecture Notes in Computational Science and Engineering</i> , 2008, , 159-186.	0.3	0
65	Pressure as driving force in the formation of Fossil Resins: Pressure Induced Changes intrans-Communic Acid studied by Raman Spectroscopy. <i>Journal of Physics: Conference Series</i> , 2017, 950, 042052.	0.4	0
66	Equipo para la Determinación Experimental del Espectro de Luz Difundida por un Líquido. <i>Informacion Tecnológica (discontinued)</i> , 2004, 15, .	0.3	0
67	Desarrollo de un Calorímetro para la Determinación de la Entalpía de Dilución en Disoluciones Acuósas de Electrolitos. <i>Informacion Tecnológica (discontinued)</i> , 2004, 15, .	0.3	0