Catalin Popescu

List of Publications by Citations

102 papers	1,684 citations	23 h-index	36 g-index
109 ext. papers	2,156 ext. citations	4.7 avg, IF	4.76 L-index

#	Paper	IF	Citations
102	The new Material Science Powder Diffraction beamline at ALBA Synchrotron. *Powder Diffraction*, **2013**, 28, S360-S370	1.8	240
101	Colossal barocaloric effects near room temperature in plastic crystals of neopentylglycol. *Nature Communications*, **2019**, 10, 1803	17.4	78
100	The crystallography stations at the Alba synchrotron. *European Physical Journal Plus*, **2015**, 130, 1	3.1	76
99	Structural, Vibrational, and Electronic Study of Sb2S3 at High Pressure. *Journal of Physical Chemistry C*, **2016**, 120, 10547-10558	3.8	52
98	New polymorph of InVO4: a high-pressure structure with six-coordinated vanadium. *Inorganic Chemistry*, **2013**, 52, 12790-8	5.1	51
97	Isostructural Second-Order Phase Transition of □Bi2O3 at High Pressures: An Experimental and Theoretical Study. *Journal of Physical Chemistry C*, **2014**, 118, 23189-23201	3.8	50
96	Exploring the high-pressure behavior of the three known polymorphs of BiPO4: Discovery of a new polymorph. *Journal of Applied Physics*, **2015**, 117, 105902	2.5	49
95	A new microporous zeolitic silicoborate (ITQ-52) with interconnected small and medium pores. *Journal of the American Chemical Society*, **2014**, 136, 3342-5	16.4	49
94	In situ high-pressure synchrotron X-ray diffraction study of the structural stability in NdVO4 and LaVO4. *Materials Research Bulletin*, **2014**, 50, 279-284	5.1	49
93	High-pressure structural behaviour of HoVO4: combined XRD experiments and ab initio calculations. *Journal of Physics Condensed Matter*, **2014**, 26, 265402	1.8	47
92	High-Pressure Crystal Structure, Lattice Vibrations, and Band Structure of BiSbO4. *Inorganic Chemistry*, **2016**, 55, 4958-69	5.1	47
91	Phase Stability of Lanthanum Orthovanadate at High Pressure. *Journal of Physical Chemistry C*, **2016**, 120, 13749-13762	3.8	36
90	Experimental and Theoretical Study of Bi2O2Se Under Compression. *Journal of Physical Chemistry C* , **2018**, 122, 8853-8867	3.8	32
89	Structural, Vibrational, and Electronic Study of □As2Te3 under Compression. *Journal of Physical Chemistry C*, **2016**, 120, 19340-19352	3.8	28
88	Pressure-induced phase transition and band-gap collapse in the wide-band-gap semiconductor InTaO4. *Physical Review B*, **2016**, 93,	3.3	27
87	Compressibility and structural stability of nanocrystalline TiO2 anatase synthesized from freeze-dried precursors. *Inorganic Chemistry*, **2014**, 53, 11598-603	5.1	27
86	Structural study of □Bi2O3 under pressure. *Journal of Physics Condensed Matter*, **2013**, 25, 475402	1.8	27

85	Giant barocaloric effect in all-d-metal Heusler shape memory alloys. *Physical Review Materials*, **2019**, 3,	3.2	27
84	Thallium under extreme compression. *Journal of Physics Condensed Matter*, **2016**, 28, 445401	1.8	25
83	Peptide metal-organic frameworks under pressure: flexible linkers for cooperative compression. *Dalton Transactions*, **2018**, 47, 10654-10659	4.3	25
82	Pressure-Driven Isostructural Phase Transition in InNbO: In Situ Experimental and Theoretical Investigations. *Inorganic Chemistry*, **2017**, 56, 5420-5430	5.1	24
81	Pbca-Type In2O3: The High-Pressure Post-Corundum phase at Room Temperature.. *Journal of Physical Chemistry C*, **2014**, 118, 20545-20552	3.8	24
80	Ordered helium trapping and bonding in compressed arsenolite: Synthesis of As4O6□2He. *Physical Review B*, **2016**, 93,	3.3	23
79	Structural, vibrational, and electrical study of compressed BiTeBr. *Physical Review B*, **2016**, 93,	3.3	19
78	Structural and electrical study of the topological insulator SnBi2Te4 at high pressure. *Journal of Alloys and Compounds*, **2016**, 685, 962-970	5.7	19
77	Compressibility Systematics of Calcite-Type Borates: An Experimental and Theoretical Structural Study on ABO3 (A = Al, Sc, Fe, and In). *Journal of Physical Chemistry C*, **2014**, 118, 4354-4361	3.8	19
76	Giant and Reversible Barocaloric Effect in Trinuclear Spin-Crossover Complex Fe (bntrz) (tcnset). *Advanced Materials*, **2021**, 33, e2008076	24	19
75	Stability and nature of the volume collapse of □FeO under extreme conditions. *Nature Communications*, **2018**, 9, 4554	17.4	19
74	Pressure-induced phase transformation in zircon-type orthovanadate SmVO4 from experiment and theory. *Journal of Physics Condensed Matter*, **2016**, 28, 035402	1.8	18
73	Stability of FeVO under Pressure: An X-ray Diffraction and First-Principles Study. *Inorganic Chemistry*, **2018**, 57, 7860-7876	5.1	17
72	Phase diagram of calcium at high pressure and high temperature. *Physical Review Materials*, **2018**, 2,	3.2	17
71	Structural Evolution of CO2-Filled Pure Silica LTA Zeolite under High-Pressure High-Temperature Conditions. *Chemistry of Materials*, **2017**, 29, 4502-4510	9.6	16
70	High-pressure/high-temperature phase diagram of zinc. *Journal of Physics Condensed Matter*, **2018**, 30, 295402	1.8	16
69	Synthesis and High-Pressure Study of Corundum-Type In2O3. *Journal of Physical Chemistry C*, **2015**, 119, 29076-29087	3.8	16
68	Comparative study of the high-pressure behavior of ZnV2O6, Zn2V2O7, and Zn3V2O8. *Journal of Alloys and Compounds*, **2020**, 837, 155505	5.7	15

67	Effect of High Pressure on the Crystal Structure and Vibrational Properties of Olivine-Type LiNiPO. *Inorganic Chemistry*, **2018**, 57, 10265-10276	5.1	15
66	Orpiment under compression: metavalent bonding at high pressure. *Physical Chemistry Chemical Physics*, **2020**, 22, 3352-3369	3.6	14
65	An Ultrahigh CO-Loaded Silicalite-1 Zeolite: Structural Stability and Physical Properties at High Pressures and Temperatures. *Inorganic Chemistry*, **2018**, 57, 6447-6455	5.1	13
64	Ambient-temperature high-pressure-induced ferroelectric phase transition in CaMnTi2O6. *Physical Review B*, **2017**, 96,	3.3	12
63	Pressure Impact on the Stability and Distortion of the Crystal Structure of CeScO. *Inorganic Chemistry*, **2017**, 56, 8363-8371	5.1	12
62	Compressibility and structural behavior of pure and Fe-doped SnO 2 nanocrystals. *Solid State Sciences*, **2017**, 64, 91-98	3.4	11
61	Post-tilleyite, a dense calcium silicate-carbonate phase. *Scientific Reports*, **2019**, 9, 7898	4.9	11
60	Characterization and Decomposition of the Natural van der Waals SnSbTe under Compression. *Inorganic Chemistry*, **2020**, 59, 9900-9918	5.1	11
59	First-Order Isostructural Phase Transition Induced by High Pressure in Fe(IO3)3. *Journal of Physical Chemistry C*, **2020**, 124, 8669-8679	3.8	11
58	Structural Behavior of Natural Silicate-Carbonate Spurrite Mineral, Ca(SiO)(CO), under High-Pressure, High-Temperature Conditions. *Inorganic Chemistry*, **2018**, 57, 98-105	5.1	11
57	Stability of the fergusonite phase in GdNbO4 by high pressure XRD and Raman experiments. *Journal of Solid State Chemistry*, **2017**, 251, 14-18	3.3	10
56	High-Pressure High-Temperature Stability and Thermal Equation of State of Zircon-Type Erbium Vanadate. *Inorganic Chemistry*, **2018**, 57, 14005-14012	5.1	10
55	High-pressure polymorphs of gadolinium orthovanadate: X-ray diffraction, Raman spectroscopy, and ab initio calculations. *Physical Review B*, **2019**, 100,	3.3	9
54	Structural and Lattice-Dynamical Properties of TbO under Compression: A Comparative Study with Rare Earth and Related Sesquioxides. *Inorganic Chemistry*, **2020**, 59, 9648-9666	5.1	9
53	Structural Characterization of Aurophilic Gold(I) Iodide under High Pressure. *Inorganic Chemistry*, **2019**, 58, 10665-10670	5.1	9
52	Experimental and Theoretical Study of SbPO under Compression. *Inorganic Chemistry*, **2020**, 59, 287-307	5.1	9
51	Structural and vibrational properties of corundum-type InO nanocrystals under compression. *Nanotechnology*, **2017**, 28, 205701	3.4	8
50	High-pressure transformation in the cobalt spinel ferrites. *Journal of Solid State Chemistry*, **2015**, 221, 173-177	3.3	8

49	Phase stability and electronic structure of iridium metal at the megabar range. *Scientific Reports*, **2019**, 9, 8940	4.9	7
48	Structural and Vibrational Study of Pseudocubic CdIn2Se4under Compression. *Journal of Physical Chemistry C*, **2014**, 118, 26987-26999	3.8	7
47	Pressure and Temperature Effects on Low-Density Mg3Ca(CO3)4 Huntite Carbonate. *Journal of Physical Chemistry C*, **2020**, 124, 1077-1087	3.8	7
46	Crystal Structure of BaCa(CO) Alstonite Carbonate and Its Phase Stability upon Compression.. *ACS Earth and Space Chemistry*, **2021**, 5, 1130-1139	3.2	7
45	Monoclinic-tetragonal-monoclinic phase transitions in EuBiVO under pressure. *Journal of Physics Condensed Matter*, **2019**, 31, 485401	1.8	7
44	Experimental and theoretical high pressure study of calcium hydroxyaluminate phases. *Cement and Concrete Research*, **2017**, 97, 1-10	10.3	6
43	Pressure-induced instability of the fergusonite phase of EuNbO4 studied by in situ Raman spectroscopy, x-ray diffraction, and photoluminescence spectroscopy. *Journal of Applied Physics*, **2020**, 127, 175905	2.5	6
42	Structural and Vibrational Properties of CdAl2S4 under High Pressure: Experimental and Theoretical Approach. *Journal of Physical Chemistry C*, **2014**, 118, 15363-15374	3.8	6
41	Phase Stability of Natural Ni0.75Mg0.22Ca0.03CO3 Gaspeite Mineral at High Pressure and Temperature. *Journal of Physical Chemistry C*, **2020**, 124, 19781-19792	3.8	6
40	Pressure-Induced Hexagonal to Monoclinic Phase Transition of Partially Hydrated CePO. *Inorganic Chemistry*, **2019**, 58, 4480-4490	5.1	5
39	Phase Behavior of TmVO under Hydrostatic Compression: An Experimental and Theoretical Study. *Inorganic Chemistry*, **2020**, 59, 4882-4894	5.1	5
38	Experimental and theoretical study of dense YBO3 and the influence of non-hydrostaticity. *Journal of Alloys and Compounds*, **2021**, 850, 156562	5.7	5
37	Structural and High-Pressure Properties of Rheniite (ReS2) and (Re,Mo)S2. *Minerals (Basel, Switzerland)*, **2021**, 11, 207	2.4	5
36	The phase diagram of Ti-6Al-4V at high-pressures and high-temperatures. *Journal of Physics Condensed Matter*, **2021**,	1.8	5
35	Structural and vibrational study of Zn(IO3)2 combining high-pressure experiments and density-functional theory. *Physical Review B*, **2021**, 103,	3.3	5
34	Electronic properties and high-pressure behavior of wolframite-type CoWO4. *Materials Advances*, **2021**, 2, 5955-5966	3.3	5
33	Crystal Structure of Sinhalite MgAlBO4 under High Pressure. *Journal of Physical Chemistry C*, **2015**, 119, 6777-6784	3.8	4
32	Crystal Structure, Lattice Dynamics, and Thermodynamic Properties of a Thermoelectric Orthorhombic BaCu2Se2 Compound. *Journal of Physical Chemistry C*, **2020**, 124, 13627-13638	3.8	4

31	Coexistence of structural and magnetic phases in van der Waals magnet CrI. *Nature Communications*, **2021**, 12, 6265	17.4	4
30	Characterization of Flux-Grown SmxNd1□VO4 Compounds and High-Pressure Behavior for x = 0.5. *Journal of Physical Chemistry C*, **2019**, 123, 30732-30745	3.8	4
29	LiCrO2 Under Pressure: In-Situ Structural and Vibrational Studies. *Crystals*, **2019**, 9, 2	2.3	4
28	Equation of State and Amorphization of CaR(VO) (R = La, Nd, Gd): A Combined High-Pressure X-ray Diffraction and Raman Spectroscopy Study. *Inorganic Chemistry*, **2018**, 57, 13115-13127	5.1	4
27	Characterization of competing distortions in YFe2O4. *Physical Review B*, **2016**, 93,	3.3	3
26	Arsenolite: a quasi-hydrostatic solid pressure-transmitting medium. *Journal of Physics Condensed Matter*, **2016**, 28, 475403	1.8	3
25	EXAFS study of layered cobaltates under pressure. *Physical Review B*, **2011**, 84,	3.3	3
24	Pressure effect and Mn doping in NaxCoO2. *Journal of Applied Physics*, **2012**, 112, 053503	2.5	3
23	PrVO under High Pressure: Effects on Structural, Optical, and Electrical Properties. *Inorganic Chemistry*, **2020**, 59, 18325-18337	5.1	3
22	Compressibility and Phase Stability of Iron-Rich Ankerite. *Minerals (Basel, Switzerland)*, **2021**, 11, 607	2.4	3
21	Structural, vibrational and electronic properties of □GaS under compression. *Physical Chemistry Chemical Physics*, **2021**, 23, 6841-6862	3.6	3
20	Thermal equation of state of ruthenium characterized by resistively heated diamond anvil cell. *Scientific Reports*, **2019**, 9, 14459	4.9	2
19	Laboratory set-up for X-ray diffraction at high pressures. *High Pressure Research*, **2011**, 31, 611-619	1.6	2
18	Mid-mantle water transportation implied by the electrical and seismic properties of □FeOOH. *Science Bulletin*, **2021**,	10.6	2
17	High-Pressure Spectroscopy Study of Zn(IO3)2 Using Far-Infrared Synchrotron Radiation. *Crystals*, **2021**, 11, 34	2.3	2
16	The high-pressure, high-temperature phase diagram of cerium. *Journal of Physics Condensed Matter*, **2020**, 32, 335401	1.8	2
15	Unveiling the Structural Behavior under Pressure of Filled MCoSb (M = K, Sr, La, Ce, and Yb) Thermoelectric Skutterudites. *Inorganic Chemistry*, **2021**, 60, 7413-7421	5.1	2
14	Linker depletion for missing cluster defects in non-UiO metal-organic frameworks. *Chemical Science* , **2021**, 12, 11839-11844	9.4	2

13	Unveiling the role of the lone electron pair in sesquioxides at high pressure: compressibility of SbO. *Dalton Transactions*, **2021**, 50, 5493-5505	4.3	2
12	Pressure-Induced Phase Transition and Band Gap Decrease in Semiconducting CuVO.. *Inorganic Chemistry*, **2022**,	5.1	2
11	Phase Transitions of BiVO4 under High Pressure and High Temperature. *Journal of Physical Chemistry C*, **2022**, 126, 7755-7763	3.8	2
10	Insights into Polymorphism of Lithium Manganese Oxide, Li0.95Mn2.05O4: A Comprehensive Survey of the High-Pressure Properties. *Journal of Physical Chemistry C*, **2019**, 123, 19288-19297	3.8	1
9	Structure, mechanical properties and nanocrystallization of (FeCoCrNi)-(B,Si) high-entropy metallic glasses. *Intermetallics*, **2022**, 141, 107432	3.5	1
8	Controlling the molecular diffusion in MOFs with the acidity of monocarboxylate modulators. *Dalton Transactions*, **2021**, 50, 11291-11299	4.3	1
7	An Investigation of the Pressure-Induced Structural Phase Transition of Nanocrystalline CuMoO4. *Crystals*, **2022**, 12, 365	2.3	1
6	Phase stability and dense polymorph of the BaCa(CO) barytocalcite carbonate.. *Scientific Reports*, **2022**, 12, 7413	4.9	1
5	Structural and vibrational behavior of cubic Cu1.80(3)Se cuprous selenide, berzelianite, under compression. *Journal of Alloys and Compounds*, **2020**, 830, 154646	5.7	0
4	Pressure-induced order-disorder transitions in nS: an experimental and theoretical study of structural and vibrational properties. *Physical Chemistry Chemical Physics*, **2021**, 23, 23625-23642	3.6	0
3	Transition path to a dense efficient-packed post-delafossite phase. Crystal structure and evolution of the chemical bonding. *Journal of Alloys and Compounds*, **2021**, 867, 159012	5.7	0
2	GdBO3 and YBO3 crystals under compression. *Journal of Alloys and Compounds*, **2021**, 866, 158962	5.7	0
1	Pressure-Driven Symmetry-Preserving Phase Transitions in Co(IO3)2. *Journal of Physical Chemistry C* , **2021**, 125, 17448-17461	3.8	0