

Catalin Popescu

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Structure, mechanical properties and nanocrystallization of (FeCoCrNi)-(B,Si) high-entropy metallic glasses. <i>Intermetallics</i> , 2022 , 141, 107432	3.5	1
101	Pressure-Induced Phase Transition and Band Gap Decrease in Semiconducting CuVO_4 . <i>Inorganic Chemistry</i> , 2022 ,	5.1	2
100	An Investigation of the Pressure-Induced Structural Phase Transition of Nanocrystalline CuMoO_4 . <i>Crystals</i> , 2022 , 12, 365	2.3	1
99	Phase Transitions of BiVO_4 under High Pressure and High Temperature. <i>Journal of Physical Chemistry C</i> , 2022 , 126, 7755-7763	3.8	2
98	Phase stability and dense polymorph of the $\text{BaCa}(\text{CO})$ barytocalcite carbonate.. <i>Scientific Reports</i> , 2022 , 12, 7413	4.9	1
97	Mid-mantle water transportation implied by the electrical and seismic properties of FeOOH . <i>Science Bulletin</i> , 2021 ,	10.6	2
96	High-Pressure Spectroscopy Study of $\text{Zn}(\text{IO}_3)_2$ Using Far-Infrared Synchrotron Radiation. <i>Crystals</i> , 2021 , 11, 34	2.3	2
95	Pressure-induced order-disorder transitions in BnS : an experimental and theoretical study of structural and vibrational properties. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 23625-23642	3.6	0
94	Coexistence of structural and magnetic phases in van der Waals magnet CrI . <i>Nature Communications</i> , 2021 , 12, 6265	17.4	4
93	Crystal Structure of $\text{BaCa}(\text{CO})$ Alstonite Carbonate and Its Phase Stability upon Compression.. <i>ACS Earth and Space Chemistry</i> , 2021 , 5, 1130-1139	3.2	7
92	Unveiling the Structural Behavior under Pressure of Filled MCoSb ($\text{M} = \text{K}, \text{Sr}, \text{La}, \text{Ce}, \text{and Yb}$) Thermoelectric Skutterudites. <i>Inorganic Chemistry</i> , 2021 , 60, 7413-7421	5.1	2
91	Compressibility and Phase Stability of Iron-Rich Ankerite. <i>Minerals (Basel, Switzerland)</i> , 2021 , 11, 607	2.4	3
90	Transition path to a dense efficient-packed post-delafoosite phase. Crystal structure and evolution of the chemical bonding. <i>Journal of Alloys and Compounds</i> , 2021 , 867, 159012	5.7	0
89	GdBO_3 and YBO_3 crystals under compression. <i>Journal of Alloys and Compounds</i> , 2021 , 866, 158962	5.7	0
88	Experimental and theoretical study of dense YBO_3 and the influence of non-hydrostaticity. <i>Journal of Alloys and Compounds</i> , 2021 , 850, 156562	5.7	5
87	Structural, vibrational and electronic properties of GaS under compression. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 6841-6862	3.6	3
86	Linker depletion for missing cluster defects in non-UiO metal-organic frameworks. <i>Chemical Science</i> , 2021 , 12, 11839-11844	9.4	2

85	Controlling the molecular diffusion in MOFs with the acidity of monocarboxylate modulators. <i>Dalton Transactions</i> , 2021 , 50, 11291-11299	4.3	1
84	Structural and High-Pressure Properties of Rheniite (ReS ₂) and (Re,Mo)S ₂ . <i>Minerals (Basel, Switzerland)</i> , 2021 , 11, 207	2.4	5
83	The phase diagram of Ti-6Al-4V at high-pressures and high-temperatures. <i>Journal of Physics Condensed Matter</i> , 2021 ,	1.8	5
82	Structural and vibrational study of Zn(IO ₃) ₂ combining high-pressure experiments and density-functional theory. <i>Physical Review B</i> , 2021 , 103,	3.3	5
81	Giant and Reversible Barocaloric Effect in Trinuclear Spin-Crossover Complex Fe (bntrz) (tcnset). <i>Advanced Materials</i> , 2021 , 33, e2008076	24	19
80	Pressure-Driven Symmetry-Preserving Phase Transitions in Co(IO ₃) ₂ . <i>Journal of Physical Chemistry C</i> , 2021 , 125, 17448-17461	3.8	0
79	Electronic properties and high-pressure behavior of wolframite-type CoWO ₄ . <i>Materials Advances</i> , 2021 , 2, 5955-5966	3.3	5
78	Unveiling the role of the lone electron pair in sesquioxides at high pressure: compressibility of Bi ₂ O ₃ . <i>Dalton Transactions</i> , 2021 , 50, 5493-5505	4.3	2
77	Comparative study of the high-pressure behavior of ZnV ₂ O ₆ , Zn ₂ V ₂ O ₇ , and Zn ₃ V ₂ O ₈ . <i>Journal of Alloys and Compounds</i> , 2020 , 837, 155505	5.7	15
76	Structural and vibrational behavior of cubic Cu _{1.80(3)} Se cuprous selenide, berzelianite, under compression. <i>Journal of Alloys and Compounds</i> , 2020 , 830, 154646	5.7	0
75	Pressure-induced instability of the fergusonite phase of EuNbO ₄ studied by in situ Raman spectroscopy, x-ray diffraction, and photoluminescence spectroscopy. <i>Journal of Applied Physics</i> , 2020 , 127, 175905	2.5	6
74	Crystal Structure, Lattice Dynamics, and Thermodynamic Properties of a Thermoelectric Orthorhombic BaCu ₂ Se ₂ Compound. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 13627-13638	3.8	4
73	Phase Behavior of TmVO under Hydrostatic Compression: An Experimental and Theoretical Study. <i>Inorganic Chemistry</i> , 2020 , 59, 4882-4894	5.1	5
72	Characterization and Decomposition of the Natural van der Waals SnSbTe under Compression. <i>Inorganic Chemistry</i> , 2020 , 59, 9900-9918	5.1	11
71	Structural and Lattice-Dynamical Properties of TbO under Compression: A Comparative Study with Rare Earth and Related Sesquioxides. <i>Inorganic Chemistry</i> , 2020 , 59, 9648-9666	5.1	9
70	First-Order Isostructural Phase Transition Induced by High Pressure in Fe(IO ₃) ₃ . <i>Journal of Physical Chemistry C</i> , 2020 , 124, 8669-8679	3.8	11
69	PrVO under High Pressure: Effects on Structural, Optical, and Electrical Properties. <i>Inorganic Chemistry</i> , 2020 , 59, 18325-18337	5.1	3
68	The high-pressure, high-temperature phase diagram of cerium. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 335401	1.8	2

67	Orpiment under compression: metavalent bonding at high pressure. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 3352-3369	3.6	14
66	Experimental and Theoretical Study of SbPO under Compression. <i>Inorganic Chemistry</i> , 2020 , 59, 287-307	5.1	9
65	Pressure and Temperature Effects on Low-Density Mg ₃ Ca(CO ₃) ₄ Huntite Carbonate. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 1077-1087	3.8	7
64	Phase Stability of Natural Ni _{0.75} Mg _{0.22} Ca _{0.03} CO ₃ Gaspeite Mineral at High Pressure and Temperature. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 19781-19792	3.8	6
63	High-pressure polymorphs of gadolinium orthovanadate: X-ray diffraction, Raman spectroscopy, and ab initio calculations. <i>Physical Review B</i> , 2019 , 100,	3.3	9
62	Post-tilleyite, a dense calcium silicate-carbonate phase. <i>Scientific Reports</i> , 2019 , 9, 7898	4.9	11
61	Colossal barocaloric effects near room temperature in plastic crystals of neopentylglycol. <i>Nature Communications</i> , 2019 , 10, 1803	17.4	78
60	Pressure-Induced Hexagonal to Monoclinic Phase Transition of Partially Hydrated CePO. <i>Inorganic Chemistry</i> , 2019 , 58, 4480-4490	5.1	5
59	Structural Characterization of Auophilic Gold(I) Iodide under High Pressure. <i>Inorganic Chemistry</i> , 2019 , 58, 10665-10670	5.1	9
58	Insights into Polymorphism of Lithium Manganese Oxide, Li _{0.95} Mn _{2.05} O ₄ : A Comprehensive Survey of the High-Pressure Properties. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 19288-19297	3.8	1
57	Phase stability and electronic structure of iridium metal at the megabar range. <i>Scientific Reports</i> , 2019 , 9, 8940	4.9	7
56	Thermal equation of state of ruthenium characterized by resistively heated diamond anvil cell. <i>Scientific Reports</i> , 2019 , 9, 14459	4.9	2
55	Giant barocaloric effect in all-d-metal Heusler shape memory alloys. <i>Physical Review Materials</i> , 2019 , 3,	3.2	27
54	Monoclinic-tetragonal-monoclinic phase transitions in EuBiVO under pressure. <i>Journal of Physics Condensed Matter</i> , 2019 , 31, 485401	1.8	7
53	Characterization of Flux-Grown Sm _x Nd _{1-x} VO ₄ Compounds and High-Pressure Behavior for x = 0.5. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 30732-30745	3.8	4
52	LiCrO ₂ Under Pressure: In-Situ Structural and Vibrational Studies. <i>Crystals</i> , 2019 , 9, 2	2.3	4
51	Experimental and Theoretical Study of Bi ₂ O ₂ Se Under Compression. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 8853-8867	3.8	32
50	Effect of High Pressure on the Crystal Structure and Vibrational Properties of Olivine-Type LiNiPO. <i>Inorganic Chemistry</i> , 2018 , 57, 10265-10276	5.1	15

49	An Ultrahigh CO-Loaded Silicalite-1 Zeolite: Structural Stability and Physical Properties at High Pressures and Temperatures. <i>Inorganic Chemistry</i> , 2018 , 57, 6447-6455	5.1	13
48	High-pressure/high-temperature phase diagram of zinc. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 295402	1.8	16
47	Stability of FeVO under Pressure: An X-ray Diffraction and First-Principles Study. <i>Inorganic Chemistry</i> , 2018 , 57, 7860-7876	5.1	17
46	Phase diagram of calcium at high pressure and high temperature. <i>Physical Review Materials</i> , 2018 , 2,	3.2	17
45	Structural Behavior of Natural Silicate-Carbonate Spurrite Mineral, Ca(SiO)(CO), under High-Pressure, High-Temperature Conditions. <i>Inorganic Chemistry</i> , 2018 , 57, 98-105	5.1	11
44	Stability and nature of the volume collapse of FeO under extreme conditions. <i>Nature Communications</i> , 2018 , 9, 4554	17.4	19
43	Equation of State and Amorphization of CaR(VO) (R = La, Nd, Gd): A Combined High-Pressure X-ray Diffraction and Raman Spectroscopy Study. <i>Inorganic Chemistry</i> , 2018 , 57, 13115-13127	5.1	4
42	High-Pressure High-Temperature Stability and Thermal Equation of State of Zircon-Type Erbium Vanadate. <i>Inorganic Chemistry</i> , 2018 , 57, 14005-14012	5.1	10
41	Peptide metal-organic frameworks under pressure: flexible linkers for cooperative compression. <i>Dalton Transactions</i> , 2018 , 47, 10654-10659	4.3	25
40	Compressibility and structural behavior of pure and Fe-doped SnO ₂ nanocrystals. <i>Solid State Sciences</i> , 2017 , 64, 91-98	3.4	11
39	Structural and vibrational properties of corundum-type InO nanocrystals under compression. <i>Nanotechnology</i> , 2017 , 28, 205701	3.4	8
38	Pressure-Driven Isostructural Phase Transition in InNbO: In Situ Experimental and Theoretical Investigations. <i>Inorganic Chemistry</i> , 2017 , 56, 5420-5430	5.1	24
37	Structural Evolution of CO ₂ -Filled Pure Silica LTA Zeolite under High-Pressure High-Temperature Conditions. <i>Chemistry of Materials</i> , 2017 , 29, 4502-4510	9.6	16
36	Stability of the fergusonite phase in GdNbO ₄ by high pressure XRD and Raman experiments. <i>Journal of Solid State Chemistry</i> , 2017 , 251, 14-18	3.3	10
35	Experimental and theoretical high pressure study of calcium hydroxyaluminate phases. <i>Cement and Concrete Research</i> , 2017 , 97, 1-10	10.3	6
34	Ambient-temperature high-pressure-induced ferroelectric phase transition in CaMnTi ₂ O ₆ . <i>Physical Review B</i> , 2017 , 96,	3.3	12
33	Pressure Impact on the Stability and Distortion of the Crystal Structure of CeScO. <i>Inorganic Chemistry</i> , 2017 , 56, 8363-8371	5.1	12
32	Structural, vibrational, and electrical study of compressed BiTeBr. <i>Physical Review B</i> , 2016 , 93,	3.3	19

31	Pressure-induced phase transition and band-gap collapse in the wide-band-gap semiconductor InTaO ₄ . <i>Physical Review B</i> , 2016 , 93,	3.3	27
30	Ordered helium trapping and bonding in compressed arsenolite: Synthesis of As ₄ O ₆ ·2He. <i>Physical Review B</i> , 2016 , 93,	3.3	23
29	Characterization of competing distortions in YFe ₂ O ₄ . <i>Physical Review B</i> , 2016 , 93,	3.3	3
28	Arsenolite: a quasi-hydrostatic solid pressure-transmitting medium. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 475403	1.8	3
27	Structural and electrical study of the topological insulator SnBi ₂ Te ₄ at high pressure. <i>Journal of Alloys and Compounds</i> , 2016 , 685, 962-970	5.7	19
26	Pressure-induced phase transformation in zircon-type orthovanadate SmVO ₄ from experiment and theory. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 035402	1.8	18
25	Phase Stability of Lanthanum Orthovanadate at High Pressure. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 13749-13762	3.8	36
24	Structural, Vibrational, and Electronic Study of Sb ₂ S ₃ at High Pressure. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 10547-10558	3.8	52
23	High-Pressure Crystal Structure, Lattice Vibrations, and Band Structure of BiSbO ₄ . <i>Inorganic Chemistry</i> , 2016 , 55, 4958-69	5.1	47
22	Thallium under extreme compression. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 445401	1.8	25
21	Structural, Vibrational, and Electronic Study of As ₂ Te ₃ under Compression. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 19340-19352	3.8	28
20	Crystal Structure of Sinhalite MgAlBO ₄ under High Pressure. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 6777-6784	3.8	4
19	Exploring the high-pressure behavior of the three known polymorphs of BiPO ₄ : Discovery of a new polymorph. <i>Journal of Applied Physics</i> , 2015 , 117, 105902	2.5	49
18	The crystallography stations at the Alba synchrotron. <i>European Physical Journal Plus</i> , 2015 , 130, 1	3.1	76
17	High-pressure transformation in the cobalt spinel ferrites. <i>Journal of Solid State Chemistry</i> , 2015 , 221, 173-177	3.3	8
16	Synthesis and High-Pressure Study of Corundum-Type In ₂ O ₃ . <i>Journal of Physical Chemistry C</i> , 2015 , 119, 29076-29087	3.8	16
15	Compressibility and structural stability of nanocrystalline TiO ₂ anatase synthesized from freeze-dried precursors. <i>Inorganic Chemistry</i> , 2014 , 53, 11598-603	5.1	27
14	Pbca-Type In ₂ O ₃ : The High-Pressure Post-Corundum phase at Room Temperature.. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 20545-20552	3.8	24

13	Isostructural Second-Order Phase Transition of Bi_2O_3 at High Pressures: An Experimental and Theoretical Study. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 23189-23201	3.8	50
12	Structural and Vibrational Properties of CdAl_2S_4 under High Pressure: Experimental and Theoretical Approach. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 15363-15374	3.8	6
11	A new microporous zeolitic silicoborate (ITQ-52) with interconnected small and medium pores. <i>Journal of the American Chemical Society</i> , 2014 , 136, 3342-5	16.4	49
10	Compressibility Systematics of Calcite-Type Borates: An Experimental and Theoretical Structural Study on ABO_3 (A = Al, Sc, Fe, and In). <i>Journal of Physical Chemistry C</i> , 2014 , 118, 4354-4361	3.8	19
9	Structural and Vibrational Study of Pseudocubic CdIn_2Se_4 under Compression. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 26987-26999	3.8	7
8	High-pressure structural behaviour of HoVO_4 : combined XRD experiments and ab initio calculations. <i>Journal of Physics Condensed Matter</i> , 2014 , 26, 265402	1.8	47
7	In situ high-pressure synchrotron X-ray diffraction study of the structural stability in NdVO_4 and LaVO_4 . <i>Materials Research Bulletin</i> , 2014 , 50, 279-284	5.1	49
6	Structural study of Bi_2O_3 under pressure. <i>Journal of Physics Condensed Matter</i> , 2013 , 25, 475402	1.8	27
5	New polymorph of InVO_4 : a high-pressure structure with six-coordinated vanadium. <i>Inorganic Chemistry</i> , 2013 , 52, 12790-8	5.1	51
4	The new Material Science Powder Diffraction beamline at ALBA Synchrotron. <i>Powder Diffraction</i> , 2013 , 28, S360-S370	1.8	240
3	Pressure effect and Mn doping in Na_xCoO_2 . <i>Journal of Applied Physics</i> , 2012 , 112, 053503	2.5	3
2	EXAFS study of layered cobaltates under pressure. <i>Physical Review B</i> , 2011 , 84,	3.3	3
1	Laboratory set-up for X-ray diffraction at high pressures. <i>High Pressure Research</i> , 2011 , 31, 611-619	1.6	2