

Aitor Bergara

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.

99
papers

2,500
citations

27
h-index

47
g-index

107
ext. papers

2,994
ext. citations

4.4
avg, IF

5.04
L-index

#	Paper	IF	Citations
99	Superconducting LaP2H2 with graphenelike phosphorus layers. <i>Physical Review B</i> , 2022 , 105,	3.3	2
98	Theoretical study of topological properties of ferromagnetic pyrite CoS2. <i>Journal Physics D: Applied Physics</i> , 2022 , 55, 304004	3	0
97	Prediction of high-Tc superconductivity in ternary lanthanum borohydrides. <i>Physical Review B</i> , 2021 , 104,	3.3	13
96	Anomalous High-Temperature Superconductivity in YH. <i>Advanced Materials</i> , 2021 , 33, e2006832	24	60
95	Ba with Unusual Oxidation States in Ba Chalcogenides under Pressure. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 4203-4210	6.4	4
94	An epilepsy-causing mutation leads to co-translational misfolding of the Kv7.2 channel. <i>BMC Biology</i> , 2021 , 19, 109	7.3	2
93	Phase transitions of alkaline-earth metal sulfides under pressure. <i>Materials Research Express</i> , 2021 , 8, 065902	1.7	
92	Hard and superconducting cubic boron phase via swarm-intelligence structural prediction driven by a machine-learning potential. <i>Physical Review B</i> , 2021 , 103,	3.3	7
91	Anisotropic and High-Mobility CS Monolayer as a Photocatalyst for Water Splitting. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 8320-8327	6.4	8
90	Wide Band Gap PS Monolayer with Anisotropic and Ultrahigh Carrier Mobility. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 8481-8488	6.4	4
89	Do calmodulin binding IQ motifs have built-in capping domains?. <i>Protein Science</i> , 2021 , 30, 2029-2041	6.3	1
88	Superconducting boron allotropes. <i>Physical Review B</i> , 2020 , 101,	3.3	8
87	The Subchalcogenides IrInQ (Q = S, Se, Te): Dirac Semimetal Candidates with Re-entrant Structural Modulation. <i>Journal of the American Chemical Society</i> , 2020 , 142, 6312-6323	16.4	4
86	Novel superhard boron-rich nitrides under pressure. <i>Science China Materials</i> , 2020 , 63, 2358-2364	7.1	7
85	Anisotropic PC6N Monolayer with Wide Band Gap and Ultrahigh Carrier Mobility. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 4330-4337	3.8	7
84	Prediction of superconductivity in pressure-induced new silicon boride phases. <i>Physical Review B</i> , 2020 , 101,	3.3	4
83	Achieving high hydrogen evolution reaction activity of a MoC monolayer. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 26189-26199	3.6	4

82	Weyl fermions, Fermi arcs, and minority-spin carriers in ferromagnetic CoS. <i>Science Advances</i> , 2020 , 6,	14.3	6
81	Spectral and optical properties of Ag ₃ Au(Se ₂ ,Te ₂) and dark matter detection. <i>JPhys Materials</i> , 2020 , 3, 014001	4.2	4
80	Predicted Pressure-Induced Superconducting Transition in Electride Li ₆ P. <i>Physical Review Letters</i> , 2019 , 122, 097002	7.4	51
79	Plasmons in Li under compression. <i>Journal of Physics Condensed Matter</i> , 2019 , 31, 185501	1.8	
78	Potential high-T _c superconductivity in CaYH ₁₂ under pressure. <i>Physical Review B</i> , 2019 , 99,	3.3	53
77	Phonon Collapse and Second-Order Phase Transition in Thermoelectric SnSe. <i>Physical Review Letters</i> , 2019 , 122, 075901	7.4	42
76	A New Three-Dimensional Sub sulfide IrInS with Dirac Semimetal Behavior. <i>Journal of the American Chemical Society</i> , 2019 , 141, 19130-19137	16.4	17
75	First-principles study of crystal structures and superconductivity of ternary YSH ₆ and LaSH ₆ at high pressures. <i>Physical Review B</i> , 2019 , 100,	3.3	16
74	Phase diagrams and electronic properties of B-S and H-B-S systems under high pressure. <i>Physical Review B</i> , 2019 , 100,	3.3	7
73	Strong anharmonicity and high thermoelectric efficiency in high-temperature SnS from first principles. <i>Physical Review B</i> , 2019 , 100,	3.3	21
72	Two-Dimensional PC with Direct Band Gap and Anisotropic Carrier Mobility. <i>Journal of the American Chemical Society</i> , 2019 , 141, 1599-1605	16.4	76
71	Strong Electron-Phonon and Band Structure Effects in the Optical Properties of High Pressure Metallic Hydrogen. <i>Physical Review Letters</i> , 2018 , 120, 057402	7.4	10
70	Nonmetallic FeH ₆ under High Pressure. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 12022-12028	3.8	21
69	Structural and Superconducting Properties of Tungsten Hydrides Under High Pressure. <i>Frontiers in Physics</i> , 2018 , 6,	3.9	5
68	Pressure-Induced Stable Li ₅ P for High-Performance Lithium-Ion Batteries. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 21199-21205	3.8	27
67	Anharmonicity and the isotope effect in superconducting lithium at high pressures: A first-principles approach. <i>Physical Review B</i> , 2017 , 96,	3.3	2
66	Anharmonic effects in atomic hydrogen: Superconductivity and lattice dynamical stability. <i>Physical Review B</i> , 2016 , 93,	3.3	60
65	Gold as a 6p-Element in Dense Lithium Aurides. <i>Journal of the American Chemical Society</i> , 2016 , 138, 4046-4052	16.5	70

64	Anharmonic enhancement of superconductivity in metallic molecular Cmca - 4 hydrogen at high pressure: a first-principles study. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 494001	1.8	17
63	Structural, Vibrational, and Electronic Study of EAs_2Te_3 under Compression. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 19340-19352	3.8	28
62	Ab initio analysis of the topological phase diagram of the Haldane model. <i>Physical Review B</i> , 2015 , 92,	3.3	2
61	Structural characterization of slightly boron-deficient LiB, LiB _{0.9} and LiB _{0.8} , under pressure. <i>Journal of Physics Condensed Matter</i> , 2014 , 26, 475402	1.8	1
60	High pressure phases of different tetraboranes. <i>High Pressure Research</i> , 2014 , 34, 59-69	1.6	3
59	Breakdown of the Peierls substitution for the Haldane model with ultracold atoms. <i>Physical Review A</i> , 2014 , 90,	2.6	9
58	Ab initio analysis of plasmon dispersion in sodium under pressure. <i>Physical Review B</i> , 2014 , 89,	3.3	6
57	Self-consistent tight-binding description of Dirac points moving and merging in two-dimensional optical lattices. <i>Physical Review A</i> , 2013 , 88,	2.6	15
56	Spin-flip transitions and departure from the Rashba model in the Au(111) surface. <i>Physical Review B</i> , 2013 , 88,	3.3	10
55	Pressure induced phase transitions in TiH ₂ . <i>Journal of Applied Physics</i> , 2013 , 113, 103512	2.5	14
54	Theoretical study of the ground-state structures and properties of niobium hydrides under pressure. <i>Physical Review B</i> , 2013 , 88,	3.3	52
53	Tight-binding models for ultracold atoms in honeycomb optical lattices. <i>Physical Review A</i> , 2013 , 87,	2.6	22
52	Isotope effect in the superconducting high-pressure simple cubic phase of calcium from first principles. <i>Journal of Applied Physics</i> , 2012 , 111, 112604	2.5	5
51	Optical properties of calcium under pressure from first-principles calculations. <i>Physical Review B</i> , 2012 , 86,	3.3	5
50	Spin-flip transitions induced by time-dependent electric fields in surfaces with strong spin-orbit interaction. <i>Physical Review Letters</i> , 2012 , 109, 156401	7.4	18
49	Efficient computation of magnon dispersions within time-dependent density functional theory using maximally localized Wannier functions. <i>Physical Review B</i> , 2012 , 85,	3.3	28
48	Enhanced Anharmonicity Under Pressure. <i>Journal of Physics: Conference Series</i> , 2012 , 377, 012060	0.3	4
47	LiB and its boron-deficient variants under pressure. <i>Physical Review B</i> , 2012 , 86,	3.3	20

46	Anharmonic stabilization of the high-pressure simple cubic phase of calcium. <i>Physical Review Letters</i> , 2011 , 106, 165501	7.4	56
45	Relativistic effects and fully spin-polarized Fermi surface at the Tl/Si(111) surface. <i>Physical Review B</i> , 2011 , 84,	3.3	49
44	Exotic high pressure behavior of light alkali metals, lithium and sodium. <i>European Physical Journal B</i> , 2011 , 81, 1-14	1.2	56
43	Metallic and superconducting gallane under high pressure. <i>Physical Review B</i> , 2011 , 84,	3.3	58
42	Anharmonicity in aluminum hydride at high pressures. <i>High Pressure Research</i> , 2011 , 31, 30-34	1.6	4
41	Undamped low-energy plasmon in AlH ₃ at high pressure. <i>Physical Review B</i> , 2010 , 82,	3.3	5
40	Ab initio superconducting temperature of BaSi ₂ at ambient pressure. <i>Journal of Physics: Conference Series</i> , 2010 , 215, 012109	0.3	2
39	Electronic collective excitations in compressed lithium from ab initio calculations: Importance and anisotropy of local-field effects at large momenta. <i>Physical Review B</i> , 2010 , 81,	3.3	14
38	First-principles simulations of lithium melting: stability of the bcc phase close to melting. <i>Physical Review Letters</i> , 2010 , 104, 185701	7.4	59
37	High-pressure crystal structures and superconductivity of Stannane (SnH ₄). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 1317-20	11.5	153
36	Exotic behavior and crystal structures of calcium under pressure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 7646-51	11.5	74
35	Giant anharmonicity suppresses superconductivity in AlH ₃ under pressure. <i>Physical Review B</i> , 2010 , 82,	3.3	44
34	Kohn anomalies and enhanced superconductivity in simple systems under pressure: Insights from the nearly free electron model. <i>Journal of Physics and Chemistry of Solids</i> , 2010 , 71, 1159-1164	3.9	4
33	Novel structures and superconductivity of silane under pressure. <i>Physical Review Letters</i> , 2009 , 102, 087005	7.4	137
32	Fermi surface nesting and phonon instabilities in simple cubic calcium. <i>High Pressure Research</i> , 2008 , 28, 443-448	1.6	24
31	Superconducting high pressure phase of germane. <i>Physical Review Letters</i> , 2008 , 101, 107002	7.4	204
30	Energy loss spectra of lithium under pressure. <i>New Journal of Physics</i> , 2008 , 10, 053035	2.9	16
29	Ab initio study of superconducting hexagonal Be ₂ Li under pressure. <i>Physical Review B</i> , 2008 , 78,	3.3	13

28	Anomalous static electronic screening in compressed lithium. <i>Journal of Physics: Conference Series</i> , 2008 , 121, 012007	0.3	1
27	Lindemann criterion and the anomalous melting curve of sodium. <i>Journal of Physics and Chemistry of Solids</i> , 2008 , 69, 2151-2154	3.9	21
26	Nesting Induced Peierls-Type Instability for Compressed Li-c16. <i>Journal of the Physical Society of Japan</i> , 2007 , 76, 21-22	1.5	5
25	Crystal structure of SiH4 at high pressure. <i>Physical Review B</i> , 2007 , 76,	3.3	60
24	Strong variation of dielectric response and optical properties of lithium under pressure. <i>Physical Review B</i> , 2007 , 75,	3.3	15
23	No evidence of metallic methane at high pressure. <i>High Pressure Research</i> , 2006 , 26, 369-375	1.6	18
22	Fermi surface deformation in lithium under high pressure. <i>High Pressure Research</i> , 2006 , 26, 461-465	1.6	2
21	Complexity and Fermi surface deformation in compressed lithium. <i>Physical Review B</i> , 2006 , 74,	3.3	39
20	Structures and potential superconductivity in at high pressure: en route to "metallic hydrogen". <i>Physical Review Letters</i> , 2006 , 96, 017006	7.4	174
19	Pressure induced metallization of Germane. <i>Journal of Physics and Chemistry of Solids</i> , 2006 , 67, 2095-2099	3.9	55
18	Dynamical response function of a compressed lithium monolayer. <i>Surface Science</i> , 2006 , 600, 3856-3859	1.8	3
17	Pressure induced complexity in a lithium monolayer: Ab initio calculations. <i>Physical Review B</i> , 2005 , 72,	3.3	21
16	Ferromagnetic instabilities in atomically thin lithium and sodium wires. <i>International Journal of Quantum Chemistry</i> , 2003 , 91, 239-244	2.1	18
15	Ab initio dynamical response of metal monolayers. <i>Physical Review B</i> , 2003 , 67,	3.3	16
14	Enhanced Friedel structure and proton pairing in dense solid hydrogen. <i>Physical Review Letters</i> , 2003 , 90, 035501	7.4	27
13	Quadratic Response Solutions for Different Nonlinear Approaches of Static Screening: A Comparative Study 2002 , 657-661		
12	Pairing, Bonding, and the role of nonlocality in a dense lithium monolayer. <i>Physical Review B</i> , 2000 , 62, 8494-8499	3.3	32
11	On the validity of perturbative treatments for the static screening in a charged-boson gas. <i>Journal of Physics Condensed Matter</i> , 1999 , 11, 3943-3949	1.8	2

10	Hydrodynamic approximation for the nonlinear response of a metal surface. <i>Physical Review B</i> , 1999 , 60, 16176-16185	3.3	6
9	Quadratic electronic response of a two-dimensional electron gas. <i>Physical Review B</i> , 1999 , 59, 10145-10151	3.3	21
8	Plasmon excitation by charged particles interacting with metal surfaces. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1999 , 256, 405-410	2.3	13
7	Nonlinear corrections to the image potential of charged particles moving parallel to a metal surface. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1998 , 135, 97-102	1.2	4
6	Energy-loss rates of heavy and light charged particles in a two-dimensional electron gas. <i>Physical Review B</i> , 1997 , 55, 12864-12867	3.3	15
5	Quadratic induced polarization by an external heavy charge in an electron gas. <i>Physical Review B</i> , 1997 , 56, 15654-15664	3.3	22
4	Nonlinear quantum hydrodynamical model of the electron gas. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1996 , 115, 70-74	1.2	5
3	A model for the velocity-dependent screening. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1996 , 115, 58-61	1.2	30
2	Nonlinear wake in the random-phase-approximation. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1995 , 96, 604-609	1.2	8
1	Nonlinear effects on charged particle interactions in matter. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1995 , 99, 187-191	1.2	11