Salvador Barraza-Lopez

List of Publications by Year
in descending order

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62 papers	2,818 citations	201385 27 h-index	174990 52 g-index
62 all docs	62 docs citations	62 times ranked	3578 citing authors

#	Article	IF	Citations
1	Elasticity of two-dimensional ferroelectrics across their paraelectric phase transformation. Physical Review B, 2022, 105, .	1.1	5
2	Anomalous thermoelectricity at the two-dimensional structural transition of SnSe monolayers. Physical Review B, 2021, 103, .	1.1	18
3	Metastable piezoelectric group-IV monochalcogenide monolayers with a buckled honeycomb structure. Physical Review B, 2021, 103, .	1.1	23
4	Colloquium : Physical properties of group-IV monochalcogenide monolayers. Reviews of Modern Physics, 2021, 93, .	16.4	87
5	Vortexâ€Oriented Ferroelectric Domains in SnTe/PbTe Monolayer Lateral Heterostructures. Advanced Materials, 2021, 33, e2102267.	11.1	11
6	Magnetic Topological Semimetal Phase with Electronic Correlation Enhancement in SmSbTe. Advanced Quantum Technologies, 2021, 4, 2100063.	1.8	11
7	Toward Quantum Paraelectric, Paraelastic, and Paramagnetic 2D Materials. Annalen Der Physik, 2020, 532, 1900448.	0.9	2
8	Beyond Graphene: Low-Symmetry and Anisotropic 2D Materials. Journal of Applied Physics, 2020, 128, 140401.	1.1	13
9	Microscopic Manipulation of Ferroelectric Domains in SnSe Monolayers at Room Temperature. Nano Letters, 2020, 20, 6590-6597.	4.5	136
10	Theory of finite-temperature two-dimensional structural transformations in group-IV monochalcogenide monolayers. Physical Review B, 2020, 101, .	1.1	19
11	Tuning energy barriers by doping 2D group-IV monochalcogenides. Journal of Applied Physics, 2020, 127, .	1.1	4
12	Standing Waves Induced by Valley-Mismatched Domains in Ferroelectric SnTe Monolayers. Physical Review Letters, 2019, 122, 206402.	2.9	27
13	From an atomic layer to the bulk: Low-temperature atomistic structure and ferroelectric and electronic properties of SnTe films. Physical Review B, 2019, 99, .	1.1	39
14	Evolution of elastic moduli through a two-dimensional structural transformation. Physical Review B, 2019, 99, .	1.1	12
15	Injection current in ferroelectric group-IV monochalcogenide monolayers. Physical Review B, 2019, 100, .	1.1	19
16	Quantum Paraelastic Two-Dimensional Materials. Physical Review Letters, 2019, 122, 015703.	2.9	13
17	2D Ferroelectrics: Enhanced Spontaneous Polarization in Ultrathin SnTe Films with Layered Antipolar Structure (Adv. Mater. 3/2019). Advanced Materials, 2019, 31, 1970016.	11.1	2
18	Enhanced Spontaneous Polarization in Ultrathin SnTe Films with Layered Antipolar Structure. Advanced Materials, 2019, 31, e1804428.	11.1	88

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19	Group-IV monochalcogenide monolayers: Two-dimensional ferroelectrics with weak intralayer bonds and a phosphorenelike monolayer dissociation energy. Physical Review Materials, 2019, 3, .	0.9	19
20	Tuning the ferroelectric-to-paraelectric transition temperature and dipole orientation of group-IV monochalcogenide monolayers. Physical Review B, 2018, 97, .	1.1	79
21	Layered material GeSe and vertical GeSe/MoS2 p-n heterojunctions. Nano Research, 2018, 11, 420-430.	5.8	74
22	Water Splits To Degrade Two-Dimensional Group-IV Monochalcogenides in Nanoseconds. ACS Central Science, 2018, 4, 1436-1446.	5.3	53
23	Exfoliation energy, quasiparticle band structure, and excitonic properties of selenium and tellurium atomic chains. Physical Review B, 2018, 98, .	1.1	33
24	Electronic and optical properties of strained graphene and other strained 2D materials: a review. Reports on Progress in Physics, 2017, 80, 096501.	8.1	383
25	Photostrictive Two-Dimensional Materials in the Monochalcogenide Family. Physical Review Letters, 2017, 118, 227401.	2.9	70
26	Structural Phase Transition and Material Properties of Few-Layer Monochalcogenides. Physical Review Letters, 2016, 117, 246802.	2.9	101
27	Two-Dimensional Disorder in Black Phosphorus and Monochalcogenide Monolayers. Nano Letters, 2016, 16, 1704-1712.	4.5	96
28	Simulated scanning tunneling microscopy images of few-layer phosphorus capped by graphene and hexagonal boron nitride monolayers. Physical Review B, 2015, 91, .	1.1	27
29	Systematic pseudopotentials from reference eigenvalue sets for DFT calculations: Pseudopotential files. Data in Brief, 2015, 3, 21-23.	0.5	14
30	Discrete differential geometry and the properties of conformal two-dimensional materials. Synthetic Metals, 2015, 210, 32-41.	2.1	4
31	Strain and the optoelectronic properties of nonplanar phosphorene monolayers. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5888-5892.	3.3	57
32	Intrinsic Defects, Fluctuations of the Local Shape, and the Photo-Oxidation of Black Phosphorus. ACS Central Science, 2015, 1, 320-327.	5.3	67
33	Strain-tunable topological quantum phase transition in buckled honeycomb lattices. Applied Physics Letters, 2015, 106, .	1.5	22
34	The significance of the number of periods and period size in 2D photonic crystal waveguides. Proceedings of SPIE, 2015, , .	0.8	1
35	Preserving the 7â€‰Ã—â€‰7 surface reconstruction of clean Si(111) by graphene adsorption. Applied Physics Letters, 2015, 107, .	1.5	9
36	Systematic pseudopotentials from reference eigenvalue sets for DFT calculations. Computational Materials Science, 2015, 98, 372-389.	1.4	57

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37	Stability and properties of high-buckled two-dimensional tin and lead. Physical Review B, 2014, 90, .	1.1	80
38	Quantitative Chemistry and the Discrete Geometry of Conformal Atom-Thin Crystals. ACS Nano, 2014, 8, 1136-1146.	7.3	27
39	Graphene's morphology and electronic properties from discrete differential geometry. Physical Review B, 2014, 89, .	1.1	45
40	Coherent electron transport through freestanding graphene junctions with metal contacts: a materials approach. Journal of Computational Electronics, 2013, 12, 145-164.	1.3	8
41	Strain-engineering of graphene's electronic structure beyond continuum elasticity. Solid State Communications, 2013, 166, 70-75.	0.9	42
42	Discrete Gauge Fields for Graphene Membranes under Mechanical Strain. Materials Research Society Symposia Proceedings, 2013, 1549, 31-34.	0.1	0
43	Strain gauge fields for rippled graphene membranes under central mechanical load: An approach beyond first-order continuum elasticity. Physical Review B, 2013, 87, .	1.1	57
44	A pathway between Bernal and rhombohedral stacked graphene layers with scanning tunneling microscopy. Applied Physics Letters, 2012, 100, .	1.5	18
45	Atomic control of strain in freestanding graphene. Physical Review B, 2012, 85, .	1.1	65
46	Signatures of the semiconductor crystallographic orientation on the charge transport across non-epitaxial diodes. Applied Physics Letters, 2012, 100, .	1.5	8
47	Charge Transport through Graphene Junctions with Wetting Metal Leads. Nano Letters, 2012, 12, 3424-3430.	4.5	18
48	Giant surface charge density of graphene resolved from scanning tunneling microscopy and first-principles theory. Physical Review B, 2011, 84, .	1.1	21
49	Effects of electrostatic fields and charge doping on the linear bands in twisted graphene bilayers. Physical Review B, 2011, 84, .	1.1	37
50	Effects of bonding type and interface geometry on coherent transport through the single-molecule magnetMn12. Physical Review B, 2010, 81, .	1.1	19
51	Effects of Metallic Contacts on Electron Transport through Graphene. Physical Review Letters, 2010, 104, 076807.	2.9	138
52	Separation-Dependent Electronic Transparency of Monolayer Graphene Membranes on IIIâˆ'V Semiconductor Substrates. Nano Letters, 2010, 10, 3446-3452.	4.5	31
53	Spin-filtering effect in the transport through a single-molecule magnet Mn12 bridged between metallic electrodes. Journal of Applied Physics, 2009, 105, .	1.1	26
54	Carbon nanotubes on partially depassivated<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-doped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Si</mml:mtext><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mn>100</mml:mn> Physical Review B, 2009, 80, .	1.1	8

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55	First-Principles Study of Electron Transport through the Single-Molecule Magnet<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Mn</mml:mi><mml:mn>12</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2009, 102, 246801.	2.9	77
56	The interaction between a monolayer of single-molecule magnets and a metal surface. Journal of Applied Physics, 2008, 103, 07B907.	1.1	14
57	First-principles study of a single-molecule magnetMn12monolayer on the Au(111) surface. Physical Review B, 2007, 76, .	1.1	39
58	High-visibility interferometric measurement of the diffraction phase. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 1148.	0.8	1
59	Preferential Orientation of a Chiral Semiconducting Carbon Nanotube on the Locally Depassivated Si(100)-2Ã—1:H Surface Identified by Scanning Tunneling Microscopy. Small, 2007, 3, 1402-1406.	5.2	13
60	Scanning tunnelling spectroscopy andab initiocalculations of single-walled carbon nanotubes interfaced with highly doped hydrogen-passivated Si(100) substrates. Nanotechnology, 2007, 18, 095204.	1.3	21
61	Ab initio study of semiconducting carbon nanotubes adsorbed on the Si(100) surface: Diameter- and registration-dependent atomic configurations and electronic properties. Journal of Applied Physics, 2006, 100, 124304.	1.1	20
62	Experimental entanglement distillation and â€˜hiddenâ€™ non-locality. Nature, 2001, 409, 1014-1017.	13.7	290