

# Salvador Barraza-Lopez

## List of Publications by Year in descending order

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Version: 2024-02-01

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	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
2	Experimental entanglement distillation and "hidden" non-locality. Nature, 2001, 409, 1014-1017.	13.7	290
3	Effects of Metallic Contacts on Electron Transport through Graphene. Physical Review Letters, 2010, 104, 076807.	2.9	138
4	Microscopic Manipulation of Ferroelectric Domains in SnSe Monolayers at Room Temperature. Nano Letters, 2020, 20, 6590-6597.	4.5	136
5	Structural Phase Transition and Material Properties of Few-Layer Monochalcogenides. Physical Review Letters, 2016, 117, 246802.	2.9	101
6	Two-Dimensional Disorder in Black Phosphorus and Monochalcogenide Monolayers. Nano Letters, 2016, 16, 1704-1712.	4.5	96
7	Enhanced Spontaneous Polarization in Ultrathin SnTe Films with Layered Antipolar Structure. Advanced Materials, 2019, 31, e1804428.	11.1	88
8	Colloquium : Physical properties of group-IV monochalcogenide monolayers. Reviews of Modern Physics, 2021, 93, .	16.4	87
9	Stability and properties of high-buckled two-dimensional tin and lead. Physical Review B, 2014, 90, .	1.1	80
10	Tuning the ferroelectric-to-paraelectric transition temperature and dipole orientation of group-IV monochalcogenide monolayers. Physical Review B, 2018, 97, .	1.1	79
11	First-Principles Study of Electron Transport through the Single-Molecule Magnet $Mn_{12}$ . Physical Review Letters, 2009, 102, 246801.	2.9	77
12	Layered material GeSe and vertical GeSe/MoS2 p-n heterojunctions. Nano Research, 2018, 11, 420-430.	5.8	74
13	Photostrictive Two-Dimensional Materials in the Monochalcogenide Family. Physical Review Letters, 2017, 118, 227401.	2.9	70
14	Intrinsic Defects, Fluctuations of the Local Shape, and the Photo-Oxidation of Black Phosphorus. ACS Central Science, 2015, 1, 320-327.	5.3	67
15	Atomic control of strain in freestanding graphene. Physical Review B, 2012, 85, .	1.1	65
16	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
17	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
18	Systematic pseudopotentials from reference eigenvalue sets for DFT calculations. Computational Materials Science, 2015, 98, 372-389.	1.4	57

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19	Water Splits To Degrade Two-Dimensional Group-IV Monochalcogenides in Nanoseconds. ACS Central Science, 2018, 4, 1436-1446.	5.3	53
20	Graphene's morphology and electronic properties from discrete differential geometry. Physical Review B, 2014, 89, .	1.1	45
21	Strain-engineering of graphene's electronic structure beyond continuum elasticity. Solid State Communications, 2013, 166, 70-75.	0.9	42
22	First-principles study of a single-molecule magnet Mn <sub>12</sub> monolayer on the Au(111) surface. Physical Review B, 2007, 76, .	1.1	39
23	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
24	Effects of electrostatic fields and charge doping on the linear bands in twisted graphene bilayers. Physical Review B, 2011, 84, .	1.1	37
25	Exfoliation energy, quasiparticle band structure, and excitonic properties of selenium and tellurium atomic chains. Physical Review B, 2018, 98, .	1.1	33
26	Separation-Dependent Electronic Transparency of Monolayer Graphene Membranes on III-V Semiconductor Substrates. Nano Letters, 2010, 10, 3446-3452.	4.5	31
27	Quantitative Chemistry and the Discrete Geometry of Conformal Atom-Thin Crystals. ACS Nano, 2014, 8, 1136-1146.	7.3	27
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	Standing Waves Induced by Valley-Mismatched Domains in Ferroelectric SnTe Monolayers. Physical Review Letters, 2019, 122, 206402.	2.9	27
30	Spin-filtering effect in the transport through a single-molecule magnet Mn <sub>12</sub> bridged between metallic electrodes. Journal of Applied Physics, 2009, 105, .	1.1	26
31	Metastable piezoelectric group-IV monochalcogenide monolayers with a buckled honeycomb structure. Physical Review B, 2021, 103, .	1.1	23
32	Strain-tunable topological quantum phase transition in buckled honeycomb lattices. Applied Physics Letters, 2015, 106, .	1.5	22
33	Scanning tunnelling spectroscopy and ab initio calculations of single-walled carbon nanotubes interfaced with highly doped hydrogen-passivated Si(100) substrates. Nanotechnology, 2007, 18, 095204.	1.3	21
34	Giant surface charge density of graphene resolved from scanning tunneling microscopy and first-principles theory. Physical Review B, 2011, 84, .	1.1	21
35	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
36	Effects of bonding type and interface geometry on coherent transport through the single-molecule magnet Mn <sub>12</sub> . Physical Review B, 2010, 81, .	1.1	19

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37	Injection current in ferroelectric group-IV monochalcogenide monolayers. <i>Physical Review B</i> , 2019, 100, .	1.1	19
38	Theory of finite-temperature two-dimensional structural transformations in group-IV monochalcogenide monolayers. <i>Physical Review B</i> , 2020, 101, .	1.1	19
39	Group-IV monochalcogenide monolayers: Two-dimensional ferroelectrics with weak intralayer bonds and a phosphorenelike monolayer dissociation energy. <i>Physical Review Materials</i> , 2019, 3, .	0.9	19
40	A pathway between Bernal and rhombohedral stacked graphene layers with scanning tunneling microscopy. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	18
41	Charge Transport through Graphene Junctions with Wetting Metal Leads. <i>Nano Letters</i> , 2012, 12, 3424-3430.	4.5	18
42	Anomalous thermoelectricity at the two-dimensional structural transition of SnSe monolayers. <i>Physical Review B</i> , 2021, 103, .	1.1	18
43	The interaction between a monolayer of single-molecule magnets and a metal surface. <i>Journal of Applied Physics</i> , 2008, 103, 07B907.	1.1	14
44	Systematic pseudopotentials from reference eigenvalue sets for DFT calculations: Pseudopotential files. <i>Data in Brief</i> , 2015, 3, 21-23.	0.5	14
45	Preferential Orientation of a Chiral Semiconducting Carbon Nanotube on the Locally Depassivated Si(100)-2Å-1:H Surface Identified by Scanning Tunneling Microscopy. <i>Small</i> , 2007, 3, 1402-1406.	5.2	13
46	Quantum Paraelastic Two-Dimensional Materials. <i>Physical Review Letters</i> , 2019, 122, 015703.	2.9	13
47	Beyond Graphene: Low-Symmetry and Anisotropic 2D Materials. <i>Journal of Applied Physics</i> , 2020, 128, 140401.	1.1	13
48	Evolution of elastic moduli through a two-dimensional structural transformation. <i>Physical Review B</i> , 2019, 99, .	1.1	12
49	Vortex-Oriented Ferroelectric Domains in SnTe/PbTe Monolayer Lateral Heterostructures. <i>Advanced Materials</i> , 2021, 33, e2102267.	11.1	11
50	Magnetic Topological Semimetal Phase with Electronic Correlation Enhancement in SmSbTe. <i>Advanced Quantum Technologies</i> , 2021, 4, 2100063.	1.8	11
51	Preserving the $7\times 7$ surface reconstruction of clean Si(111) by graphene adsorption. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	9
52	Carbon nanotubes on partially depassivated $n$ -doped Si. <i>Physical Review B</i> , 2009, 80, .	1.1	8
53	Signatures of the semiconductor crystallographic orientation on the charge transport across non-epitaxial diodes. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	8
54	Coherent electron transport through freestanding graphene junctions with metal contacts: a materials approach. <i>Journal of Computational Electronics</i> , 2013, 12, 145-164.	1.3	8

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55	Elasticity of two-dimensional ferroelectrics across their paraelectric phase transformation. <i>Physical Review B</i> , 2022, 105, .	1.1	5
56	Discrete differential geometry and the properties of conformal two-dimensional materials. <i>Synthetic Metals</i> , 2015, 210, 32-41.	2.1	4
57	Tuning energy barriers by doping 2D group-IV monochalcogenides. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	4
58	2D Ferroelectrics: Enhanced Spontaneous Polarization in Ultrathin SnTe Films with Layered Antipolar Structure ( <i>Adv. Mater.</i> 3/2019). <i>Advanced Materials</i> , 2019, 31, 1970016.	11.1	2
59	Toward Quantum Paraelectric, Paraelastic, and Paramagnetic 2D Materials. <i>Annalen Der Physik</i> , 2020, 532, 1900448.	0.9	2
60	High-visibility interferometric measurement of the diffraction phase. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2007, 24, 1148.	0.8	1
61	The significance of the number of periods and period size in 2D photonic crystal waveguides. <i>Proceedings of SPIE</i> , 2015, , .	0.8	1
62	Discrete Gauge Fields for Graphene Membranes under Mechanical Strain. <i>Materials Research Society Symposia Proceedings</i> , 2013, 1549, 31-34.	0.1	0