Zhen Zhu

List of Publications by Year
in descending order

43 papers	10,337 citations	201658 27 h-index	233409 45 g-index
46 all docs	46 docs citations	46 times ranked	10769 citing authors

#	Article	IF	Citations
1	Phosphorene: An Unexplored 2D Semiconductor with a High Hole Mobility. ACS Nano, 2014, 8, 4033-4041.	14.6	5,474
2	Semiconducting Layered Blue Phosphorus: A Computational Study. Physical Review Letters, 2014, 112, 176802.	7.8	996
3	Recent progress in 2D group-VA semiconductors: from theory to experiment. Chemical Society Reviews, 2018, 47, 982-1021.	38.1	697
4	Phase Coexistence and Metal-Insulator Transition in Few-Layer Phosphorene: A Computational Study. Physical Review Letters, 2014, 113, 046804.	7.8	556
5	The Nature of the Interlayer Interaction in Bulk and Few-Layer Phosphorus. Nano Letters, 2015, 15, 8170-8175.	9.1	252
6	Antimonene Oxides: Emerging Tunable Direct Bandgap Semiconductor and Novel Topological Insulator. Nano Letters, 2017, 17, 3434-3440.	9.1	250
7	Conducting linear chains of sulphur inside carbon nanotubes. Nature Communications, 2013, 4, 2162.	12.8	228
8	Strain-induced metal-semiconductor transition in monolayers and bilayers of gray arsenic: A computational study. Physical Review B, 2015, 91, .	3.2	178
9	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. Nature Nanotechnology, 2019, 14, 217-222.	31.5	153
10	Two-Dimensional Phosphorus Carbide: Competition between sp² and sp³ Bonding. Nano Letters, 2016, 16, 3247-3252.	9.1	137
11	Designing Isoelectronic Counterparts to Layered Group V Semiconductors. ACS Nano, 2015, 9, 8284-8290.	14.6	128
12	Tiling Phosphorene. ACS Nano, 2014, 8, 12763-12768.	14.6	122
13	Two-dimensional BX (X = P, As, Sb) semiconductors with mobilities approaching graphene. Nanoscale, 2016, 8, 13407-13413.	5.6	122
14	Semiconductor-topological insulator transition of two-dimensional SbAs induced by biaxial tensile strain. Physical Review B, 2016, 93, .	3.2	118
15	High Stability of Faceted Nanotubes and Fullerenes of Multiphase Layered Phosphorus: A Computational Study. Physical Review Letters, 2014, 113, 226801.	7.8	91
16	Two-dimensional SiP: an unexplored direct band-gap semiconductor. 2D Materials, 2017, 4, 015030.	4.4	78
17	Structural Transition in Layered As_{1â€“x}P_x Compounds: A Computational Study. Nano Letters, 2015, 15, 6042-6046.	9.1	74
18	Evidence of Diamond Nanowires Formed inside Carbon Nanotubes from Diamantane Dicarboxylic Acid. Angewandte Chemie - International Edition, 2013, 52, 3717-3721.	13.8	71

#	Article	IF	Citations
19	Ultrathin tellurium dioxide: emerging direct bandgap semiconductor with high-mobility transport anisotropy. Nanoscale, 2018, 10, 8397-8403.	5.6	66
20	Effect of structural defects on the thermal conductivity of graphene: From point to line defects to haeckelites. Physical Review B, 2014, 89, .	3.2	64
21	Electronic and protonic conduction in LaFeO₃. Journal of Materials Chemistry A, 2017, 5, 15367-15379.	10.3	48
22	Mechanistic Understanding of Two-Dimensional Phosphorus, Arsenic, and Antimony High-Capacity Anodes for Fast-Charging Lithium/Sodium Ion Batteries. Journal of Physical Chemistry C, 2018, 122, 29559-29566.	3.1	38
23	DFT coupled with NEGF study of a promising two-dimensional channel material: black phosphorene-type GaTeCl. Nanoscale, 2018, 10, 3350-3355.	5.6	37
24	Topologically Protected Conduction State at Carbon Foam Surfaces: AnAb initioStudy. Physical Review Letters, 2014, 112, 026803.	7.8	32
25	Search for the largest two-dimensional aggregates of boron: Anab initiostudy. Physical Review B, 2011, 83, .	3.2	31
26	Spontaneous Graphitization of Ultrathin Cubic Structures: A Computational Study. Nano Letters, 2014, 14, 7126-7130.	9.1	31
27	Formation and Stability of Cellular Carbon Foam Structures: AnAbÂInitioStudy. Physical Review Letters, 2012, 109, 135501.	7.8	27
28	Simulated scanning tunneling microscopy images of few-layer phosphorus capped by graphene and hexagonal boron nitride monolayers. Physical Review B, 2015, 91, .	3.2	27
29	Local curvature and stability of two-dimensional systems. Physical Review B, 2014, 90, .	3.2	24
30	Optimizing Electronic Structure and Quantum Transport at the Graphene-Si(111) Interface: AnAbÂInitioDensity-Functional Study. Physical Review Letters, 2013, 110, 176805.	7.8	23
31	Unusual Electronic Transitions in Two-dimensional Layered <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi>Sn</mml:mi><mml:mi>Sb</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml Driven by Electronic State Rehybridization. Physical Review Applied, 2019, 11, .	3.8	21
32	Electronic structure and transport in graphene/haeckelite hybrids: an ab initio study. 2D Materials, 2015, 2, 035001.	4.4	18
33	Fundamental band gap and alignment of two-dimensional semiconductors explored by machine learning*. Chinese Physics B, 2020, 29, 046101.	1.4	17
34	Limits of mechanical energy storage and structural changes in twisted carbon nanotube ropes. Physical Review B, 2013, 88, .	3.2	16
35	Hydrogen intercalation in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></ Physical Review B, 2016, 94, .	3.2	15
36	Theoretical investigation of the electronic structure and quantum transport in the grapheneâ€“C(111) diamond surface system. Journal of Physics Condensed Matter, 2013, 25, 435302.	1.8	13

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37	Stability and electronic properties of two-dimensional indium iodide. Physical Review B, 2017, 95, .	3.2	10
38	Hydrogen-Induced Degradation of NaMnO₂. Chemistry of Materials, 2019, 31, 5224-5228.	6.7	10
39	Relative stability and local curvature analysis in carbon nanotori. Physical Review B, 2015, 91, .	3.2	9
40	Stability enhancement and electronic tunability of two-dimensional SbIV compounds via surface functionalization. Applied Surface Science, 2018, 427, 363-368.	6.1	8
41	Tailoring electronic properties of two-dimensional antimonene with isoelectronic counterparts*. Chinese Physics B, 2020, 29, 037305.	1.4	6
42	Enhancing mechanical toughness of aluminum surfaces by nano-boron implantation: An ab initio study. Chemical Physics Letters, 2015, 620, 25-28.	2.6	3
43	Innentitelbild: Evidence of Diamond Nanowires Formed inside Carbon Nanotubes from Diamantane Dicarboxylic Acid (Angew. Chem. 13/2013). Angewandte Chemie, 2013, 125, 3622-3622.	2.0	1