Zhen Zhu

List of Publications by Year in Descending Order

44 papers	8,419 citations	26 h-index	46 g-index
46 ext. papers	9,453 ext. citations	8.8 avg, IF	6.41 L-index

#	Paper	IF	Citations
44	Fundamental band gap and alignment of two-dimensional semiconductors explored by machine learning. *Chinese Physics B*, **2020**, 29, 046101	1.2	6
43	Tailoring electronic properties of two-dimensional antimonene with isoelectronic counterparts. *Chinese Physics B*, **2020**, 29, 037305	1.2	2
42	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. *Nature Nanotechnology*, **2019**, 14, 217-222	28.7	99
41	Hydrogen-Induced Degradation of NaMnO2. *Chemistry of Materials*, **2019**, 31, 5224-5228	9.6	5
40	Unusual Electronic Transitions in Two-dimensional Layered SnSb2Te4 Driven by Electronic State Rehybridization. *Physical Review Applied*, **2019**, 11,	4.3	14
39	Ultrathin tellurium dioxide: emerging direct bandgap semiconductor with high-mobility transport anisotropy. *Nanoscale*, **2018**, 10, 8397-8403	7.7	43
38	DFT coupled with NEGF study of a promising two-dimensional channel material: black phosphorene-type GaTeCl. *Nanoscale*, **2018**, 10, 3350-3355	7.7	25
37	Recent progress in 2D group-VA semiconductors: from theory to experiment. *Chemical Society Reviews*, **2018**, 47, 982-1021	58.5	549
36	Stability enhancement and electronic tunability of two-dimensional SbIV compounds via surface functionalization. *Applied Surface Science*, **2018**, 427, 363-368	6.7	8
35	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	3.8	27
34	Antimonene Oxides: Emerging Tunable Direct Bandgap Semiconductor and Novel Topological Insulator. *Nano Letters*, **2017**, 17, 3434-3440	11.5	217
33	Two-dimensional SiP: an unexplored direct band-gap semiconductor. *2D Materials*, **2017**, 4, 015030	5.9	59
32	Stability and electronic properties of two-dimensional indium iodide. *Physical Review B*, **2017**, 95,	3.3	7
31	Electronic and protonic conduction in LaFeO3. *Journal of Materials Chemistry A*, **2017**, 5, 15367-15379	13	30
30	Hydrogen intercalation in MoS2. *Physical Review B*, **2016**, 94,	3.3	12
29	Semiconductor-topological insulator transition of two-dimensional SbAs induced by biaxial tensile strain. *Physical Review B*, **2016**, 93,	3.3	111
28	Two-Dimensional Phosphorus Carbide: Competition between sp(2) and sp(3) Bonding. *Nano Letters*, **2016**, 16, 3247-52	11.5	98

27	Two-dimensional BX (X = P, As, Sb) semiconductors with mobilities approaching graphene. *Nanoscale*, **2016**, 8, 13407-13	7.7	84
26	Designing Isoelectronic Counterparts to Layered Group V Semiconductors. *ACS Nano*, **2015**, 9, 8284-90	16.7	115
25	Relative stability and local curvature analysis in carbon nanotori. *Physical Review B*, **2015**, 91,	3.3	9
24	Strain-induced metal-semiconductor transition in monolayers and bilayers of gray arsenic: A computational study. *Physical Review B*, **2015**, 91,	3.3	159
23	The Nature of the Interlayer Interaction in Bulk and Few-Layer Phosphorus. *Nano Letters*, **2015**, 15, 8170-5	11.5	205
22	Electronic structure and transport in graphene/haeckelite hybrids: an ab initio study. *2D Materials*, **2015**, 2, 035001	5.9	15
21	Structural Transition in Layered As(1-x)P(x) Compounds: A Computational Study. *Nano Letters*, **2015**, 15, 6042-6	11.5	63
20	Enhancing mechanical toughness of aluminum surfaces by nano-boron implantation: An ab initio study. *Chemical Physics Letters*, **2015**, 620, 25-28	2.5	1
19	Simulated scanning tunneling microscopy images of few-layer phosphorus capped by graphene and hexagonal boron nitride monolayers. *Physical Review B*, **2015**, 91,	3.3	27
18	Effect of structural defects on the thermal conductivity of graphene: From point to line defects to haeckelites. *Physical Review B*, **2014**, 89,	3.3	51
17	Spontaneous graphitization of ultrathin cubic structures: a computational study. *Nano Letters*, **2014**, 14, 7126-30	11.5	26
16	Semiconducting layered blue phosphorus: a computational study. *Physical Review Letters*, **2014**, 112, 176802	7.4	836
15	Phase coexistence and metal-insulator transition in few-layer phosphorene: a computational study. *Physical Review Letters*, **2014**, 113, 046804	7.4	451
14	Phosphorene: an unexplored 2D semiconductor with a high hole mobility. *ACS Nano*, **2014**, 8, 4033-41	16.7	4487
13	Topologically protected conduction state at carbon foam surfaces: an ab initio study. *Physical Review Letters*, **2014**, 112, 026803	7.4	30
12	Local curvature and stability of two-dimensional systems. *Physical Review B*, **2014**, 90,	3.3	19
11	High Stability of Faceted Nanotubes and Fullerenes of Multiphase Layered Phosphorus: A Computational Study. *Physical Review Letters*, **2014**, 113, 226801	7.4	73
10	Tiling phosphorene. *ACS Nano*, **2014**, 8, 12763-8	16.7	109

9	Evidence of diamond nanowires formed inside carbon nanotubes from diamantane dicarboxylic acid. *Angewandte Chemie - International Edition*, **2013**, 52, 3717-21	16.4	57
8	Conducting linear chains of sulphur inside carbon nanotubes. *Nature Communications*, **2013**, 4, 2162	17.4	176
7	Innentitelbild: Evidence of Diamond Nanowires Formed inside Carbon Nanotubes from Diamantane Dicarboxylic Acid (Angew. Chem. 13/2013). *Angewandte Chemie*, **2013**, 125, 3622-3622	3.6	
6	Theoretical investigation of the electronic structure and quantum transport in the graphene-C(111) diamond surface system. *Journal of Physics Condensed Matter*, **2013**, 25, 435302	1.8	10
5	Limits of mechanical energy storage and structural changes in twisted carbon nanotube ropes. *Physical Review B*, **2013**, 88,	3.3	12
4	Optimizing electronic structure and quantum transport at the graphene-Si(111) interface: an ab initio density-functional study. *Physical Review Letters*, **2013**, 110, 176805	7.4	22
3	Evidence of Diamond Nanowires Formed inside Carbon Nanotubes from Diamantane Dicarboxylic Acid. *Angewandte Chemie*, **2013**, 125, 3805-3809	3.6	13
2	Formation and stability of cellular carbon foam structures: an ab initio study. *Physical Review Letters*, **2012**, 109, 135501	7.4	27
1	Search for the largest two-dimensional aggregates of boron: An ab initio study. *Physical Review B*, **2011**, 83,	3.3	29