

# Shiying Guo

## List of Publications by Citations

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44  
papers

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ext. papers

2,226  
ext. citations

10.6  
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5.19  
L-index

#	Paper	IF	Citations
44	Recent progress in 2D group-VA semiconductors: from theory to experiment. <i>Chemical Society Reviews</i> , <b>2018</b> , 47, 982-1021	58.5	549
43	2D V-V Binary Materials: Status and Challenges. <i>Advanced Materials</i> , <b>2019</b> , 31, e1902352	24	236
42	Few-Layer Antimonene: Anisotropic Expansion and Reversible Crystalline-Phase Evolution Enable Large-Capacity and Long-Life Na-Ion Batteries. <i>ACS Nano</i> , <b>2018</b> , 12, 1887-1893	16.7	135
41	Ultrathin Bismuth Nanosheets for Stable Na-Ion Batteries: Clarification of Structure and Phase Transition by in Situ Observation. <i>Nano Letters</i> , <b>2019</b> , 19, 1118-1123	11.5	93
40	Advances of 2D bismuth in energy sciences. <i>Chemical Society Reviews</i> , <b>2020</b> , 49, 263-285	58.5	78
39	Two-dimensional SiP: an unexplored direct band-gap semiconductor. <i>2D Materials</i> , <b>2017</b> , 4, 015030	5.9	59
38	Ultrathin tellurium dioxide: emerging direct bandgap semiconductor with high-mobility transport anisotropy. <i>Nanoscale</i> , <b>2018</b> , 10, 8397-8403	7.7	43
37	Designing sub-10-nm Metal-Oxide-Semiconductor Field-Effect Transistors via Ballistic Transport and Disparate Effective Mass: The Case of Two-Dimensional BiN. <i>Physical Review Applied</i> , <b>2020</b> , 13,	4.3	42
36	A class of Pb-free double perovskite halide semiconductors with intrinsic ferromagnetism, large spin splitting and high Curie temperature. <i>Materials Horizons</i> , <b>2018</b> , 5, 961-968	14.4	40
35	Tailoring natural layered $\epsilon$ -phase antimony into few layer antimonene for Li storage with high rate capabilities. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 3238-3243	13	37
34	A safe and efficient liquid-solid synthesis for copper azide films with excellent electrostatic stability. <i>Nano Energy</i> , <b>2019</b> , 66, 104135	17.1	37
33	Anisotropic In-Plane Ballistic Transport in Monolayer Black Arsenic-Phosphorus FETs. <i>Advanced Electronic Materials</i> , <b>2020</b> , 6, 1901281	6.4	36
32	First-principles study of SO <sub>2</sub> sensors based on phosphorene and its isoelectronic counterparts: GeS, GeSe, SnS, SnSe. <i>Chemical Physics Letters</i> , <b>2017</b> , 686, 83-87	2.5	35
31	Identifying electrocatalytic activity and mechanism of Ce <sub>1</sub> /3NbO <sub>3</sub> perovskite for nitrogen reduction to ammonia at ambient conditions. <i>Applied Catalysis B: Environmental</i> , <b>2021</b> , 280, 119419	21.8	31
30	Mechanistic Understanding of Two-Dimensional Phosphorus, Arsenic, and Antimony High-Capacity Anodes for Fast-Charging Lithium/Sodium Ion Batteries. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 29559-29567	3.8	27
29	DFT coupled with NEGF study of a promising two-dimensional channel material: black phosphorene-type GaTeCl. <i>Nanoscale</i> , <b>2018</b> , 10, 3350-3355	7.7	25
28	Two-Dimensional Pnictogen for Field-Effect Transistors. <i>Research</i> , <b>2019</b> , 2019, 1046329	7.8	21

27	Two-dimensional transition metal diborides: promising Dirac electrocatalysts with large reaction regions toward efficient N <sub>2</sub> fixation. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 25887-25893	13	20
26	An Ångström-level d-spacing controlling synthetic route for MoS <sub>2</sub> towards stable intercalation of sodium ions. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 22513-22518	13	20
25	Uncovering the Anisotropic Electronic Structure of 2D Group VA-VA Monolayers for Quantum Transport. <i>IEEE Electron Device Letters</i> , <b>2021</b> , 42, 66-69	4.4	17
24	Unusual Electronic Transitions in Two-dimensional Layered SnSb <sub>2</sub> Te <sub>4</sub> Driven by Electronic State Rehybridization. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4.3	14
23	Robust two-dimensional topological insulators in derivatives of group-VA oxides with large band gap: Tunable quantum spin Hall states. <i>Applied Materials Today</i> , <b>2019</b> , 15, 163-170	6.6	13
22	Atomic-level tunnel engineering of todorokite MnO <sub>2</sub> for precise evaluation of lithium storage mechanisms by in situ transmission electron microscopy. <i>Nano Energy</i> , <b>2019</b> , 63, 103840	17.1	12
21	Beneficial restacking of 2D nanomaterials for electrocatalysis: a case of MoS membranes. <i>Chemical Communications</i> , <b>2020</b> , 56, 7005-7008	5.8	12
20	Band offsets in new BN/BX (X = P, As, Sb) lateral heterostructures based on bond-orbital theory. <i>Nanoscale</i> , <b>2018</b> , 10, 15918-15925	7.7	12
19	A highly sensitive and selective SnS <sub>2</sub> monolayer sensor in detecting SF <sub>6</sub> decomposition gas. <i>Applied Surface Science</i> , <b>2021</b> , 541, 148494	6.7	12
18	Band engineering realized by chemical combination in 2D group VA/VA materials. <i>Nanoscale Horizons</i> , <b>2019</b> , 4, 1145-1152	10.8	10
17	Ballistic Transport in High-Performance and Low-Power Sub-5 nm Two-Dimensional ZrNBr MOSFETs. <i>IEEE Electron Device Letters</i> , <b>2020</b> , 41, 1029-1032	4.4	9
16	Stability enhancement and electronic tunability of two-dimensional SbIV compounds via surface functionalization. <i>Applied Surface Science</i> , <b>2018</b> , 427, 363-368	6.7	8
15	Ballistic Quantum Transport of Sub-10 nm 2D Sb <sub>2</sub> Te <sub>2</sub> Se Transistors. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1900813	6.4	7
14	Ultrascaled Double-Gate Monolayer SnS <sub>2</sub> MOSFETs for High-Performance and Low-Power Applications. <i>Physical Review Applied</i> , <b>2020</b> , 14,	4.3	7
13	High-performance monolayer NaSb shrinking transistors: a DFT-NEGF study. <i>Nanoscale</i> , <b>2020</b> , 12, 18931-18937	4.9	7
12	Stabilizing Layered Structure in Aqueous Electrolyte via Dynamic Water Intercalation/Deintercalation.. <i>Advanced Materials</i> , <b>2022</b> , e2108541	24	5
11	Smart confinement of MnO enabling highly reversible Mn(II)/Mn(III) redox for asymmetric supercapacitors. <i>Journal of Power Sources</i> , <b>2021</b> , 495, 229801	8.9	5
10	Defect Regulating of Few-Layer Antimonene from Acid-Assisted Exfoliation for Enhanced Electrocatalytic Nitrogen Fixation. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 40618-40628	9.5	5

- 9 Electronic band structures and optical properties of atomically thin AuSe: first-principle calculations. *Journal of Semiconductors*, **2019**, 40, 062004 2.3 3
- 8 Pressurized Alloying Assisted Synthesis of High Quality Antimonene for Capacitive Deionization. *Advanced Functional Materials*, **2021**, 31, 2102766 15.6 3
- 7 Sensing Performance of SO<sub>2</sub> and NO<sub>2</sub> Gas Molecules on 2D Pentagonal PdSe<sub>2</sub>: A First-Principle Study. *IEEE Electron Device Letters*, **2021**, 42, 573-576 4.4 2
- 6 Lattice-resolution visualization of anisotropic sodiation degrees and revelation of sodium storage mechanisms in todorokite-type MnO<sub>2</sub> with in-situ TEM. *Energy Storage Materials*, **2021**, 37, 345-353 19.4 2
- 5 Electronic structure and transport properties of 2D RhTeCl: a NEGF-DFT study. *Nanoscale*, **2019**, 11, 20461-20466 17.2 2
- 4 First-principle study of puckered arsenene MOSFET. *Journal of Semiconductors*, **2020**, 41, 082006 2.3 1
- 3 Quantum Transport in Monolayer HCS Field-Effect Transistors. *Advanced Electronic Materials*, **2021**, 7, 2001169 6.4 1
- 2 Electronic Structure and Quantum Transport Properties of 2D SiP: A First-Principles Study. *Journal of Electronic Materials*, **2021**, 50, 5499-5506 1.9 0
- 1 Bismuthene **2022**, 173-196