Junke Jiang

List of Publications by Year
in descending order

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92 papers	4,326 citations	117625 34 h-index	106344 65 g-index
94 all docs	94 docs citations	94 times ranked	5513 citing authors

#	Article	IF	Citations
1	Carbon nanotube based biosensors. Sensors and Actuators B: Chemical, 2015, 207, 690-715.	7.8	407
2	Absolute energy level positions in tin- and lead-based halide perovskites. Nature Communications, 2019, 10, 2560.	12.8	381
3	Nanowire-based gas sensors. Sensors and Actuators B: Chemical, 2013, 177, 178-195.	7.8	336
4	A review of small heat pipes for electronics. Applied Thermal Engineering, 2016, 96, 1-17.	6.0	224
5	Microscopic Degradation in Formamidinium-Cesium Lead Iodide Perovskite Solar Cells under Operational Stressors. Joule, 2020, 4, 1743-1758.	24.0	156
6	The electronic and optical properties of novel germanene and antimonene heterostructures. Journal of Materials Chemistry C, 2016, 4, 5434-5441.	5.5	154
7	Ab Initio Study of the Adsorption of Small Molecules on Stanene. Journal of Physical Chemistry C, 2016, 120, 13987-13994.	3.1	149
8	Adsorption of gas molecules on graphene-like InN monolayer: A first-principle study. Applied Surface Science, 2017, 404, 291-299.	6.1	141
9	Electronic structure and optical properties of graphene/stanene heterobilayer. Physical Chemistry Chemical Physics, 2016, 18, 16302-16309.	2.8	115
10	GeI₂ Additive for High Optoelectronic Quality CsPbI₃ Quantum Dots and Their Application in Photovoltaic Devices. Chemistry of Materials, 2019, 31, 798-807.	6.7	112
11	First-Principles Study of Sulfur Dioxide Sensor Based on Phosphorenes. IEEE Electron Device Letters, 2016, 37, 660-662.	3.9	110
12	First Principles Investigation of Small Molecules Adsorption on Antimonene. IEEE Electron Device Letters, 2017, 38, 134-137.	3.9	109
13	Superior Selectivity and Sensitivity of C₃N Sensor in Probing Toxic Gases NO₂ and SO₂. IEEE Electron Device Letters, 2018, 39, 284-287.	3.9	108
14	ZnO/WSe₂ vdW heterostructure for photocatalytic water splitting. Journal of Materials Chemistry C, 2019, 7, 7104-7113.	5.5	93
15	Two-dimensional GeS with tunable electronic properties via external electric field and strain. Nanotechnology, 2016, 27, 274001.	2.6	85
16	An AlAs/germanene heterostructure with tunable electronic and optical properties via external electric field and strain. Journal of Materials Chemistry C, 2016, 4, 8171-8178.	5.5	81
17	Exploration of new ferromagnetic, semiconducting and biocompatible Nb₃X₈(X = Cl, Br or I) monolayers with considerable visible and infrared light absorption. Nanoscale, 2017, 9, 2992-3001.	5.6	74
18	Effect of multilayer structure, stacking order and external electric field on the electrical properties of few-layer boron-phosphide. Physical Chemistry Chemical Physics, 2016, 18, 16229-16236.	2.8	68

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19	AlN/BP Heterostructure Photocatalyst for Water Splitting. IEEE Electron Device Letters, 2017, 38, 145-148.	3.9	68
20	High Selective Gas Detection for small molecules based on Germanium selenide monolayer. Applied Surface Science, 2018, 433, 575-581.	6.1	68
21	Stabilizing Lead-Free All-Inorganic Tin Halide Perovskites by Ion Exchange. Journal of Physical Chemistry C, 2018, 122, 17660-17667.	3.1	68
22	Molecular modeling of temperature dependence of solubility parameters for amorphous polymers. Journal of Molecular Modeling, 2012, 18, 2333-2341.	1.8	67
23	Design of graphene-like gallium nitride and WS2/WSe2 nanocomposites for photocatalyst applications. Science China Materials, 2016, 59, 1027-1036.	6.3	65
24	First-principles study of the effect of functional groups on polyaniline backbone. Scientific Reports, 2015, 5, 16907.	3.3	61
25	Impact of the functional group on the working range of polyaniline as carbon dioxide sensors. Sensors and Actuators B: Chemical, 2012, 175, 15-21.	7.8	54
26	Two dimensional XAs (X = Si, Ge, Sn) monolayers as promising photocatalysts for water splitting hydrogen production with high carrier mobility. Applied Materials Today, 2018, 13, 276-284.	4.3	51
27	Selective gas adsorption and Iâ€“V response of monolayer boron phosphide introduced by dopants: A first-principle study. Applied Surface Science, 2018, 427, 176-188.	6.1	47
28	Electrical and Optical Properties of Germanene on Single-Layer BeO Substrate. Journal of Physical Chemistry C, 2016, 120, 20350-20356.	3.1	46
29	SnSe monolayer: A promising candidate of SO2 sensor with high adsorption quantity. Applied Surface Science, 2019, 484, 33-38.	6.1	43
30	Tuning the electronic properties and work functions of graphane/fully hydrogenated h-BN heterobilayers via heteronuclear dihydrogen bonding and electric field control. Physical Chemistry Chemical Physics, 2016, 18, 16386-16395.	2.8	41
31	Functionalization-induced changes in the structural and physical properties of amorphous polyaniline: a first-principles and molecular dynamics study. Scientific Reports, 2016, 6, 20621.	3.3	40
32	SiGe/h-BN heterostructure with inspired electronic and optical properties: a first-principles study. Journal of Materials Chemistry C, 2016, 4, 10082-10089.	5.5	40
33	Nearâ€Infrared Emission from Tinâ€“Lead (Snâ€“Pb) Alloyed Perovskite Quantum Dots by Sodium Doping. Angewandte Chemie - International Edition, 2020, 59, 8421-8424.	13.8	38
34	Molecular modeling of protonic acid doping of emeraldine base polyaniline for chemical sensors. Sensors and Actuators B: Chemical, 2012, 174, 210-216.	7.8	37
35	Considering the spinâ€“orbit coupling effect on the photocatalytic performance of AlN/MX₂ nanocomposites. Journal of Materials Chemistry C, 2017, 5, 9412-9420.	5.5	36
36	The electronic and optical properties of silicene/g-ZnS heterobilayers: a theoretical study. Journal of Materials Chemistry C, 2016, 4, 7004-7012.	5.5	34

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37	Adsorption of Gas Molecules on Grapheneâ€Like ZnO Nanosheets: The Roles of Gas Concentration, Layer Number, and Heterolayer. Advanced Materials Interfaces, 2017, 4, 1700647.	3.7	33
38	First-principles approach to design and evaluation of graphene as methane sensors. Materials and Design, 2017, 119, 397-405.	7.0	30
39	Tunable electronic structure and enhanced optical properties in quasi-metallic hydrogenated/fluorinated SiC heterobilayer. Journal of Materials Chemistry C, 2016, 4, 7406-7414.	5.5	27
40	DFT coupled with NEGF study of ultra-sensitive HCN and HNC gases detection and distinctIâ€“Vresponse based on phosphorene. Physical Chemistry Chemical Physics, 2017, 19, 30852-30860.	2.8	26
41	Multifunctional Molecule Engineered SnO₂ for Perovskite Solar Cells with High Efficiency and Reduced Lead Leakage. Solar Rrl, 2021, 5, 2100464.	5.8	26
42	Effect of Coâ€Solvents on the Crystallization and Phase Distribution of Mixedâ€Dimensional Perovskites. Advanced Energy Materials, 2021, 11, 2102144.	19.5	25
43	Atomistic and Electronic Origin of Phase Instability of Metal Halide Perovskites. ACS Applied Energy Materials, 2020, 3, 11548-11558.	5.1	23
44	Ab Initio Study of Temperature, Humidity, and Covalent Functionalization-Induced Bandgap Change of Single-Walled Carbon Nanotubes. IEEE Electron Device Letters, 2015, 36, 606-608.	3.9	22
45	High sensitivity gas sensor to detect SF6 decomposition components based on monolayer antimonide phosphorus. Chemical Physics Letters, 2020, 756, 137868.	2.6	20
46	Molecular model for the charge carrier density dependence of conductivity of polyaniline as chemical sensing materials. Sensors and Actuators B: Chemical, 2013, 177, 856-861.	7.8	19
47	Monolayer Janus Te₂Se-based gas sensor to detect SO₂ and NO_x: a first-principles study. Physical Chemistry Chemical Physics, 2021, 23, 1675-1683.	2.8	19
48	Sorption and Diffusion of Water Vapor and Carbon Dioxide in Sulfonated Polyaniline as Chemical Sensing Materials. Sensors, 2016, 16, 606.	3.8	17
49	Tuning the electronic and optical properties of graphane/silicane and fhBN/silicane nanosheets via interfacial dihydrogen bonding and electrical field control. Journal of Materials Chemistry C, 2016, 4, 8962-8972.	5.5	16
50	Partially replacing Pb2+ by Mn2+ in hybrid metal halide perovskites: Structural and electronic properties. APL Materials, 2018, 6, .	5.1	15
51	Novel electronic structures and enhanced optical properties of boron phosphide/blue phosphorene and F4TCNQ/blue phosphorene heterostructures: a DFT + NEGF study. Physical Chemistry Chemical Physics, 2018, 20, 28777-28785.	2.8	15
52	Germanium Halides Serving as Ideal Precursors: Designing a More Effective and Less Toxic Route to High-Optoelectronic-Quality Metal Halide Perovskite Nanocrystals. Nano Letters, 2022, 22, 636-643.	9.1	15
53	Photothermal effects induced by surface plasmon resonance at graphene/gold nanointerfaces: A multiscale modeling study. Biosensors and Bioelectronics, 2019, 126, 470-477.	10.1	14
54	Alkali-cation-enhanced benzylammonium passivation for efficient and stable perovskite solar cells fabricated through sequential deposition. Journal of Materials Chemistry A, 2020, 8, 19357-19366.	10.3	13

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55	The intriguing electronic and optical properties modulation of hydrogen and fluorine codecorated silicene layers. Applied Surface Science, 2017, 398, 73-80.	6.1	12
56	Gas Sensor Based on Semihydrogenated and Semifluorinated h-BN for SFâ‚† Decomposition Components Detection. IEEE Transactions on Electron Devices, 2021, 68, 1878-1885.	3.0	12
57	Tunable electronic properties of silicene/GaP heterobilayer: Effects of electric field or biaxial tensile strain. Chemical Physics Letters, 2018, 700, 114-121.	2.6	10
58	Nearâ€Infrared Emission from Tinâ€“Lead (Snâ€“Pb) Alloyed Perovskite Quantum Dots by Sodium Doping. Angewandte Chemie, 2020, 132, 8499-8502.	2.0	10
59	Stretchable AgX (X = Se, Te) for Efficient Thermoelectrics and Photovoltaics. ACS Applied Materials & Interfaces, 2021, 13, 25121-25136.	8.0	10
60	The role of solvents in the formation of methylammonium lead triiodide perovskite. Journal of Energy Chemistry, 2022, 68, 393-400.	12.9	10
61	Novel GaN-based nanocomposites: Effective band structure and optical property tuning by tensile strain or external field. Applied Surface Science, 2018, 427, 554-562.	6.1	9
62	The role of sodium in stabilizing tinâ€“lead (Snâ€“Pb) alloyed perovskite quantum dots. Journal of Materials Chemistry A, 2021, 9, 12087-12098.	10.3	9
63	Ultra-Halide-Rich Synthesis of Stable Pure Tin-Based Halide Perovskite Quantum Dots: Implications for Photovoltaics. ACS Applied Nano Materials, 2021, 4, 3958-3968.	5.0	9
64	Thermal Inductance in GaN Devices. IEEE Electron Device Letters, 2016, 37, 1473-1476.	3.9	6
65	Two-dimensional penta-Sn₃H₂ monolayer for nanoelectronics and photocatalytic water splitting: a first-principles study. RSC Advances, 2018, 8, 11799-11806.	3.6	6
66	Properties-enhanced gas sensor based on Cu-doped tellurene monolayer to detect acetone molecule: a first-principles study. Molecular Physics, 2021, 119, .	1.7	6
67	Improved Thermoelectricâ€“Photovoltaic Performance of Ag₂Se Originating from a Halogenation-Induced Wider Band Gap and Low Crystal Symmetry. ACS Applied Energy Materials, 2022, 5, 6019-6031.	5.1	6
68	The Influence of Tensile Stress on Polyaniline as Strain Sensor. IEEE Electron Device Letters, 2016, 37, 1636-1638.	3.9	5
69	A heterostructure of C3N/h-BN with effectively regulated electronic properties by E-field and strain. Chemical Physics Letters, 2021, 770, 138461.	2.6	5
70	Tunable electronic and optical properties of the WS₂/IGZO heterostructureviaan external electric field and strain: a theoretical study. Physical Chemistry Chemical Physics, 2019, 21, 14713-14721.	2.8	4
71	The study of adsorption behavior of small molecules on stanene: A search of superior gas sensors. , 2016, , .		3
72	Modelling for electric devices: Adsorption of polluted gases on g-ZnO monolayer. , 2017, , .		3

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73	Gas adsorption on graphene with different layers: A first-principles study. , 2015, , .		2
74	First-principles study of gas adsorptin on indium nitride monolayer as gas sensor applications. , 2016, , .		2
75	Monolayer h-BN/C3B lateral heterostructures with promising electronic and optical properties: A first-principles study. Chemical Physics, 2021, 541, 111042.	1.9	2
76	A first-principle study of H<inf>2</inf>, CO, CH<inf>4</inf>, H<inf>2</inf>S and SO<inf>2</inf> gas molecules on antimonene. , 2016, , .		1
77	Adsorption of CO<inf>2</inf> and CO gas on impurity-decorated phosphorenes: A first-principles study. , 2016, , .		1
78	Enhancement of H<inf>2</inf>S detection in impurity-doped graphene. , 2016, , .		1
79	Molecular modeling design of polyaniline as carbon dioxide sensor. , 2015, , .		0
80	Ab initio studies of the differences in the chemical reactivity and electronic properties of polyaniline and its derivatives. , 2015, , .		0
81	Electronic properties and work functions of silicane/fully hydrogenated h-BN and silicane/graphane nanosheets. , 2016, , .		0
82	Tuning electronic properties of bilayer boron-phosphide by stacking order and electric field: A first principles investigation. , 2016, , .		0
83	Graphane/fully hydrogenated h-BN bilayer: Marvellous dihydrogen bonding and effective band structure engineering. , 2016, , .		0
84	Theoretical investigation of electric properties of the silicene / fully hydrogenated BN heterobilayer. , 2016, , .		0
85	Electrical and optical properties of NO and H<inf>2</inf>S adsorption on Arsenic Phosphorus. , 2017, , .		0
86	The intriguing electronic and optical properties modulation in blue phosphorene/g-III-nitrides heterostructures. , 2017, , .		0
87	First principle design of CdS/germanene heterostructures with tunable electronic and transport properties. , 2017, , .		0
88	An AlAs/germanene heterostructure with outstanding tunability of electronic properties. , 2017, , .		0
89	Modulation of the electric properties of SnSe bi/mono-layer by strain and electrical field. , 2017, , .		0
90	Excellent carrier mobility and opto/electronics performance material prediction: Focusing on single layer X2Te3 (Xâ€¯=â€¯Sb, Bi). Applied Surface Science, 2019, 491, 690-697.	6.1	0

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91	The Impacts and Origins of A-site Instability in Formamidinium-Cesium Lead Iodide Perovskite Solar Cells Under Extended Operation. , 2020, , .		0
92	Effect of Coâ€Solvents on the Crystallization and Phase Distribution of Mixedâ€Dimensional Perovskites (Adv. Energy Mater. 42/2021). Advanced Energy Materials, 2021, 11, 2170168.	19.5	0