

Bin Yu

List of Publications by Year in descending order

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64
papers

2,636
citations

236612

25
h-index

189595

50
g-index

65
all docs

65
docs citations

65
times ranked

4013
citing authors

#	ARTICLE	IF	CITATIONS
1	Contacts between Two- and Three-Dimensional Materials: Ohmic, Schottky, and Heterojunctions. ACS Nano, 2016, 10, 4895-4919.	7.3	308
2	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. Npj 2D Materials and Applications, 2017, 1, .	3.9	211
3	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges. Chemical Reviews, 2022, 122, 6514-6613.	23.0	187
4	Unified Physical Model of Bipolar Oxide-Based Resistive Switching Memory. IEEE Electron Device Letters, 2009, 30, 1326-1328.	2.2	167
5	Gd-doping effect on performance of HfO ₂ based resistive switching memory devices using implantation approach. Applied Physics Letters, 2011, 98, .	1.5	165
6	Ionic doping effect in ZrO ₂ resistive switching memory. Applied Physics Letters, 2010, 96, .	1.5	154
7	Ab initio study of electronic and optical behavior of two-dimensional silicon carbide. Journal of Materials Chemistry C, 2013, 1, 2131.	2.7	148
8	A Broadband Fluorographene Photodetector. Advanced Materials, 2017, 29, 1700463.	11.1	110
9	Two-dimensional layered semiconductor/graphene heterostructures for solar photovoltaic applications. Nanoscale, 2014, 6, 12682-12689.	2.8	105
10	One-Dimensional Phase-Change Nanostructure: Germanium Telluride Nanowire. Journal of Physical Chemistry C, 2007, 111, 2421-2425.	1.5	95
11	In-plane and tunneling pressure sensors based on graphene/hexagonal boron nitride heterostructures. Applied Physics Letters, 2011, 99, .	1.5	74
12	Graphene charge-injection photodetectors. Nature Electronics, 2022, 5, 281-288.	13.1	70
13	Modeling of Retention Failure Behavior in Bipolar Oxide-Based Resistive Switching Memory. IEEE Electron Device Letters, 2011, 32, 276-278.	2.2	61
14	Monolayer graphene/hexagonal boron nitride heterostructure. Carbon, 2013, 54, 396-402.	5.4	60
15	Designing an Efficient Multimode Environmental Sensor Based on Graphene-Silicon Heterojunction. Advanced Materials Technologies, 2017, 2, 1600262.	3.0	55
16	Solvent-Based Soft Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors. Advanced Materials Technologies, 2017, 2, 1600241.	3.0	53
17	Chalcogenide-Nanowire-Based Phase Change Memory. IEEE Nanotechnology Magazine, 2008, 7, 496-502.	1.1	49
18	Electromechanical robustness of monolayer graphene with extreme bending. Applied Physics Letters, 2010, 97, 223102.	1.5	48

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19	Ultra-Sensitive Strain Sensor Based on Flexible Poly(vinylidene fluoride) Piezoelectric Film. <i>Nanoscale Research Letters</i> , 2018, 13, 83.	3.1	42
20	Graphene interconnects fully encapsulated in layered insulator hexagonal boron nitride. <i>Nanotechnology</i> , 2013, 24, 355202.	1.3	33
21	Ultra-sensitive near-infrared graphene photodetectors with nanopillar antennas. <i>Nanoscale</i> , 2017, 9, 17459-17464.	2.8	33
22	Bilayer Graphene System: Current-Induced Reliability Limit. <i>IEEE Electron Device Letters</i> , 2010, 31, 1155-1157.	2.2	31
23	A physical model for bipolar oxide-based resistive switching memory based on ion-transport-recombination effect. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	31
24	Scaling Analysis of Nanowire Phase-Change Memory. <i>IEEE Electron Device Letters</i> , 2011, 32, 1340-1342.	2.2	31
25	Graphene-Based Interconnects on Hexagonal Boron Nitride Substrate. <i>IEEE Electron Device Letters</i> , 2012, 33, 925-927.	2.2	31
26	High-performance, flexible graphene/ultra-thin silicon ultra-violet image sensor. , 2017, , .		28
27	Bilayer Graphene/Copper Hybrid On-Chip Interconnect: A Reliability Study. <i>IEEE Nanotechnology Magazine</i> , 2011, 10, 710-714.	1.1	26
28	Unraveling the origin of ferroelectric resistance switching through the interfacial engineering of layered ferroelectric-metal junctions. <i>Nature Communications</i> , 2021, 12, 7291.	5.8	26
29	Approaching the Collection Limit in Hot Electron Transistors with Ambipolar Hot Carrier Transport. <i>ACS Nano</i> , 2019, 13, 14191-14197.	7.3	21
30	Ab initio study of energy-band modulation in graphene-based two-dimensional layered superlattices. <i>Journal of Materials Chemistry</i> , 2012, 22, 23821.	6.7	18
31	Reversible phase-change behavior in two-dimensional antimony telluride (Sb ₂ Te ₃) nanosheets. <i>Applied Physics Letters</i> , 2018, 112, 133101.	1.5	17
32	New Diode-Triggered Silicon-Controlled Rectifier for Robust Electrostatic Discharge Protection at High Temperatures. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 2044-2048.	1.6	14
33	A Hybrid Phototransistor Neuromorphic Synapse. <i>IEEE Journal of the Electron Devices Society</i> , 2019, 7, 13-17.	1.2	14
34	Layered insulator hexagonal boron nitride for surface passivation in quantum dot solar cell. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	13
35	Scalable synthesis of two-dimensional antimony telluride nanoplates down to a single quintuple layer. <i>RSC Advances</i> , 2015, 5, 59320-59325.	1.7	12
36	Logic Inverter Implemented with CVD-Assembled Graphene FET on Hexagonal Boron Nitride. <i>IEEE Nanotechnology Magazine</i> , 2012, 11, 619-623.	1.1	10

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37	Formation of Graphene p-n Junction via Complementary Doping. IEEE Electron Device Letters, 2011, 32, 1050-1052.	2.2	9
38	Carbon-based interconnect: Performance, scaling and reliability of 3D stacked multilayer graphene system. , 2011, , .		9
39	Extenuated interlayer scattering in double-layered graphene/hexagonal boron nitride heterostructure. Carbon, 2018, 126, 17-22.	5.4	8
40	Electrical Conduction and Reliability in Dual-Layered Graphene Heterostructure Interconnects. IEEE Electron Device Letters, 2014, 35, 1311-1313.	2.2	7
41	Electronic transport anisotropy of buckling graphene under uniaxial compressive strain: <i>Ab initio</i> study. Applied Physics Letters, 2012, 100, .	1.5	6
42	Macroscopic-Assembled-Graphene Nanofilms/Germanium Broadband Photodetectors. , 2021, , .		6
43	Multilayer Graphene Oxide/Cadmium Selenide Quantum-Dot-Coated Titanium Dioxide Heterojunction Solar Cell. IEEE Electron Device Letters, 2012, 33, 1165-1167.	2.2	5
44	Optimization of Bosch etch process for vertically stacked Si nanowires. Journal of Materials Science: Materials in Electronics, 2012, 23, 334-342.	1.1	4
45	Repeatable growth of graphene from "precursor. Carbon, 2017, 123, 628-634.	5.4	4
46	Reliability study of bilayer graphene - material for future transistor and interconnect. , 2010, , .		3
47	Investigation of electrically induced migration of copper on graphene surfaces: Theory and experiments. Applied Physics Letters, 2013, 103, 073104.	1.5	3
48	Rapid optical determination of topological insulator nanoplate thickness and oxidation. AIP Advances, 2017, 7, .	0.6	3
49	Two-dimensional ferroelectricity and antiferroelectricity for next-generation computing paradigms. Matter, 2022, 5, 1999-2014.	5.0	3
50	Quantum and thermo-mechanical noise squeezing in nanoresonators: A comparative study. Applied Physics Letters, 2012, 100, .	1.5	2
51	Substrate effect on graphene-based interconnects. , 2012, , .		2
52	Unipolar Switching Behavior in Highly Crystalline Hexagonal Boron Nitride. Materials Research Society Symposia Proceedings, 2014, 1658, 1.	0.1	2
53	Photodetectors: Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors (Adv. Mater. Technol. 2/2017). Advanced Materials Technologies, 2017, 2, .	3.0	2
54	Graphene/Cu (111) interface study: The density functional theory calculations. , 2011, , .		1

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55	Multilayer Graphene-Based Carbon Interconnect. Materials Research Society Symposia Proceedings, 2012, 1407, 7.	0.1	1
56	Graphene nanoelectronics: Overview from post-silicon perspective. , 2012, , .		1
57	MoS ₂ / TiO ₂ nanoparticle composite bulk heterojunction solar cell. , 2012, , .		1
58	A theoretical study of fluorographene as substrates for mono-/Bi-layer graphene. , 2013, , .		1
59	Photodetectors: A Broadband Fluorographene Photodetector (Adv. Mater. 22/2017). Advanced Materials, 2017, 29, .	11.1	1
60	Ultra-Broad and Angle-Sensitive Terahertz Absorber. , 2019, , .		1
61	The tunable bandgap of AB-stacking bilayer graphene under the applied electric fields for power devices. , 2011, , .		0
62	CVD-Graphene Complementary Logic on Ultra-thin Multilayer Hexagonal Boron Nitride. Materials Research Society Symposia Proceedings, 2012, 1407, 151.	0.1	0
63	Effect of substrate on graphene-based interconnects. , 2012, , .		0
64	Encapsulation of graphene interconnects with 2D Layered Insulator for improved performance. Materials Research Society Symposia Proceedings, 2014, 1658, 47.	0.1	0