

Yang Xu

List of Publications by Year in descending order

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133
papers

7,269
citations

53660

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135
docs citations

135
times ranked

10225
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamic Covalent Polymer Networks: A Molecular Platform for Designing Functions beyond Chemical Recycling and Self-Healing. <i>Chemical Reviews</i> , 2021, 121, 1716-1745.	23.0	587
2	Black phosphorus ink formulation for inkjet printing of optoelectronics and photonics. <i>Nature Communications</i> , 2017, 8, 278.	5.8	311
3	Contacts between Two- and Three-Dimensional Materials: Ohmic, Schottky, and <i>p-n</i> Heterojunctions. <i>ACS Nano</i> , 2016, 10, 4895-4919.	7.3	308
4	Plasmonic Silicon Quantum Dots Enabled High-Sensitivity Ultrabroadband Photodetection of Graphene-Based Hybrid Phototransistors. <i>ACS Nano</i> , 2017, 11, 9854-9862.	7.3	285
5	Three-dimensional macro-structures of two-dimensional nanomaterials. <i>Chemical Society Reviews</i> , 2016, 45, 5541-5588.	18.7	280
6	Ultrapliff and Strong Graphene Fibers via Full-scale Synergetic Defect Engineering. <i>Advanced Materials</i> , 2016, 28, 6449-6456.	11.1	279
7	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. <i>Npj 2D Materials and Applications</i> , 2017, 1, .	3.9	211
8	Graphene Coupled with Silicon Quantum Dots for High-performance Bulk Silicon-Based Schottky Junction Photodetectors. <i>Advanced Materials</i> , 2016, 28, 4912-4919.	11.1	206
9	Catalyst-Free Thermoset Polyurethane with Permanent Shape Reconfigurability and Highly Tunable Triple-Shape Memory Performance. <i>ACS Macro Letters</i> , 2017, 6, 326-330.	2.3	198
10	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges. <i>Chemical Reviews</i> , 2022, 122, 6514-6613.	23.0	187
11	Solar-Blind Photodetector with High Avalanche Gains and Bias-Tunable Detecting Functionality Based on Metastable Phase InGa ₂ O ₃ /ZnO Isotype Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 36997-37005.	4.0	158
12	High-performance silicon-graphene hybrid plasmonic waveguide photodetectors beyond 1.55 μm. <i>Light: Science and Applications</i> , 2020, 9, 29.	7.7	155
13	Broadband optoelectronic synaptic devices based on silicon nanocrystals for neuromorphic computing. <i>Nano Energy</i> , 2018, 52, 422-430.	8.2	150
14	Fast Response and High Sensitivity ZnO/glass Surface Acoustic Wave Humidity Sensors Using Graphene Oxide Sensing Layer. <i>Scientific Reports</i> , 2014, 4, 7206.	1.6	149
15	Ab initio study of electronic and optical behavior of two-dimensional silicon carbide. <i>Journal of Materials Chemistry C</i> , 2013, 1, 2131.	2.7	148
16	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. <i>Advanced Materials</i> , 2020, 32, e1902039.	11.1	127
17	Pushing the Performance Limit of Sub-100 nm Molybdenum Disulfide Transistors. <i>Nano Letters</i> , 2016, 16, 6337-6342.	4.5	117
18	Flexible surface acoustic wave resonators built on disposable plastic film for electronics and lab-on-a-chip applications. <i>Scientific Reports</i> , 2013, 3, 2140.	1.6	116

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19	Mechanical properties of nickel-graphene composites synthesized by electrochemical deposition. <i>Nanotechnology</i> , 2015, 26, 065706.	1.3	116
20	A Broadband Fluorographene Photodetector. <i>Advanced Materials</i> , 2017, 29, 1700463.	11.1	110
21	Titania nanowires functionalized polyester fabrics with enhanced photocatalytic and antibacterial performances. <i>Journal of Hazardous Materials</i> , 2018, 343, 285-297.	6.5	110
22	A high performance humidity sensor based on surface acoustic wave and graphene oxide on AlN/Si layered structure. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 2454-2461.	4.0	110
23	Multifunctional wearable smart device based on conductive reduced graphene oxide/polyester fabric. <i>Applied Surface Science</i> , 2018, 454, 218-226.	3.1	106
24	High sensitivity flexible Lamb-wave humidity sensors with a graphene oxide sensing layer. <i>Nanoscale</i> , 2015, 7, 7430-7436.	2.8	95
25	Monolithic Full-Stokes Near-Infrared Polarimetry with Chiral Plasmonic Metasurface Integrated Graphene-Silicon Photodetector. <i>ACS Nano</i> , 2020, 14, 16634-16642.	7.3	94
26	High-Speed and High-Responsivity Hybrid Silicon/Black-Phosphorus Waveguide Photodetectors at 2 μm . <i>Laser and Photonics Reviews</i> , 2019, 13, 1900032.	4.4	91
27	Experimental Demonstration of a Free-Space Cylindrical Cloak without Superluminal Propagation. <i>Physical Review Letters</i> , 2012, 109, 223903.	2.9	87
28	Room-temperature valleytronic transistor. <i>Nature Nanotechnology</i> , 2020, 15, 743-749.	15.6	87
29	Trap Assisted Bulk Silicon Photodetector with High Photoconductive Gain, Low Noise, and Fast Response by Ag Hyperdoping. <i>Advanced Optical Materials</i> , 2018, 6, 1700638.	3.6	75
30	In-plane and tunneling pressure sensors based on graphene/hexagonal boron nitride heterostructures. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	74
31	Interface coupling in graphene/fluorographene heterostructure for high-performance graphene/silicon solar cells. <i>Nano Energy</i> , 2016, 28, 12-18.	8.2	73
32	Graphene charge-injection photodetectors. <i>Nature Electronics</i> , 2022, 5, 281-288.	13.1	70
33	Light-Driven WSe ₂ -ZnO Junction Field-Effect Transistors for High-Performance Photodetection. <i>Advanced Science</i> , 2020, 7, 1901637.	5.6	66
34	Facile Synthesis of In ₂ Se ₃ Nanoflowers toward High Performance Self-Powered Broadband In ₂ Se ₃ /Si Heterojunction Photodiode. <i>Small</i> , 2017, 13, 1604033.	5.2	64
35	Monolayer graphene/hexagonal boron nitride heterostructure. <i>Carbon</i> , 2013, 54, 396-402.	5.4	60
36	Direct formation of wafer-scale single-layer graphene films on the rough surface substrate by PECVD. <i>Carbon</i> , 2018, 129, 456-461.	5.4	60

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37	Carrier Transport and Gain Mechanisms in Ga_2O_3 -Based Metal-Semiconductor-Metal Solar-Blind Schottky Photodetectors. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 2276-2281.	1.6	59
38	Low-chirp high-extinction-ratio modulator based on graphene-silicon waveguide. <i>Optics Letters</i> , 2013, 38, 2512.	1.7	55
39	Local and Nonlocal Optically Induced Transparency Effects in Graphene-Silicon Hybrid Nanophotonic Integrated Circuits. <i>ACS Nano</i> , 2014, 8, 11386-11393.	7.3	55
40	Designing an Efficient Multimode Environmental Sensor Based on Graphene-Silicon Heterojunction. <i>Advanced Materials Technologies</i> , 2017, 2, 1600262.	3.0	55
41	Highly Narrow-Band Polarization-Sensitive Solar-Blind Photodetectors Based on $\text{In}^2\text{Ga}_2\text{O}_3$ Single Crystals. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 7131-7137.	4.0	55
42	High quality graphene films with a clean surface prepared by an UV/ozone assisted transfer process. <i>Journal of Materials Chemistry C</i> , 2017, 5, 1880-1884.	2.7	54
43	Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors. <i>Advanced Materials Technologies</i> , 2017, 2, 1600241.	3.0	53
44	Electromechanical robustness of monolayer graphene with extreme bending. <i>Applied Physics Letters</i> , 2010, 97, 223102.	1.5	48
45	Facile synthesis of hybrid nanorods with the $\text{Sb}_2\text{Se}_3/\text{AgSbSe}_2$ heterojunction structure for high performance photodetectors. <i>Nanoscale</i> , 2016, 8, 2277-2283.	2.8	48
46	A high-quality round-shaped monolayer MoS_2 domain and its transformation. <i>Nanoscale</i> , 2016, 8, 219-225.	2.8	43
47	Tunable THz Multiband Frequency-Selective Surface Based on Hybrid Metal-Graphene Structures. <i>IEEE Nanotechnology Magazine</i> , 2017, 16, 1132-1137.	1.1	41
48	Unidirectional surface plasmons in nonreciprocal graphene. <i>New Journal of Physics</i> , 2013, 15, 113003.	1.2	40
49	Ab initio optical study of graphene on hexagonal boron nitride and fluorographene substrates. <i>Journal of Materials Chemistry C</i> , 2013, 1, 1618.	2.7	39
50	Ultrafast Digital Fabrication of Designable Architected Liquid Crystalline Elastomer. <i>Advanced Materials</i> , 2021, 33, e2105597.	11.1	37
51	3-D graphene aerogel sphere-based flexible sensors for healthcare applications. <i>Sensors and Actuators A: Physical</i> , 2020, 312, 112144.	2.0	35
52	Physical models for coupled electromechanical analysis of silicon nanoelectromechanical systems. <i>Journal of Applied Physics</i> , 2005, 97, 114304.	1.1	34
53	Graphene interconnects fully encapsulated in layered insulator hexagonal boron nitride. <i>Nanotechnology</i> , 2013, 24, 355202.	1.3	33
54	Bidirectional mid-infrared communications between two identical macroscopic graphene fibres. <i>Nature Communications</i> , 2020, 11, 6368.	5.8	32

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55	Defect symmetry influence on electronic transport of zigzag nanoribbons. <i>Nanoscale Research Letters</i> , 2011, 6, 254.	3.1	31
56	Bendable ZnO thin film surface acoustic wave devices on polyethylene terephthalate substrate. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	31
57	Improved Slow Light Capacity In Graphene-based Waveguide. <i>Scientific Reports</i> , 2015, 5, 15335.	1.6	31
58	Nanoplasmonically Enhanced High-Performance Metastable Phase $\hat{\pm}$ -Ga ₂ O ₃ Solar-Blind Photodetectors. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 40283-40289.	4.0	31
59	Ultraviolet dielectric hyperlens with layered graphene and boron nitride. <i>Journal of Materials Chemistry</i> , 2012, 22, 15863.	6.7	29
60	Flexible Dielectric Nanocomposites with Ultrawide Zero-Temperature Coefficient Windows for Electrical Energy Storage and Conversion under Extreme Conditions. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 7591-7600.	4.0	29
61	Exploring carrier transport phenomena in a CVD-assembled graphene FET on hexagonal boron nitride. <i>Nanotechnology</i> , 2012, 23, 125706.	1.3	28
62	High-performance, flexible graphene/ultra-thin silicon ultra-violet image sensor. , 2017, , .		28
63	Plasmon Excited Ultrahot Carriers and Negative Differential Photoresponse in a Vertical Graphene van der Waals Heterostructure. <i>Nano Letters</i> , 2019, 19, 3295-3304.	4.5	28
64	Electronic structures of multilayer two-dimensional silicon carbide with oriented misalignment. <i>Journal of Materials Chemistry C</i> , 2015, 3, 9057-9062.	2.7	27
65	Enhancement of charge photo-generation and transport via an internal network of Sb ₂ Se ₃ /Cu ₂ GeSe ₃ heterojunctions. <i>Journal of Materials Chemistry A</i> , 2014, 2, 17099-17106.	5.2	26
66	Transition of photoconductive and photovoltaic operation modes in amorphous Ga ₂ O ₃ -based solar-blind detectors tuned by oxygen vacancies. <i>Chinese Physics B</i> , 2019, 28, 028501.	0.7	26
67	A high performance broadband photodetector based on (Sn _x Sb ^x) ₂ Se ₃ nanorods with enhanced electrical conductivity. <i>Journal of Materials Chemistry C</i> , 2018, 6, 11078-11085.	2.7	24
68	Transparent origami glass. <i>Nature Communications</i> , 2021, 12, 4261.	5.8	24
69	Macroscopic assembled graphene nanofilms based room temperature ultrafast mid-infrared photodetectors. <i>InformaAnMateriAjly</i> , 2022, 4, .	8.5	24
70	Single-electron transport in graphene-like nanostructures. <i>Physics Reports</i> , 2017, 669, 1-42.	10.3	22
71	Identifying the stacking order of multilayer graphene grown by chemical vapor deposition via Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2018, 49, 46-53.	1.2	22
72	Development of flexible ZnO thin film surface acoustic wave strain sensors on ultrathin glass substrates. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 115005.	1.5	21

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73	Approaching the Collection Limit in Hot Electron Transistors with Ambipolar Hot Carrier Transport. ACS Nano, 2019, 13, 14191-14197.	7.3	21
74	Illumination-Induced Hole Doping for Performance Improvement of Graphene/Silicon Solar Cells with P3HT Interlayer. Advanced Electronic Materials, 2017, 3, 1600516.	2.6	20
75	Interference coordination strategy based on Nash bargaining for small-cell networks. IET Communications, 2015, 9, 1583-1590.	1.5	19
76	All-Two-Dimensional-Material Hot Electron Transistor. IEEE Electron Device Letters, 2018, 39, 634-637.	2.2	19
77	Ab initio study of energy-band modulation in graphene-based two-dimensional layered superlattices. Journal of Materials Chemistry, 2012, 22, 23821.	6.7	18
78	Anion Engineering Enhanced Response Speed and Tunable Spectral Responsivity in Gallium-Oxynitrides-Based Ultraviolet Photodetectors. ACS Applied Electronic Materials, 2020, 2, 808-816.	2.0	18
79	On-Chip Measurement of Photoluminescence with High Sensitivity Monolithic Spectrometer. Advanced Optical Materials, 2020, 8, 2000191.	3.6	18
80	A non-contact graphene surface scattering rate characterization method at microwave frequency by combining Raman spectroscopy and coaxial connectors measurement. Carbon, 2014, 77, 53-58.	5.4	17
81	Multiscale electrostatic analysis of silicon nanoelectromechanical systems (NEMS) via heterogeneous quantum models. Physical Review B, 2008, 77, .	1.1	15
82	Hybrid Structure of Silicon Nanocrystals and 2D WSe ₂ for Broadband Optoelectronic Synaptic Devices. , 2018, , .		15
83	Broadband Graphene Field-Effect Coupled Detectors: From Soft X-Ray to Near-Infrared. IEEE Electron Device Letters, 2022, 43, 902-905.	2.2	15
84	Carbon nanotube screening effects on the water-ion channels. Applied Physics Letters, 2008, 93, 43122.	1.5	14
85	Light-induced negative differential resistance in gate-controlled graphene-silicon photodiode. Applied Physics Letters, 2018, 112, .	1.5	14
86	Micron-Scale Photodetectors Based on One-Dimensional Single-Crystalline Sb ₂ S ₃ Microrods: Simultaneously Improving Responsivity and Extending Spectral Response Region. Journal of Physical Chemistry C, 2019, 123, 810-816.	1.5	14
87	Layered insulator hexagonal boron nitride for surface passivation in quantum dot solar cell. Applied Physics Letters, 2013, 103, .	1.5	13
88	Graphene light-field camera. Nature Photonics, 2020, 14, 134-136.	15.6	13
89	Silicon-graphene photonic devices. Journal of Semiconductors, 2018, 39, 061009.	2.0	12
90	Graphene/silicon-quantum-dots/Si Schottky-PN cascade heterojunction for short-wavelength infrared photodetection. , 2017, , .		11

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91	Electronic transport in monolayer graphene with extreme physical deformation: <i>ab initio</i> density functional calculation. <i>Nanotechnology</i> , 2011, 22, 365202.	1.3	10
92	Logic Inverter Implemented with CVD-Assembled Graphene FET on Hexagonal Boron Nitride. <i>IEEE Nanotechnology Magazine</i> , 2012, 11, 619-623.	1.1	10
93	Adaptive biasing scheme for load balancing in backhaul constrained small cell networks. <i>IET Communications</i> , 2015, 9, 999-1005.	1.5	10
94	Carbon-based interconnect: Performance, scaling and reliability of 3D stacked multilayer graphene system. , 2011, , .		9
95	Graphene Nanofilms/Silicon Near-Infrared Avalanche Photodetectors. <i>IEEE Nanotechnology Magazine</i> , 2022, 21, 307-310.	1.1	9
96	Flexible and Transparent Surface Acoustic Wave Microsensors and Microfluidics. <i>Procedia Engineering</i> , 2015, 120, 717-720.	1.2	8
97	Pull-in/out analysis of nano/microelectromechanical switches with defective oxide layers. <i>Applied Physics Letters</i> , 2009, 95, 073112.	1.5	7
98	A novel fabrication method of silicon nano-needles using MEMS TMAH etching techniques. <i>Nanotechnology</i> , 2011, 22, 125301.	1.3	7
99	Visible-NIR Photodetectors Based on Low-Dimensional GeSe Micro-Crystals: Designed Morphology and Improved Photoresponsivity. <i>ChemPhysChem</i> , 2020, 21, 397-405.	1.0	7
100	Combined semiclassical and effective-mass Schrödinger approach for multiscale analysis of semiconductor nanostructures. <i>Physical Review B</i> , 2007, 76, .	1.1	6
101	Detection of defective DNA in carbon nanotubes by combined molecular dynamics/tight-binding technique. <i>Applied Physics Letters</i> , 2009, 95, 113116.	1.5	6
102	Electronic transport anisotropy of buckling graphene under uniaxial compressive strain: <i>Ab initio</i> study. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	6
103	Reconfigurable Parallel Plasmonic Transmission Lines With Nanometer Light Localization and Long Propagation Distance. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013, 19, 4601809-4601809.	1.9	6
104	Macroscopic-Assembled-Graphene Nanofilms/Germanium Broadband Photodetectors. , 2021, , .		6
105	Quantum-squeezing effects of strained multilayer graphene NEMS. <i>Nanoscale Research Letters</i> , 2011, 6, 355.	3.1	5
106	Fluorinated graphene and hexagonal boron nitride as ALD seed layers for graphene-based van der Waals heterostructures. <i>Nanotechnology</i> , 2014, 25, 355202.	1.3	5
107	<i>Ab initio</i> electronic transport study of two-dimensional silicon carbide-based p-n junctions. <i>Journal of Semiconductors</i> , 2017, 38, 033002.	2.0	5
108	Optical sensors: deciphering plant phenomics in breeding factories. <i>Trends in Plant Science</i> , 2022, 27, 209-210.	4.3	5

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109	Linear and Nonlinear Optical Absorption of on-chip Silicon-on-insulator Nanowires with Graphene. , 2012, , .		5
110	Exploring graphene loaded antenna for GHz potential applications by experiment. , 2015, , .		4
111	Tailoring atomic structure to control the electronic transport in zigzag graphene nanoribbon. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 3277-3280.	0.9	3
112	Joint CFO and sparse channel estimation for MIMO-OFDM systems via the SAGE algorithm. , 2013, , .		3
113	High Performance Graphene/Silicon Photodetectors and Image Sensors. , 2018, , .		3
114	Homogroup Bi/Sb Lattice Substitution to Enhance the Photoelectric Properties of Sb ₂ Se ₃ Crystals. Journal of Physical Chemistry C, 2022, 126, 8913-8921.	1.5	3
115	Quantum and thermo-mechanical noise squeezing in nanoresonators: A comparative study. Applied Physics Letters, 2012, 100, .	1.5	2
116	A design of SPDT switch using graphene device. , 2015, , .		2
117	Photodetectors: Solventâ€Based Softâ€Patterning of Graphene Lateral Heterostructures for Broadband Highâ€Speed Metalâ€Semiconductorâ€Metal Photodetectors (Adv. Mater. Technol. 2/2017). Advanced Materials Technologies, 2017, 2, .	3.0	2
118	<scp>UV</scp> curable microâ€structured shape memory epoxy with tunable performance. Journal of Applied Polymer Science, 2021, 138, 51319.	1.3	2
119	Quantum Squeezing Effects of Monolayer Graphene NEMS. , 2011, , .		1
120	A theoretical study of fluorographene as substrates for mono-/Bi-layer graphene. , 2013, , .		1
121	Graphene coupled with silicon quantum dots for high-performance silicon Schottky photodetectors. , 2016, , .		1
122	Photodetectors: A Broadband Fluorographene Photodetector (Adv. Mater. 22/2017). Advanced Materials, 2017, 29, .	11.1	1
123	Graphene muscle with artificial intelligence. , 2020, , .		1
124	Twist angle dependent absorption feature induced by interlayer rotations in CVD bilayer graphene. Nanophotonics, 2021, 10, 2695-2703.	2.9	1
125	Sharp Silicon Nano-Needles Based on Boron Etch-Stop in TMAH Solutions. Materials Research Society Symposia Proceedings, 2011, 1301, 225.	0.1	0
126	Negative Differential Resistances Observed In Suspended-Channel FETs. AIP Conference Proceedings, 2011, , .	0.3	0

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127	CVD-Graphene Complementary Logic on Ultra-thin Multilayer Hexagonal Boron Nitride. Materials Research Society Symposia Proceedings, 2012, 1407, 151.	0.1	0
128	Large scale cylindrical cloak in free space without superluminal propagation. , 2012, , .		0
129	Fabrication of large-scale suspended graphene clamp-clamp beam by FIB cutting. , 2013, , .		0
130	A graphene-based terahertz wavelength division multiplexer. , 2015, , .		0
131	Graphene photonic crystal fiber with large modulation depth. Science China Chemistry, 2020, 63, 5-6.	4.2	0
132	Robust and Sensitive Sensing of Unsteady Flows Using a Hair-Like Macroscopic Graphene Fiber. , 2020, , .		0
133	High-performance Silicon Photonic Filters based on High-order Adiabatic Elliptical-microrings. , 2021, , .		0