Yang Xu

List of Publications by Year
in descending order

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133	7,269	53794 45	58581 82
papers	citations	h-index	g-index

135	135	135	10225
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dynamic Covalent Polymer Networks: A Molecular Platform for Designing Functions beyond Chemical Recycling and Self-Healing. Chemical Reviews, 2021, 121, 1716-1745.	47.7	587
2	Black phosphorus ink formulation for inkjet printing of optoelectronics and photonics. Nature Communications, 2017, 8, 278.	12.8	311
3	Contacts between Two- and Three-Dimensional Materials: Ohmic, Schottky, and pâ€“n Heterojunctions. ACS Nano, 2016, 10, 4895-4919.	14.6	308
4	Plasmonic Silicon Quantum Dots Enabled High-Sensitivity Ultrabroadband Photodetection of Graphene-Based Hybrid Phototransistors. ACS Nano, 2017, 11, 9854-9862.	14.6	285
5	Three-dimensional macro-structures of two-dimensional nanomaterials. Chemical Society Reviews, 2016, 45, 5541-5588.	38.1	280
6	Ultrastiff and Strong Graphene Fibers via Fullâ€Scale Synergetic Defect Engineering. Advanced Materials, 2016, 28, 6449-6456.	21.0	279
7	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, .	7.9	211
8	Graphene Coupled with Silicon Quantum Dots for Highâ€Performance Bulkâ€Siliconâ€Based Schottkyâ€Junction Photodetectors. Advanced Materials, 2016, 28, 4912-4919.	21.0	206
9	Catalyst-Free Thermoset Polyurethane with Permanent Shape Reconfigurability and Highly Tunable Triple-Shape Memory Performance. ACS Macro Letters, 2017, 6, 326-330.	4.8	198
10	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges. Chemical Reviews, 2022, 122, 6514-6613.	47.7	187
11	Solar-Blind Photodetector with High Avalanche Gains and Bias-Tunable Detecting Functionality Based on Metastable Phase Î±-Ga₂O₃/ZnO Isotype Heterostructures. ACS Applied Materials & Interfaces, 2017, 9, 36997-37005.	8.0	158
12	High-performance siliconâ€graphene hybrid plasmonic waveguide photodetectors beyond 1.55â€‰Î¼m. Light: Science and Applications, 2020, 9, 29.	16.6	155
13	Broadband optoelectronic synaptic devices based on silicon nanocrystals for neuromorphic computing. Nano Energy, 2018, 52, 422-430.	16.0	150
14	Fast Response and High Sensitivity ZnO/glass Surface Acoustic Wave Humidity Sensors Using Graphene Oxide Sensing Layer. Scientific Reports, 2014, 4, 7206.	3.3	149
15	Ab initio study of electronic and optical behavior of two-dimensional silicon carbide. Journal of Materials Chemistry C, 2013, 1, 2131.	5.5	148
16	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. Advanced Materials, 2020, 32, e1902039.	21.0	127
17	Pushing the Performance Limit of Sub-100 nm Molybdenum Disulfide Transistors. Nano Letters, 2016, 16, 6337-6342.	9.1	117
18	Flexible surface acoustic wave resonators built on disposable plastic film for electronics and lab-on-a-chip applications. Scientific Reports, 2013, 3, 2140.	3.3	116

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19	Mechanical properties of nickel-graphene composites synthesized by electrochemical deposition. Nanotechnology, 2015, 26, 065706.	2.6	116
20	A Broadband Fluorographene Photodetector. Advanced Materials, 2017, 29, 1700463.	21.0	110
21	Titania nanowires functionalized polyester fabrics with enhanced photocatalytic and antibacterial performances. Journal of Hazardous Materials, 2018, 343, 285-297.	12.4	110
22	A high performance humidity sensor based on surface acoustic wave and graphene oxide on AlN/Si layered structure. Sensors and Actuators B: Chemical, 2018, 255, 2454-2461.	7.8	110
23	Multifunctional wearable smart device based on conductive reduced graphene oxide/polyester fabric. Applied Surface Science, 2018, 454, 218-226.	6.1	106
24	High sensitivity flexible Lamb-wave humidity sensors with a graphene oxide sensing layer. Nanoscale, 2015, 7, 7430-7436.	5.6	95
25	Monolithic Full-Stokes Near-Infrared Polarimetry with Chiral Plasmonic Metasurface Integrated Grapheneâ€“Silicon Photodetector. ACS Nano, 2020, 14, 16634-16642.	14.6	94
26	Highâ€Speed and Highâ€Responsivity Hybrid Silicon/Blackâ€Phosphorus Waveguide Photodetectors at 2ÂÂµm. Laser and Photonics Reviews, 2019, 13, 1900032.	8.7	91
27	Experimental Demonstration of a Free-Space Cylindrical Cloak without Superluminal Propagation. Physical Review Letters, 2012, 109, 223903.	7.8	87
28	Room-temperature valleytronic transistor. Nature Nanotechnology, 2020, 15, 743-749.	31.5	87
29	Trap Assisted Bulk Silicon Photodetector with High Photoconductive Gain, Low Noise, and Fast Response by Ag Hyperdoping. Advanced Optical Materials, 2018, 6, 1700638.	7.3	75
30	In-plane and tunneling pressure sensors based on graphene/hexagonal boron nitride heterostructures. Applied Physics Letters, 2011, 99, .	3.3	74
31	Interface coupling in graphene/fluorographene heterostructure for high-performance graphene/silicon solar cells. Nano Energy, 2016, 28, 12-18.	16.0	73
32	Graphene charge-injection photodetectors. Nature Electronics, 2022, 5, 281-288.	26.0	70
33	Lightâ€Driven WSe₂â€ZnO Junction Fieldâ€Effect Transistors for Highâ€Performance Photodetection. Advanced Science, 2020, 7, 1901637.	11.2	66
34	Facile Synthesis of Î³â€In₂Se₃ Nanoflowers toward High Performance Selfâ€Powered Broadband Î³â€In₂Se₃/Si Heterojunction Photodiode. Small, 2017, 13, 1604033.	10.0	64
35	Monolayer graphene/hexagonal boron nitride heterostructure. Carbon, 2013, 54, 396-402.	10.3	60
36	Direct formation of wafer-scale single-layer graphene films on the rough surface substrate by PECVD. Carbon, 2018, 129, 456-461.	10.3	60

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37	Carrier Transport and Gain Mechanisms in eta â€“Ga₂O₃-Based Metalâ€“Semiconductorâ€“Metal Solar-Blind Schottky Photodetectors. IEEE Transactions on Electron Devices, 2019, 66, 2276-2281.	3.0	59
38	Low-chirp high-extinction-ratio modulator based on grapheneâ€“silicon waveguide. Optics Letters, 2013, 38, 2512.	3.3	55
39	Local and Nonlocal Optically Induced Transparency Effects in Grapheneâ€“Silicon Hybrid Nanophotonic Integrated Circuits. ACS Nano, 2014, 8, 11386-11393.	14.6	55
40	Designing an Efficient Multimode Environmental Sensor Based on Grapheneâ€“Silicon Heterojunction. Advanced Materials Technologies, 2017, 2, 1600262.	5.8	55
41	Highly Narrow-Band Polarization-Sensitive Solar-Blind Photodetectors Based on Î²-Ga₂O₃ Single Crystals. ACS Applied Materials & Interfaces, 2019, 11, 7131-7137.	8.0	55
42	High quality graphene films with a clean surface prepared by an UV/ozone assisted transfer process. Journal of Materials Chemistry C, 2017, 5, 1880-1884.	5.5	54
43	Solventâ€Based Softâ€Patterning of Graphene Lateral Heterostructures for Broadband Highâ€Speed Metalâ€“Semiconductorâ€“Metal Photodetectors. Advanced Materials Technologies, 2017, 2, 1600241.	5.8	53
44	Electromechanical robustness of monolayer graphene with extreme bending. Applied Physics Letters, 2010, 97, 223102.	3.3	48
45	Facile synthesis of hybrid nanorods with the Sb₂Se₃/AgSbSe₂ heterojunction structure for high performance photodetectors. Nanoscale, 2016, 8, 2277-2283.	5.6	48
46	A high-quality round-shaped monolayer MoS₂domain and its transformation. Nanoscale, 2016, 8, 219-225.	5.6	43
47	Tunable THz Multiband Frequency-Selective Surface Based on Hybrid Metalâ€“Graphene Structures. IEEE Nanotechnology Magazine, 2017, 16, 1132-1137.	2.0	41
48	Unidirectional surface plasmons in nonreciprocal graphene. New Journal of Physics, 2013, 15, 113003.	2.9	40
49	Ab initio optical study of graphene on hexagonal boron nitride and fluorographene substrates. Journal of Materials Chemistry C, 2013, 1, 1618.	5.5	39
50	Ultrafast Digital Fabrication of Designable Architectured Liquid Crystalline Elastomer. Advanced Materials, 2021, 33, e2105597.	21.0	37
51	3-D graphene aerogel sphere-based flexible sensors for healthcare applications. Sensors and Actuators A: Physical, 2020, 312, 112144.	4.1	35
52	Physical models for coupled electromechanical analysis of silicon nanoelectromechanical systems. Journal of Applied Physics, 2005, 97, 114304.	2.5	34
53	Graphene interconnects fully encapsulated in layered insulator hexagonal boron nitride. Nanotechnology, 2013, 24, 355202.	2.6	33
54	Bidirectional mid-infrared communications between two identical macroscopic graphene fibres. Nature Communications, 2020, 11, 6368.	12.8	32

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55	Defect symmetry influence on electronic transport of zigzag nanoribbons. Nanoscale Research Letters, 2011, 6, 254.	5.7	31
56	Bendable ZnO thin film surface acoustic wave devices on polyethylene terephthalate substrate. Applied Physics Letters, 2014, 104, .	3.3	31
57	Improved Slow Light Capacity In Graphene-based Waveguide. Scientific Reports, 2015, 5, 15335.	3.3	31
58	Nanoplasmonically Enhanced High-Performance Metastable Phase Î±-Ga₂O₃ Solar-Blind Photodetectors. ACS Applied Materials & Interfaces, 2019, 11, 40283-40289.	8.0	31
59	Ultraviolet dielectric hyperlens with layered graphene and boron nitride. Journal of Materials Chemistry, 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. ACS Applied Materials & Interfaces, 2017, 9, 7591-7600.	8.0	29
61	Exploring carrier transport phenomena in a CVD-assembled graphene FET on hexagonal boron nitride. Nanotechnology, 2012, 23, 125706.	2.6	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. Nano Letters, 2019, 19, 3295-3304.	9.1	28
64	Electronic structures of multilayer two-dimensional silicon carbide with oriented misalignment. Journal of Materials Chemistry C, 2015, 3, 9057-9062.	5.5	27
65	Enhancement of charge photo-generation and transport via an internal network of Sb₂Se₃/Cu₂GeSe₃heterojunctions. Journal of Materials Chemistry A, 2014, 2, 17099-17106.	10.3	26
66	Transition of photoconductive and photovoltaic operation modes in amorphous Ga ₂ O ₃ -based solar-blind detectors tuned by oxygen vacancies. Chinese Physics B, 2019, 28, 028501.	1.4	26
67	A high performance broadband photodetector based on (Sn_xSb_{1â”x})₂Se₃ nanorods with enhanced electrical conductivity. Journal of Materials Chemistry C, 2018, 6, 11078-11085.	5.5	24
68	Transparent origami glass. Nature Communications, 2021, 12, 4261.	12.8	24
69	Macroscopic assembled graphene nanofilms based room temperature ultrafast midâ€infrared photodetectors. InformaÅnÃ-MateriÃ¡ly, 2022, 4, .	17.3	24
70	Single-electron transport in graphene-like nanostructures. Physics Reports, 2017, 669, 1-42.	25.6	22
71	Identifying the stacking order of multilayer graphene grown by chemical vapor deposition via Raman spectroscopy. Journal of Raman Spectroscopy, 2018, 49, 46-53.	2.5	22
72	Development of flexible ZnO thin film surface acoustic wave strain sensors on ultrathin glass substrates. Journal of Micromechanics and Microengineering, 2015, 25, 115005.	2.6	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.	14.6	21
74	Illuminationâ€Induced Hole Doping for Performance Improvement of Graphene/nâ€Silicon Solar Cells with P3HT Interlayer. Advanced Electronic Materials, 2017, 3, 1600516.	5.1	20
75	Interference coordination strategy based on Nash bargaining for smallâ€cell networks. IET Communications, 2015, 9, 1583-1590.	2.2	19
76	All-Two-Dimensional-Material Hot Electron Transistor. IEEE Electron Device Letters, 2018, 39, 634-637.	3.9	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.	4.3	18
79	Onâ€Chip Measurement of Photoluminescence with High Sensitivity Monolithic Spectrometer. Advanced Optical Materials, 2020, 8, 2000191.	7.3	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.	10.3	17
81	Multiscale electrostatic analysis of silicon nanoelectromechanical systems (NEMS) via heterogeneous quantum models. Physical Review B, 2008, 77, .	3.2	15
82	Hybrid Structure of Silicon Nanocrystals and 2D WSe<inf>2</inf> 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.	3.9	15
84	Carbon nanotube screening effects on the water-ion channels. Applied Physics Letters, 2008, 93, 43122.	3.3	14
85	Light-induced negative differential resistance in gate-controlled graphene-silicon photodiode. Applied Physics Letters, 2018, 112, .	3.3	14
86	Micron-Scale Photodetectors Based on One-Dimensional Single-Crystalline Sb2â€“xSnxSe3 Microrods: Simultaneously Improving Responsivity and Extending Spectral Response Region. Journal of Physical Chemistry C, 2019, 123, 810-816.	3.1	14
87	Layered insulator hexagonal boron nitride for surface passivation in quantum dot solar cell. Applied Physics Letters, 2013, 103, .	3.3	13
88	Graphene light-field camera. Nature Photonics, 2020, 14, 134-136.	31.4	13
89	Silicon-graphene photonic devices. Journal of Semiconductors, 2018, 39, 061009.	3.7	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:ab initiodensity functional calculation. Nanotechnology, 2011, 22, 365202.	2.6	10
92	Logic Inverter Implemented with CVD-Assembled Graphene FET on Hexagonal Boron Nitride. IEEE Nanotechnology Magazine, 2012, 11, 619-623.	2.0	10
93	Adaptive biasing scheme for load balancing in backhaul constrained small cell networks. IET Communications, 2015, 9, 999-1005.	2.2	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. IEEE Nanotechnology Magazine, 2022, 21, 307-310.	2.0	9
96	Flexible and Transparent Surface Acoustic Wave Microsensors and Microfluidics. Procedia Engineering, 2015, 120, 717-720.	1.2	8
97	Pull-in/out analysis of nano/microelectromechanical switches with defective oxide layers. Applied Physics Letters, 2009, 95, 073112.	3.3	7
98	A novel fabrication method of silicon nano-needles using MEMS TMAH etching techniques. Nanotechnology, 2011, 22, 125301.	2.6	7
99	Visibleâ€NIR Photodetectors Based on Lowâ€Dimensional GeSe Microâ€Crystals: Designed Morphology and Improved Photoresponsivity. ChemPhysChem, 2020, 21, 397-405.	2.1	7
100	Combined semiclassical and effective-mass SchrÃ¶dinger approach for multiscale analysis of semiconductor nanostructures. Physical Review B, 2007, 76, .	3.2	6
101	Detection of defective DNA in carbon nanotubes by combined molecular dynamics/tight-binding technique. Applied Physics Letters, 2009, 95, 113116.	3.3	6
102	Electronic transport anisotropy of buckling graphene under uniaxial compressive strain: Ab initio study. Applied Physics Letters, 2012, 100, .	3.3	6
103	Reconfigurable Parallel Plasmonic Transmission Lines With Nanometer Light Localization and Long Propagation Distance. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 4601809-4601809.	2.9	6
104	Macroscopic-Assembled-Graphene Nanofilms/Germanium Broadband Photodetectors. , 2021, , .		6
105	Quantum-squeezing effects of strained multilayer graphene NEMS. Nanoscale Research Letters, 2011, 6, 355.	5.7	5
106	Fluorinated graphene and hexagonal boron nitride as ALD seed layers for graphene-based van der Waals heterostructures. Nanotechnology, 2014, 25, 355202.	2.6	5
107	Ab initioelectronic transport study of two-dimensional silicon carbide-based pâ€“n junctions. Journal of Semiconductors, 2017, 38, 033002.	3.7	5
108	Optical sensors: deciphering plant phenomics in breeding factories. Trends in Plant Science, 2022, 27, 209-210.	8.8	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.	2.1	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 Sb₂Se₃ Crystals. Journal of Physical Chemistry C, 2022, 126, 8913-8921.	3.1	3
115	Quantum and thermo-mechanical noise squeezing in nanoresonators: A comparative study. Applied Physics Letters, 2012, 100, .	3.3	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, .	5.8	2
118	<scp>UV</scp> curable microâ€structured shape memory epoxy with tunable performance. Journal of Applied Polymer Science, 2021, 138, 51319.	2.6	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, .	21.0	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.	6.0	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, , .	0.4	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.	8.2	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