Sheng Wang

List of Publications by Year
in descending order

110 papers	5,200 citations	87888 38 h-index	91884 69 g-index
113 all docs	113 docs citations	113 times ranked	5803 citing authors

#	Article	IF	Citations
1	Doping-Free Fabrication of Carbon Nanotube Based Ballistic CMOS Devices and Circuits. Nano Letters, 2007, 7, 3603-3607.	9.1	319
2	Carbon nanotube electronics: recent advances. Materials Today, 2014, 17, 433-442.	14.2	267
3	Rational design of a binary metal alloy for chemical vapour deposition growth of uniform single-layer graphene. Nature Communications, 2011, 2, 522.	12.8	223
4	Self-Retracting Motion of Graphite Microflakes. Physical Review Letters, 2008, 100, 067205.	7.8	193
5	Self-Aligned Ballistic n-Type Single-Walled Carbon Nanotube Field-Effect Transistors with Adjustable Threshold Voltage. Nano Letters, 2008, 8, 3696-3701.	9.1	154
6	Y-Contacted High-Performance n-Type Single-Walled Carbon Nanotube Field-Effect Transistors: Scaling and Comparison with Sc-Contacted Devices. Nano Letters, 2009, 9, 4209-4214.	9.1	150
7	CMOS-based carbon nanotube pass-transistor logic integrated circuits. Nature Communications, 2012, 3, 677.	12.8	145
8	Growth and Performance of Yttrium Oxide as an Ideal High-Î¹ Gate Dielectric for Carbon-Based Electronics. Nano Letters, 2010, 10, 2024-2030.	9.1	137
9	Efficient photovoltage multiplication in carbon nanotubes. Nature Photonics, 2011, 5, 672-676.	31.4	133
10	Quantum Capacitance Limited Vertical Scaling of Graphene Field-Effect Transistor. ACS Nano, 2011, 5, 2340-2347.	14.6	128
11	Optical and Electrical Performance of SnO₂ Capped ZnO Nanowire Arrays. Nano Letters, 2007, 7, 3559-3563.	9.1	113
12	A high-performance top-gate graphene field-effect transistor based frequency doubler. Applied Physics Letters, 2010, 96, .	3.3	113
13	High-performance photodetectors for visible and near-infrared lights based on individual WS2 nanotubes. Applied Physics Letters, 2012, 100, .	3.3	111
14	Almost Perfectly Symmetric SWCNT-Based CMOS Devices and Scaling. ACS Nano, 2009, 3, 3781-3787.	14.6	100
15	Top-Gated Graphene Field-Effect Transistors with High Normalized Transconductance and Designable Dirac Point Voltage. ACS Nano, 2011, 5, 5031-5037.	14.6	96
16	Carbon nanotube arrays based high-performance infrared photodetector [Invited]. Optical Materials Express, 2012, 2, 839.	3.0	93
17	Carbon Nanotube Photoelectronic and Photovoltaic Devices and their Applications in Infrared Detection. Small, 2013, 9, 1225-1236.	10.0	92
18	High-Performance Carbon Nanotube Light-Emitting Diodes with Asymmetric Contacts. Nano Letters, 2011, 11, 23-29.	9.1	91

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19	Room Temperature Broadband Infrared Carbon Nanotube Photodetector with High Detectivity and Stability. Advanced Optical Materials, 2016, 4, 238-245.	7.3	90
20	Brightening up Circularly Polarized Luminescence of Monosubstituted Polyacetylene by Conformation Control: Mechanism, Switching, and Sensing. Angewandte Chemie - International Edition, 2021, 60, 21918-21926.	13.8	82
21	Growth of Semiconducting Single-Walled Carbon Nanotubes by Using Ceria as Catalyst Supports. Nano Letters, 2014, 14, 512-517.	9.1	80
22	Establishing Ohmic contacts forin situcurrentâ€“voltage characteristic measurements on a carbon nanotube inside the scanning electron microscope. Nanotechnology, 2006, 17, 1087-1098.	2.6	79
23	High-mobility graphene on liquid p-block elements by ultra-low-loss CVD growth. Scientific Reports, 2013, 3, 2670.	3.3	75
24	Batch-fabricated high-performance graphene Hall elements. Scientific Reports, 2013, 3, 1207.	3.3	72
25	Near-Infrared Electrochromic and Electroluminescent Polymers Containing Pendant Ruthenium Complex Groups. Macromolecules, 2006, 39, 7502-7507.	4.8	67
26	High-performance n-type carbon nanotube field-effect transistors with estimated sub-10-ps gate delay. Applied Physics Letters, 2008, 92, 133117.	3.3	67
27	A Dopingâ€Free Carbon Nanotube CMOS Inverterâ€Based Bipolar Diode and Ambipolar Transistor. Advanced Materials, 2008, 20, 3258-3262.	21.0	66
28	Conformation Shift Switches the Chiral Amplification of Helical Copoly(phenylacetylene)s from Abnormal to Normal â€œSergeants-and-Soldiersâ€•Effect. Macromolecules, 2017, 50, 4610-4615.	4.8	63
29	Switching Vertical to Horizontal Graphene Growth Using Faraday Cageâ€Assisted PECVD Approach for Highâ€Performance Transparent Heating Device. Advanced Materials, 2018, 30, 1704839.	21.0	62
30	Carbon nanotube based ultra-low voltage integrated circuits: Scaling down to 0.4â€‰V. Applied Physics Letters, 2012, 100, 263116.	3.3	61
31	Reversible Cis-Cisoid to Cis-Transoid Helical Structure Transition in Poly(3,5-disubstituted phenylacetylene)s. Macromolecules, 2016, 49, 8407-8417.	4.8	59
32	Carbon nanotube-based three-dimensional monolithic optoelectronic integrated system. Nature Communications, 2017, 8, 15649.	12.8	57
33	Allosteryâ€Mimicking Selfâ€assembly of Helical Poly(phenylacetylene) Block Copolymers and the Chirality Transfer. Angewandte Chemie - International Edition, 2021, 60, 9686-9692.	13.8	51
34	Field-Effect Characteristics and Screening in Double-Walled Carbon Nanotube Field-Effect Transistors. Journal of Physical Chemistry B, 2005, 109, 17361-17365.	2.6	50
35	Electronic transport in single-walled carbon nanotube/graphene junction. Applied Physics Letters, 2011, 99, .	3.3	48
36	Photovoltaic Effects in Asymmetrically Contacted CNT Barrier-Free Bipolar Diode. Journal of Physical Chemistry C, 2009, 113, 6891-6893.	3.1	45

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37	Helicity-dependent single-walled carbon nanotube alignment on graphite for helical angle and handedness recognition. Nature Communications, 2013, 4, 2205.	12.8	45
38	Electrical transport properties of individual WS2 nanotubes and their dependence on water and oxygen absorption. Applied Physics Letters, 2012, 101, .	3.3	42
39	Photodetector based on heterostructure of two-dimensional WSe₂/In₂Se₃. Nanotechnology, 2020, 31, 065203.	2.6	41
40	Polymerization-Induced Self-Assembly of Conjugated Block Copoly(phenylacetylene)s. Macromolecules, 2020, 53, 1638-1644.	4.8	41
41	Large Signal Operation of Small Band-Gap Carbon Nanotube-Based Ambipolar Transistor: A High-Performance Frequency Doubler. Nano Letters, 2010, 10, 3648-3655.	9.1	36
42	Microcavity-Integrated Carbon Nanotube Photodetectors. ACS Nano, 2016, 10, 6963-6971.	14.6	36
43	Plasmonic enhancement of photocurrent in carbon nanotube by Au nanoparticles. Applied Physics Letters, 2013, 102, .	3.3	34
44	Electrically driven monolithic subwavelength plasmonic interconnect circuits. Science Advances, 2017, 3, e1701456.	10.3	34
45	Cis-Cisoid Helical Structures of Poly(3,5-disubstituted phenylacetylene)s Stabilized by Intramolecular n â†' Ï€* Interactions. Macromolecules, 2018, 51, 1251-1259.	4.8	34
46	Selfâ€Reporting Activated Esterâ€Amine Reaction for Enantioselective Multiâ€Channel Visual Detection of Chiral Amines. Angewandte Chemie - International Edition, 2022, 61, .	13.8	34
47	Self-Aligned U-Gate Carbon Nanotube Field-Effect Transistor with Extremely Small Parasitic Capacitance and Drain-Induced Barrier Lowering. ACS Nano, 2011, 5, 2512-2519.	14.6	32
48	Contact length scaling in graphene field-effect transistors. Applied Physics Letters, 2012, 100, 103501.	3.3	32
49	Acoustic-assisted assembly of an individual monochromatic ultralong carbon nanotube for high on-current transistors. Science Advances, 2016, 2, e1601572.	10.3	32
50	Towards Entireâ€Carbonâ€Nanotube Circuits: The Fabrication of Singleâ€Walledâ€Carbonâ€Nanotube Fieldâ€Effect Transistors with Local Multiwalledâ€Carbonâ€Nanotube Interconnects. Advanced Materials, 2009, 21, 1339-1343.	21.0	31
51	Surface modification effect on photoluminescence of individual ZnO nanorods with different diameters. Nanoscale, 2013, 5, 4443.	5.6	30
52	Scalable Fabrication of Ambipolar Transistors and Radioâ€Frequency Circuits Using Aligned Carbon Nanotube Arrays. Advanced Materials, 2014, 26, 645-652.	21.0	30
53	Silicon-Waveguide-Integrated Carbon Nanotube Optoelectronic System on a Single Chip. ACS Nano, 2020, 14, 7191-7199.	14.6	30
54	Carbon nanotube light sensors with linear dynamic range of over 120â€‰dB. Applied Physics Letters, 2014, 105, .	3.3	29

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55	Modularized Construction of General Integrated Circuits on Individual Carbon Nanotubes. Nano Letters, 2014, 14, 3102-3109.	9.1	28
56	Breakdown of Richardson's Law in Electron Emission from Individual Self-Joule-Heated Carbon Nanotubes. Scientific Reports, 2014, 4, 5102.	3.3	28
57	Toward Highâ€Performance Carbon Nanotube Photovoltaic Devices. Advanced Energy Materials, 2016, 6, 1600522.	19.5	28
58	Plasmonic Enhanced Performance of an Infrared Detector Based on Carbon Nanotube Films. ACS Applied Materials & Interfaces, 2017, 9, 12743-12749.	8.0	28
59	Branched Anion-Conducting Poly(arylene alkylene)s for Alkaline Membrane Fuel Cells. ACS Applied Energy Materials, 2022, 5, 2462-2473.	5.1	27
60	Improving the Performance and Uniformity of Carbon-Nanotube-Network-Based Photodiodes via Yttrium Oxide Coating and Decoating. ACS Applied Materials & Interfaces, 2019, 11, 11736-11742.	8.0	26
61	A doping-free approach to carbon nanotube electronics and optoelectronics. AIP Advances, 2012, 2, .	1.3	25
62	Length Scaling of Carbon Nanotube Electric and Photo Diodes down to Sub-50 nm. Nano Letters, 2014, 14, 5382-5389.	9.1	25
63	Controllable Sliding Transfer of Waferâ€Size Graphene. Advanced Science, 2016, 3, 1600006.	11.2	25
64	Temperature Performance of Dopingâ€Free Topâ€Gate CNT Fieldâ€Effect Transistors: Potential for Lowâ€and Highâ€Temperature Electronics. Advanced Functional Materials, 2011, 21, 1843-1849.	14.9	24
65	Amphiphilic Rodâ€“Rod Block Copolymers Based on Phenylacetylene and 3,5-Disubstituted Phenylacetylene: Synthesis, Helical Conformation, and Self-Assembly. Macromolecules, 2018, 51, 7500-7508.	4.8	24
66	Doping-free carbon nanotube optoelectronic devices. Science Bulletin, 2012, 57, 149-156.	1.7	23
67	High Conversion Efficiency Carbon Nanotube-Based Barrier-Free Bipolar-Diode Photodetector. ACS Nano, 2016, 10, 9595-9601.	14.6	23
68	Ultrahigh secondary electron emission of carbon nanotubes. Applied Physics Letters, 2010, 96, .	3.3	22
69	Carbon Nanotube Field-Effect Transistors for Use as Pass Transistors in Integrated Logic Gates and Full Subtractor Circuits. ACS Nano, 2012, 6, 4013-4019.	14.6	22
70	Fabrication of high performance top-gate complementary inverter using a single carbon nanotube and via a simple process. Applied Physics Letters, 2007, 90, 223116.	3.3	21
71	Solid state carbon nanotube device for controllable trion electroluminescence emission. Nanoscale, 2016, 8, 6761-6769.	5.6	20
72	Brightening up Circularly Polarized Luminescence of Monosubstituted Polyacetylene by Conformation Control: Mechanism, Switching, and Sensing. Angewandte Chemie, 2021, 133, 22089-22097.	2.0	20

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73	Flexible Light-Emitting Devices Based on Chirality-Sorted Semiconducting Carbon Nanotube Films. ACS Applied Materials & Interfaces, 2015, 7, 3462-3467.	8.0	19
74	Room temperature infrared imaging sensors based on highly purified semiconducting carbon nanotubes. Nanoscale, 2015, 7, 6805-6812.	5.6	16
75	Structure and optical properties of individual hierarchical ZnS nanobelt/ZnO nanorod heterostructures. CrystEngComm, 2011, 13, 6774.	2.6	14
76	High-performance doping-free carbon-nanotube-based CMOS devices and integrated circuits. Science Bulletin, 2012, 57, 135-148.	1.7	14
77	Microcavity-Controlled Chirality-Sorted Carbon Nanotube Film Infrared Light Emitters. ACS Photonics, 2017, 4, 435-442.	6.6	14
78	Planar-to-Axial Chirality Transfer in the Polymerization of Phenylacetylenes. ACS Macro Letters, 2017, 6, 205-209.	4.8	14
79	Carbon nanotube as the core of conical carbon fiber: fabrication, characterization and field emission property. Applied Physics A: Materials Science and Processing, 2006, 86, 171-175.	2.3	13
80	Electroluminescence from Serpentine Carbon Nanotube Based Lightâ€Emitting Diodes on Quartz. Small, 2014, 10, 1050-1056.	10.0	13
81	Doping-free fabrication of carbon nanotube thin-film diodes and their photovoltaic characteristics. Nano Research, 2012, 5, 33-42.	10.4	12
82	Carbon Nanotube Based Multifunctional Ambipolar Transistors for AC Applications. Advanced Functional Materials, 2013, 23, 446-450.	14.9	11
83	Contact-dominated transport in carbon nanotube thin films: toward large-scale fabrication of high performance photovoltaic devices. Nanoscale, 2016, 8, 17122-17130.	5.6	11
84	Field-effect at electrical contacts to two-dimensional materials. Nano Research, 2021, 14, 4894-4900.	10.4	11
85	Asymmetric Light Excitation for Photodetectors Based on Nanoscale Semiconductors. ACS Nano, 2017, 11, 549-557.	14.6	10
86	Allosteryâ€Mimicking Selfâ€assembly of Helical Poly(phenylacetylene) Block Copolymers and the Chirality Transfer. Angewandte Chemie, 2021, 133, 9772-9778.	2.0	10
87	Hf-Contacted High-Performance Air-Stable n-Type Carbon Nanotube Transistors. ACS Applied Electronic Materials, 2021, 3, 4623-4629.	4.3	10
88	Selfâ€Reporting Activated Esterâ€Amine Reaction for Enantioselective Multiâ€Channel Visual Detection of Chiral Amines. Angewandte Chemie, 0, , .	2.0	10
89	A Comparative Study on SWCNT and DWCNT Field-Effect Transistors. Journal of Nanoscience and Nanotechnology, 2007, 7, 1568-1572.	0.9	9
90	High-field electrical transport and breakdown behavior of double-walled carbon nanotube field-effect transistors. Carbon, 2007, 45, 760-765.	10.3	9

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91	Channel-Length-Dependent Transport and Photovoltaic Characteristics of Carbon-Nanotube-Based, Barrier-Free Bipolar Diode. ACS Applied Materials & Interfaces, 2012, 4, 1154-1157.	8.0	9
92	On-chip polarized light emitters based on (6,5) chirality-sorted carbon nanotube aligned arrays. Applied Physics Letters, 2016, 108, .	3.3	9
93	Plasmonâ€Induced Enhancement of Infrared Detection Using a Carbon Nanotube Diode. Advanced Optical Materials, 2017, 5, 1600865.	7.3	9
94	Doublet Chirality Transfer and Reversible Helical Transition in Poly(3,5â€disubstituted) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 627 Td (phe 570-576.	4.9	9
95	Measuring the electrical characteristics of individual junctions in the SnO2 capped ZnO nanowire arrays on Zn substrate. Applied Physics Letters, 2008, 92, 033102.	3.3	8
96	Tunable Cis-cisoid Helical Conformation of Poly(3,5-disubstibuted phenylacetylene)s Stabilized by nâ†'Ï€* Interaction. Chinese Journal of Polymer Science (English Edition), 2020, 38, 685-695.	3.8	8
97	Hysteresis-free HfO2 film grown by atomic layer deposition at low temperature. Thin Solid Films, 2011, 519, 7723-7726.	1.8	6
98	Nanoscale color sensors made on semiconducting multi-wall carbon nanotubes. Nano Research, 2016, 9, 1470-1479.	10.4	6
99	Emission Red Shift and Temperature Increase in Electrically Powered ZnO Nanowires. Journal of Physical Chemistry C, 2011, 115, 8283-8287.	3.1	5
100	Performance improvement induced by asymmetric Y2O3-coated device structure to carbon-nanotube-film based photodetectors. Applied Physics Letters, 2017, 111, .	3.3	5
101	Carbon nanotube-based photovoltaic receiver with open-circuit voltage larger than 10â€V. Nano Energy, 2019, 57, 241-247.	16.0	4
102	Formation energetics of n-member rings at the end of small zigzag carbon nanotubes. Chemical Physics Letters, 2002, 358, 103-109.	2.6	2
103	Photodetectors: Room Temperature Broadband Infrared Carbon Nanotube Photodetector with High Detectivity and Stability (Advanced Optical Materials 2/2016). Advanced Optical Materials, 2016, 4, 188-188.	7.3	2
104	Direct observation of substrate induced exciton in carbon nanotube. Applied Physics Letters, 2013, 103, .	3.3	1
105	High-mobility graphene on liquid p-block elements by ultra-low-loss CVD growth. , 0, .		1
106	Wetting and Contact Properties Studied Using the Nanoprobe System. Materials Science Forum, 2005, 475-479, 4081-4084.	0.3	0
107	Conical Carbon Fibers with Carbon Nanotubes as Their Cores: Fabrication, Characterization and Field Emission. , 2006, , .		0
108	Photoelectric Characteristics of Self-Assembled Semiconducting Carbon Nanotube Thin Films. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2014, 30, 1377-1383.	4.9	0

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109	Photovoltaic Devices: Toward High-Performance Carbon Nanotube Photovoltaic Devices (Adv. Energy) Tj ETQq1 1 0.784314 rgBT /Ov	19.5	0
110	Electrostatics and quantum efficiency simulations of asymmetrically contacted carbon nanotube photodetector. AIP Advances, 2017, 7, 105111.	1.3	0