Xianlong Wei

List of Publications by Year
in descending order

84 papers	3,466 citations	147801 31 h-index	138484 58 g-index
84 all docs	84 docs citations	84 times ranked	5423 citing authors

#	ARTICLE	IF	CITATIONS
1	â€œWhite Graphenesâ€: Boron Nitride Nanoribbons via Boron Nitride Nanotube Unwrapping. Nano Letters, 2010, 10, 5049-5055.	9.1	723
2	Electron-Beam-Induced Substitutional Carbon Doping of Boron Nitride Nanosheets, Nanoribbons, and Nanotubes. ACS Nano, 2011, 5, 2916-2922.	14.6	254
3	Superlubricity between MoS₂ Monolayers. Advanced Materials, 2017, 29, 1701474.	21.0	220
4	Charge trapping at the MoS2-SiO2 interface and its effects on the characteristics of MoS2 metal-oxide-semiconductor field effect transistors. Applied Physics Letters, 2015, 106, .	3.3	201
5	Tensile Tests on Individual Multiâ€Walled Boron Nitride Nanotubes. Advanced Materials, 2010, 22, 4895-4899.	21.0	154
6	Mechanical Properties of Si Nanowires as Revealed by in Situ Transmission Electron Microscopy and Molecular Dynamics Simulations. Nano Letters, 2012, 12, 1898-1904.	9.1	151
7	The intrinsic origin of hysteresis in MoS₂field effect transistors. Nanoscale, 2016, 8, 3049-3056.	5.6	124
8	New Insight in Understanding Oxygen Reduction and Evolution in Solid-State Lithiumâ€"Oxygen Batteries Using an in Situ Environmental Scanning Electron Microscope. Nano Letters, 2014, 14, 4245-4249.	9.1	104
9	Post-Synthesis Carbon Doping of Individual Multiwalled Boron Nitride Nanotubes via Electron-Beam Irradiation. Journal of the American Chemical Society, 2010, 132, 13592-13593.	13.7	82
10	Study on the Resistance Distribution at the Contact between Molybdenum Disulfide and Metals. ACS Nano, 2014, 8, 7771-7779.	14.6	80
11	Mechanical Properties of 2D Materials Studied by In Situ Microscopy Techniques. Advanced Materials Interfaces, 2018, 5, 1701246.	3.7	71
12	Comparative Fracture Toughness of Multilayer Graphenes and Boronitrenes. Nano Letters, 2015, 15, 689-694.	9.1	68
13	Mechanical Properties of Bamboo-like Boron Nitride Nanotubes by <i>In Situ</i> TEM and MD Simulations: Strengthening Effect of Interlocked Joint Interfaces. ACS Nano, 2011, 5, 7362-7368.	14.6	63
14	Remarkable and Crystalâ€Structureâ€Dependent Piezoelectric and Piezoresistive Effects of InAs Nanowires. Advanced Materials, 2015, 27, 2852-2858.	21.0	56
15	Tunable graphene micro-emitters with fast temporal response and controllable electron emission. Nature Communications, 2016, 7, 11513.	12.8	48
16	Tensile Loading of Double-Walled and Triple-Walled Carbon Nanotubes and their Mechanical Properties. Journal of Physical Chemistry C, 2009, 113, 17002-17005.	3.1	47
17	1D Piezoelectric Material Based Nanogenerators: Methods, Materials and Property Optimization. Nanomaterials, 2018, 8, 188.	4.1	46
18	Nanomaterial Engineering and Property Studies in a Transmission Electron Microscope. Advanced Materials, 2012, 24, 177-194.	21.0	43

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19	Beam to String Transition of Vibrating Carbon Nanotubes Under Axial Tension. Advanced Functional Materials, 2009, 19, 1753-1758.	14.9	41
20	Electron Emission from Individual Graphene Nanoribbons Driven by Internal Electric Field. ACS Nano, 2012, 6, 705-711.	14.6	41
21	Deterministic Line-Shape Programming of Silicon Nanowires for Extremely Stretchable Springs and Electronics. Nano Letters, 2017, 17, 7638-7646.	9.1	41
22	Phonon-Assisted Electron Emission from Individual Carbon Nanotubes. Nano Letters, 2011, 11, 734-739.	9.1	40
23	Revealing the Anomalous Tensile Properties of WS₂ Nanotubes by in Situ Transmission Electron Microscopy. Nano Letters, 2013, 13, 1034-1040.	9.1	40
24	A Grapheneâ€Based Vacuum Transistor with a High ON/OFF Current Ratio. Advanced Functional Materials, 2015, 25, 5972-5978.	14.9	40
25	In situ measurements on individual thin carbon nanotubes using nanomanipulators inside a scanning electron microscope. Ultramicroscopy, 2010, 110, 182-189.	1.9	39
26	Local Coulomb Explosion of Boron Nitride Nanotubes under Electron Beam Irradiation. ACS Nano, 2013, 7, 3491-3497.	14.6	38
27	Crystal Phase- and Orientation-Dependent Electrical Transport Properties of InAs Nanowires. Nano Letters, 2016, 16, 2478-2484.	9.1	38
28	2D Materials: Superlubricity between MoS₂ Monolayers (Adv. Mater. 27/2017). Advanced Materials, 2017, 29, .	21.0	38
29	Inâ€Plane Selfâ€Turning and Twin Dynamics Renders Large Stretchability to Monoâ€Like Zigzag Silicon Nanowire Springs. Advanced Functional Materials, 2016, 26, 5352-5359.	14.9	34
30	Cutting and sharpening carbon nanotubes using a carbon nanotube â€˜nanoknifeâ€™. Nanotechnology, 2007, 18, 185503.	2.6	33
31	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
32	Breakdown of Richardson's Law in Electron Emission from Individual Self-Joule-Heated Carbon Nanotubes. Scientific Reports, 2014, 4, 5102.	3.3	28
33	Constant-rate dissolution of InAs nanowires in radiolytic water observed by <i>in situ</i> liquid cell TEM. Nanoscale, 2018, 10, 19733-19741.	5.6	28
34	Recent Advances in Boron Nitride Nanotubes and Nanosheets. Israel Journal of Chemistry, 2010, 50, 405-416.	2.3	24
35	Electron emission from a two-dimensional crystal with atomic thickness. AIP Advances, 2013, 3, .	1.3	23
36	Interlayer Binding Energy of Hexagonal MoS2 as Determined by an In Situ Peeling-to-Fracture Method. Journal of Physical Chemistry C, 2020, 124, 23419-23425.	3.1	23

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37	Ultrafast and reversible electrochemical lithiation of InAs nanowires observed by in-situ transmission electron microscopy. Nano Energy, 2016, 20, 194-201.	16.0	19
38	Edgeâ€Statesâ€Induced Disruption to the Energy Band Alignment at Thicknessâ€Modulated Molybdenum Sulfide Junctions. Advanced Electronic Materials, 2016, 2, 1600048.	5.1	18
39	Direct Observation of the Layer-by-Layer Growth of ZnO Nanopillar by In situ High Resolution Transmission Electron Microscopy. Scientific Reports, 2017, 7, 40911.	3.3	17
40	Simultaneous Electrical and Thermoelectric Parameter Retrieval via Two Terminal Currentâ€"Voltage Measurements on Individual ZnO Nanowires. Advanced Functional Materials, 2011, 21, 3900-3906.	14.9	16
41	A High-Efficiency Electron-Emitting Diode Based on Horizontal Tunneling Junction. IEEE Electron Device Letters, 2019, 40, 1201-1204.	3.9	16
42	Local temperature measurements on nanoscale materials using a movable nanothermocouple assembled in a transmission electron microscope. Nanotechnology, 2011, 22, 485707.	2.6	15
43	Silicon Oxide Electronâ€Emitting Nanodiodes. Advanced Electronic Materials, 2018, 4, 1800136.	5.1	15
44	Crystallographic-orientation dependent Li ion migration and reactions in layered MoSe ₂. 2D Materials, 2019, 6, 035027.	4.4	13
45	Amorphization and Directional Crystallization of Metals Confined in Carbon Nanotubes Investigated by in Situ Transmission Electron Microscopy. Nano Letters, 2015, 15, 4922-4927.	9.1	12
46	Single-walled carbon nanotube thermionic electron emitters with dense, efficient and reproducible electron emission. Nanoscale, 2017, 9, 17814-17820.	5.6	12
47	Remarkable influence of slack on the vibration of a single-walled carbon nanotube resonator. Nanoscale, 2016, 8, 8658-8665.	5.6	11
48	Tunable resonant frequencies for determining Youngâ€™s moduli of nanowires. Journal of Applied Physics, 2009, 105, .	2.5	10
49	On-Chip Thermionic Electron Emitter Arrays Based on Horizontally Aligned Single-Walled Carbon Nanotubes. IEEE Transactions on Electron Devices, 2019, 66, 1069-1074.	3.0	10
50	Highâ€Performance Onâ€Chip Electron Sources Based on Electroformed Silicon Oxide. Advanced Electronic Materials, 2020, 6, 2000268.	5.1	10
51	Polar-surface-driven growth of ZnS microsprings with novel optoelectronic properties. NPG Asia Materials, 2015, 7, e213-e213.	7.9	9
52	Configurable multifunctional integrated circuits based on carbon nanotube dual-material gate devices. Nanoscale, 2018, 10, 21857-21864.	5.6	9
53	Transmission electron microscope as an ultimate tool for nanomaterial property studies. Microscopy (Oxford, England), 2013, 62, 157-175.	1.5	8
54	Interlayer electrical resistivity of rotated graphene layers studied by in-situ scanning electron microscopy. Ultramicroscopy, 2018, 193, 90-96.	1.9	8

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55	Highâ€Performance Onâ€Chip Thermionic Electron Microâ€Emitter Arrays Based on Superâ€Aligned Carbon Nanotube Films. Advanced Functional Materials, 2020, 30, 1907814.	14.9	8
56	Controlling the Facet of ZnO during Wet Chemical Etching Its (0001Â¯) Oâ€Terminated Surface. Small, 2020, 16, e1906435.	10.0	8
57	Influence of water vapor on the electronic property of MoS₂ field effect transistors. Nanotechnology, 2017, 28, 204003.	2.6	7
58	Thermionic electron emission from single carbon nanostructures and its applications in vacuum nanoelectronics. MRS Bulletin, 2017, 42, 493-499.	3.5	7
59	Efficient and Dense Electron Emission from a SiO₂ Tunneling Diode with Low Poisoning Sensitivity. Nano Letters, 2022, 22, 1270-1277.	9.1	7
60	Strength analysis of clamping in micro/nano scale experiments. Acta Mechanica Solida Sinica, 2009, 22, 584-592.	1.9	5
61	Pressure Sensitivity of Electron Emission from SiO_x Tunneling Diodes and their Outstanding Emission Performance under Rough Vacuum. Advanced Electronic Materials, 2022, 8, .	5.1	5
62	SiO_x Tunneling Diode Arrays With Uniform Electron Emission. IEEE Electron Device Letters, 2022, 43, 1339-1342.	3.9	5
63	Directly correlating the strain-induced electronic property change to the chirality of individual single-walled and few-walled carbon nanotubes. Nanoscale, 2015, 7, 13116-13124.	5.6	4
64	Controlling the Growth of Single Nanowires in a Nanowire Forest for near-Infrared Photodetection. ACS Applied Nano Materials, 2018, 1, 3035-3041.	5.0	4
65	A Cascade Electron Source Based on Series Horizontal Tunneling Junctions. IEEE Transactions on Electron Devices, 2021, 68, 818-821.	3.0	4
66	Performance Enhancement of Photoconductive Antenna Using Saw-Toothed Plasmonic Contact Electrodes. Electronics (Switzerland), 2021, 10, 2693.	3.1	4
67	Whole-journey nanomaterial research in an electron microscope: from material synthesis, composition characterization, property measurements to device construction and tests. Nanotechnology, 2016, 27, 485710.	2.6	3
68	Wafer-Scale Fabricated On-Chip Thermionic Electron Sources With an Integrated Extraction Gate. IEEE Transactions on Electron Devices, 2020, 67, 5132-5137.	3.0	3
69	A Miniature Ionization Vacuum Sensor With a SiOâ‚“-Based Tunneling Electron Source. IEEE Transactions on Electron Devices, 2021, 68, 5127-5132.	3.0	3
70	In-situ environmental scanning electron microscopy for probing the properties of advanced energy materials. International Journal of Nanomanufacturing, 2016, 12, 264.	0.3	2
71	A New Emission Mechanism for Island-Metal-Film-Based Electron Sources. IEEE Transactions on Electron Devices, 2020, 67, 5119-5124.	3.0	1
72	Choice of Si doping type for optimizing the performances of a SiOx-based tunneling electron source fabricated on SiOx/Si substrate. Nano Express, 2020, 1, 030019.	2.4	1

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73	A Vacuum Transistor Based on Field-Assisted Thermionic Emission from a Multiwalled Carbon Nanotube. Electronics (Switzerland), 2022, 11, 399.	3.1	1
74	On-Chip Electron Sources Based on Horizontal Tunneling Junction. , 2021, , .		1
75	Abnormal electron emission from individual self-joule-heated carbon nanotubes. , 2015, , .		0
76	Graphene-based micro-emitters and vacuum transistors. , 2016, , .		0
77	Fieldâ€Effect Transistors: Edgeâ€Statesâ€Induced Disruption to the Energy Band Alignment at Thicknessâ€Modulated Molybdenum Sulfide Junctions (Adv. Electron. Mater. 8/2016). Advanced Electronic Materials, 2016, 2, .	5.1	0
78	Periodic pulsed electron emission from single hot carbon nanotubes. , 2017, , .		0
79	On-Chip Thermionic Electron Emitter Based on Single-Walled Carbon Nanotube. , 2018, , .		0
80	Wet Etching: Controlling the Facet of ZnO during Wet Chemical Etching Its (0001Â¯) Oâ€Terminated Surface (Small 14/2020). Small, 2020, 16, 2070076.	10.0	0
81	Cascade Electron Source Based on Horizontal Tunneling Junction. , 2021, , .		0
82	Highly Efficient Horizontal Tunnel Diode Electron Sources. , 2020, , .		0
83	Silicon Oxide Based on-Chip Electron Sources. , 2020, , .		0
84	On-Chip Thermionic Electron Sources Based on Graphene and Carbon Nanotubes. , 2020, , .		0