Po-Wen Chiu

List of Publications by Year
in descending order

105 papers	6,858 citations	66234 42 h-index	58464 82 g-index
105 all docs	105 docs citations	105 times ranked	11155 citing authors

#	Article	IF	Citations
1	Graphene Annealing: How Clean Can It Be?. Nano Letters, 2012, 12, 414-419.	4.5	801
2	Controllable graphene N-doping with ammonia plasma. Applied Physics Letters, 2010, 96, .	1.5	446
3	Single-Layer ReS₂: Two-Dimensional Semiconductor with Tunable In-Plane Anisotropy. ACS Nano, 2015, 9, 11249-11257.	7.3	353
4	Clean Transfer of Graphene for Isolation and Suspension. ACS Nano, 2011, 5, 2362-2368.	7.3	285
5	V2O5 nanofibre sheet actuators. Nature Materials, 2003, 2, 316-319.	13.3	248
6	Structural and Chemical Dynamics of Pyridinic-Nitrogen Defects in Graphene. Nano Letters, 2015, 15, 7408-7413.	4.5	204
7	Interconnection of carbon nanotubes by chemical functionalization. Applied Physics Letters, 2002, 80, 3811-3813.	1.5	188
8	Three-fold rotational defects in two-dimensional transition metal dichalcogenides. Nature Communications, 2015, 6, 6736.	5.8	179
9	High-Mobility InSe Transistors: The Role of Surface Oxides. ACS Nano, 2017, 11, 7362-7370.	7.3	177
10	Flexible ferroelectric element based on van der Waals heteroepitaxy. Science Advances, 2017, 3, e1700121.	4.7	174
11	Twisting Bilayer Graphene Superlattices. ACS Nano, 2013, 7, 2587-2594.	7.3	173
12	High Mobility Flexible Graphene Field-Effect Transistors with Self-Healing Gate Dielectrics. ACS Nano, 2012, 6, 4469-4474.	7.3	169
13	Growth and electrical transport of germanium nanowires. Journal of Applied Physics, 2001, 90, 5747-5751.	1.1	152
14	Metalâ€Free Growth of Nanographene on Silicon Oxides for Transparent Conducting Applications. Advanced Functional Materials, 2012, 22, 2123-2128.	7.8	150
15	Remote Catalyzation for Direct Formation of Graphene Layers on Oxides. Nano Letters, 2012, 12, 1379-1384.	4.5	146
16	Magnetotransport at Domain Walls in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>BiFeO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review Letters, 2012, 108, 067203.	2.9	131
17	Chemical functionalization of single walled carbon nanotubes. Current Applied Physics, 2002, 2, 497-501.	1.1	110
18	van der Waal Epitaxy of Flexible and Transparent VO₂ Film on Muscovite. Chemistry of Materials, 2016, 28, 3914-3919.	3.2	105

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19	Tuning of Charge Densities in Graphene by Molecule Doping. Advanced Functional Materials, 2011, 21, 2687-2692.	7.8	99
20	Heteroepitaxy of Fe₃O₄/Muscovite: A New Perspective for Flexible Spintronics. ACS Applied Materials & Interfaces, 2016, 8, 33794-33801.	4.0	99
21	Intralayer and interlayer electronâ€“phonon interactions in twisted graphene heterostructures. Nature Communications, 2018, 9, 1221.	5.8	93
22	Gigahertz Flexible Graphene Transistors for Microwave Integrated Circuits. ACS Nano, 2014, 8, 7663-7670.	7.3	92
23	Ferroelectric Control of the Conduction at the LaAlO₃/SrTiO₃ Heterointerface. Advanced Materials, 2013, 25, 3357-3364.	11.1	90
24	Photogating WS₂ Photodetectors Using Embedded WSe₂ Charge Puddles. ACS Nano, 2020, 14, 4559-4566.	7.3	87
25	Van der Waals epitaxy of functional MoO2 film on mica for flexible electronics. Applied Physics Letters, 2016, 108, .	1.5	81
26	Oxide Heteroepitaxy for Flexible Optoelectronics. ACS Applied Materials & Interfaces, 2016, 8, 32401-32407.	4.0	81
27	Exploring the Single Atom Spin State by Electron Spectroscopy. Physical Review Letters, 2015, 115, 206803.	2.9	80
28	Nonlinear Behavior in the Thermopower of Doped Carbon Nanotubes Due to Strong, Localized States. Nano Letters, 2003, 3, 839-842.	4.5	77
29	Fast growth of large-grain and continuous MoS2 films through a self-capping vapor-liquid-solid method. Nature Communications, 2020, 11, 3682.	5.8	76
30	Temperature-induced change from p to n conduction in metallofullerene nanotube peapods. Applied Physics Letters, 2001, 79, 3845-3847.	1.5	75
31	Stable 1T Tungsten Disulfide Monolayer and Its Junctions: Growth and Atomic Structures. ACS Nano, 2018, 12, 12080-12088.	7.3	74
32	A novel artificial synapse with dual modes using bilayer graphene as the bottom electrode. Nanoscale, 2017, 9, 9275-9283.	2.8	70
33	Robust room temperature valley polarization in monolayer and bilayer WS₂. Nanoscale, 2016, 8, 6035-6042.	2.8	68
34	Fully Transparent Resistive Memory Employing Graphene Electrodes for Eliminating Undesired Surface Effects. Proceedings of the IEEE, 2013, 101, 1732-1739.	16.4	63
35	Growth and Raman Spectra of Single-Crystal Trilayer Graphene with Different Stacking Orientations. ACS Nano, 2014, 8, 10766-10773.	7.3	56
36	In situ observation of step-edge in-plane growth of graphene in a STEM. Nature Communications, 2014, 5, 4055.	5.8	55

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37	In Situ Tuning of Switching Window in a Gateâ€Controlled Bilayer Grapheneâ€Electrode Resistive Memory Device. Advanced Materials, 2015, 27, 7767-7774.	11.1	54
38	Design of Coreâ€“Shell Quantum Dotsâ€“3D WS₂ Nanowall Hybrid Nanostructures with High-Performance Bifunctional Sensing Applications. ACS Nano, 2020, 14, 12668-12678.	7.3	49
39	Grapheneâ€“Transition Metal Dichalcogenide Heterojunctions for Scalable and Low-Power Complementary Integrated Circuits. ACS Nano, 2020, 14, 985-992.	7.3	46
40	Surface Oxidation Doping to Enhance Photogenerated Carrier Separation Efficiency for Ultrahigh Gain Indium Selenide Photodetector. ACS Photonics, 2017, 4, 2930-2936.	3.2	44
41	End-Bonded Metal Contacts on WSe₂ Field-Effect Transistors. ACS Nano, 2019, 13, 8146-8154.	7.3	44
42	Ultrafast Monolayer In/Gr-WS₂-Gr Hybrid Photodetectors with High Gain. ACS Nano, 2019, 13, 3269-3279.	7.3	44
43	High-Performance Organic Light-Emitting Diode with Substitutionally Boron-Doped Graphene Anode. ACS Applied Materials & Interfaces, 2017, 9, 14998-15004.	4.0	43
44	Direct growth of self-crystallized graphene and graphite nanoballs with Ni vapor-assisted growth: From controllable growth to material characterization. Scientific Reports, 2014, 4, 4739.	1.6	42
45	Scalable Graphite/Copper Bishell Composite for High-Performance Interconnects. ACS Nano, 2014, 8, 275-282.	7.3	41
46	Ultrafast and Low Temperature Synthesis of Highly Crystalline and Patternable Few-Layers Tungsten Diselenide by Laser Irradiation Assisted Selenization Process. ACS Nano, 2015, 9, 4346-4353.	7.3	39
47	Unexpected Huge Dimerization Ratio in One-Dimensional Carbon Atomic Chains. Nano Letters, 2017, 17, 494-500.	4.5	35
48	Layer-Dependent Optical Conductivity in Atomic Thin WS₂ by Reflection Contrast Spectroscopy. ACS Applied Materials & Interfaces, 2014, 6, 16020-16026.	4.0	34
49	Origin of van Hove singularities in twisted bilayer graphene. Carbon, 2015, 90, 138-145.	5.4	33
50	Band-Structure Modulation in Carbon Nanotube T Junctions. Physical Review Letters, 2004, 92, 246802.	2.9	32
51	Transition from direct tunneling to field emission in carbon nanotube intramolecular junctions. Applied Physics Letters, 2008, 92, 042107.	1.5	30
52	Scalable van der Waals Heterojunctions for High-Performance Photodetectors. ACS Applied Materials & Interfaces, 2017, 9, 36181-36188.	4.0	29
53	Electric control of valley polarization in monolayer WSe2 using a van der Waals magnet. Nature Nanotechnology, 2022, 17, 721-728.	15.6	28
54	Temperature dependence of conductance character in nanotube peapods. Applied Physics A: Materials Science and Processing, 2003, 76, 463-467.	1.1	27

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55	All-carbon field emission device by direct synthesis of graphene and carbon nanotube. Diamond and Related Materials, 2013, 31, 42-46.	1.8	27
56	Attenuation of electromagnetic waves by carbon nanotube composites. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2425-2429.	1.3	26
57	Cathodic plasmaâ€“induced syntheses of graphene nanosheet/MnO2/WO3 architectures and their use in supercapacitors. Electrochimica Acta, 2020, 342, 136043.	2.6	25
58	Transparent Antiradiative Ferroelectric Heterostructure Based on Flexible Oxide Heteroepitaxy. ACS Applied Materials & Interfaces, 2018, 10, 30574-30580.	4.0	24
59	Surface plasmaâ€“induced tunable nitrogen doping through precursors provides 1T-2H MoSe2/graphene sheet composites as electrocatalysts for the hydrogen evolution reaction. Electrochimica Acta, 2022, 426, 140767.	2.6	24
60	Postsynthesis of hâ€BN/Graphene Heterostructures Inside a STEM. Small, 2016, 12, 252-259.	5.2	23
61	High-Mobility InSe Transistors: The Nature of Charge Transport. ACS Applied Materials & Interfaces, 2019, 11, 35969-35976.	4.0	23
62	Gating Electronâ€“Hole Asymmetry in Twisted Bilayer Graphene. ACS Nano, 2014, 8, 6962-6969.	7.3	22
63	Inverse paired-pulse facilitation in neuroplasticity based on interface-boosted charge trapping layered electronics. Nano Energy, 2020, 77, 105258.	8.2	22
64	High-performance and high-sensitivity applications of graphene transistors with self-assembled monolayers. Biosensors and Bioelectronics, 2016, 77, 1008-1015.	5.3	21
65	A Grapheneâ€Based Filament Transistor with Subâ€10 mVdec^{â^'1} Subthreshold Swing. Advanced Electronic Materials, 2018, 4, 1700608.	2.6	21
66	Twisted bilayer graphene photoluminescence emission peaks at van Hove singularities. Journal of Physics Condensed Matter, 2018, 30, 175302.	0.7	21
67	Gigahertz Field-Effect Transistors with CMOS-Compatible Transfer-Free Graphene. ACS Applied Materials & Interfaces, 2019, 11, 6336-6343.	4.0	20
68	Photoactive Electroâ€Controlled Visual Perception Memory for Emulating Synaptic Metaplasticity and Hebbian Learning. Advanced Functional Materials, 2021, 31, 2105345.	7.8	18
69	Characterization of Graphene Grown on Bulk and Thin Film Nickel. Langmuir, 2011, 27, 13748-13753.	1.6	17
70	Conduction control at ferroic domain walls via external stimuli. Nanoscale, 2014, 6, 10524-10529.	2.8	17
71	Rational Design on Wrinkleâ€Less Transfer of Transition Metal Dichalcogenide Monolayer by Adjustable Wettabilityâ€Assisted Transfer Method. Advanced Functional Materials, 2021, 31, 2104978.	7.8	17
72	Substitutional boron-doping of carbon nanotubes. Current Applied Physics, 2002, 2, 473-477.	1.1	13

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73	Scanning MoirÃ© Fringe Method: A Superior Approach to Perceive Defects, Interfaces, and Distortion in 2D Materials. ACS Nano, 2020, 14, 6034-6042.	7.3	13
74	Formation of Highly Doped Nanostripes in 2D Transition Metal Dichalcogenides via a Dislocation Climb Mechanism. Advanced Materials, 2021, 33, e2007819.	11.1	13
75	Probing interlayer coupling in twisted singleâ€crystal bilayer graphene by Raman spectroscopy. Journal of Raman Spectroscopy, 2014, 45, 912-917.	1.2	12
76	Carbon nanotube nanocontact in T-junction structures. Applied Physics Letters, 2007, 91, 102109.	1.5	11
77	Scalable T-Gate Aligned Grâ€“WS₂â€“Gr Radio-Frequency Field-Effect Transistors. ACS Applied Electronic Materials, 2020, 2, 3898-3905.	2.0	11
78	WS₂/WSe₂ Nanodot Composite Photodetectors for Fast and Sensitive Light Detection. ACS Applied Electronic Materials, 2021, 3, 4291-4299.	2.0	11
79	High-performance carbon nanotube network transistors for logic applications. Applied Physics Letters, 2008, 92, 063511.	1.5	10
80	Mimic Drug Dosage Modulation for Neuroplasticity Based on Chargeâ€Trap Layered Electronics. Advanced Functional Materials, 2021, 31, 2005182.	7.8	10
81	Hybrid ZnO NR/graphene structures as advanced optoelectronic devices with high transmittance. Nanoscale Research Letters, 2013, 8, 350.	3.1	9
82	Raman Excitation Profile of the G-band Enhancement in Twisted Bilayer Graphene. Brazilian Journal of Physics, 2017, 47, 589-593.	0.7	9
83	Oxidation and Degradation of WS₂ Monolayers Grown by NaCl-Assisted Chemical Vapor Deposition: Mechanism and Prevention. Nanoscale, 2021, 13, 16629-16640.	2.8	7
84	Resonance Raman enhancement by the intralayer and interlayer electronâ€“phonon processes in twisted bilayer graphene. Scientific Reports, 2021, 11, 17206.	1.6	7
85	Modifying optical properties of GaN nanowires by Ga2O3 overgrowth. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, .	0.6	6
86	Characterization of Graphene and Transition Metal Dichalcogenide at the Atomic Scale. Journal of the Physical Society of Japan, 2015, 84, 121005.	0.7	6
87	Embedment of Multiple Transition Metal Impurities into WS₂ Monolayer for Bandstructure Modulation. Small, 2021, 17, e2007171.	5.2	6
88	Fabrication and characteristics of ultrashort-channel carbon nanotube field-effect transistors. Applied Physics Letters, 2008, 92, 152111.	1.5	5
89	Two-dimensional iodine-monofluoride epitaxy on WSe2. Npj 2D Materials and Applications, 2021, 5, .	3.9	5
90	On-Wafer FinFET-Based EUV/eBeam Detector Arrays for Advanced Lithography Processes. IEEE Transactions on Electron Devices, 2020, 67, 2406-2413.	1.6	4

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91	WSe2/WS2 Heterobilayer Nonvolatile Memory Device with Boosted Charge Retention. ACS Applied Materials & Interfaces, 2022, 14, 3467-3475.	4.0	4
92	Tailoring point electron sources of individual carbon nanotubes. Applied Physics Letters, 2010, 97, 073119.	1.5	3
93	Effect of adsorbents on electronic transport in graphene. , 2014, , 265-291.		3
94	A Graphene/Polycrystalline Silicon Photodiode and Its Integration in a Photodiodeâ€“Oxideâ€“Semiconductor Field Effect Transistor. Micromachines, 2020, 11, 596.	1.4	3
95	Carbon Nanotube T Junctions: Formation and Properties. Journal of Nanoscience and Nanotechnology, 2008, 8, 88-98.	0.9	2
96	Artificial mechanoreceptor based on van der Waals stacking structure. Matter, 2021, 4, 1598-1610.	5.0	2
97	Memory Devices: In Situ Tuning of Switching Window in a Gate-Controlled Bilayer Graphene-Electrode Resistive Memory Device (Adv. Mater. 47/2015). Advanced Materials, 2015, 27, 7766-7766.	11.1	1
98	Enhanced hot luminescence at van Hove singularities in twisted bilayer graphene. , 2017, , .		1
99	Co Silicide With Low Contact Resistivity Formed by Atomic Layer Deposited Cobalt and Subsequent Annealing. IEEE Electron Device Letters, 2020, 41, 139-142.	2.2	1
100	Nearly Epitaxial Low-Resistive Co Germanide Formed by Atomic Layer Deposited Cobalt and Laser Thermal Annealing. IEEE Electron Device Letters, 2020, 41, 272-275.	2.2	1
101	Defect Engineering for Graphene Tunable Doping. Materials Research Society Symposia Proceedings, 2011, 1283, 1.	0.1	0
102	RESONANCE RAMAN SPECTROSCOPY IN TWISTED BILAYER GRAPHENE. , 2013, , .		0
103	Integrated silicon optical modulators. , 2016, , .		0
104	Photoinduced Intersubband Absorption and Enhanced Photobleaching in Twisted Bilayer Graphene. , 2021, , .		0
105	Photoinduced Intersubband Absorption and Enhanced Photobleaching in Twisted Bilayer Graphene. , 2020, , .		0