

Der-Hsien Lien

List of Publications by Year in descending order

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82
papers

11,029
citations

70961

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69108

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all docs

82
docs citations

82
times ranked

16457
citing authors

#	ARTICLE	IF	CITATIONS
1	Fully integrated wearable sensor arrays for multiplexed in situ perspiration analysis. Nature, 2016, 529, 509-514.	13.7	3,508
2	Near-unity photoluminescence quantum yield in MoS ₂ . Science, 2015, 350, 1065-1068.	6.0	993
3	Few-Layer MoS ₂ with High Broadband Photogain and Fast Optical Switching for Use in Harsh Environments. ACS Nano, 2013, 7, 3905-3911.	7.3	584
4	Dual-Gated MoS ₂ /WSe ₂ van der Waals Tunnel Diodes and Transistors. ACS Nano, 2015, 9, 2071-2079.	7.3	560
5	Enhancing Sensitivity of a Single ZnO Micro-/Nanowire Photodetector by Piezo-phototronic Effect. ACS Nano, 2010, 4, 6285-6291.	7.3	466
6	Wearable Microsensor Array for Multiplexed Heavy Metal Monitoring of Body Fluids. ACS Sensors, 2016, 1, 866-874.	4.0	297
7	Strain-engineered growth of two-dimensional materials. Nature Communications, 2017, 8, 608.	5.8	253
8	Electrical suppression of all nonradiative recombination pathways in monolayer semiconductors. Science, 2019, 364, 468-471.	6.0	243
9	Recombination Kinetics and Effects of Superacid Treatment in Sulfur- and Selenium-Based Transition Metal Dichalcogenides. Nano Letters, 2016, 16, 2786-2791.	4.5	233
10	Methylxanthine Drug Monitoring with Wearable Sweat Sensors. Advanced Materials, 2018, 30, e1707442.	11.1	226
11	Single-InNanowire Nanogenerator with Upto 1 V Output Voltage. Advanced Materials, 2010, 22, 4008-4013.	11.1	169
12	Evaporated tellurium thin films for p-type field-effect transistors and circuits. Nature Nanotechnology, 2020, 15, 53-58.	15.6	153
13	Probing Surface Band Bending of Surface-Engineered Metal Oxide Nanowires. ACS Nano, 2012, 6, 9366-9372.	7.3	149
14	Large-area and bright pulsed electroluminescence in monolayer semiconductors. Nature Communications, 2018, 9, 1229.	5.8	146
15	High Luminescence Efficiency in MoS ₂ Grown by Chemical Vapor Deposition. ACS Nano, 2016, 10, 6535-6541.	7.3	140
16	Engineering Light Outcoupling in 2D Materials. Nano Letters, 2015, 15, 1356-1361.	4.5	138
17	All-Printed Paper Memory. ACS Nano, 2014, 8, 7613-7619.	7.3	137
18	Extremely reduced dielectric confinement in two-dimensional hybrid perovskites with large polar organics. Communications Physics, 2018, 1, .	2.0	135

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19	Actively variable-spectrum optoelectronics with black phosphorus. <i>Nature</i> , 2021, 596, 232-237.	13.7	132
20	Monolithic 3D CMOS Using Layered Semiconductors. <i>Advanced Materials</i> , 2016, 28, 2547-2554.	11.1	107
21	Photoconductive enhancement of single ZnO nanowire through localized Schottky effects. <i>Optics Express</i> , 2010, 18, 14836.	1.7	105
22	Highly Deformable Origami Paper Photodetector Arrays. <i>ACS Nano</i> , 2017, 11, 10230-10235.	7.3	94
23	MoS ₂ Heterojunctions by Thickness Modulation. <i>Scientific Reports</i> , 2015, 5, 10990.	1.6	93
24	Highly Stable Near-Unity Photoluminescence Yield in Monolayer MoS ₂ by Fluoropolymer Encapsulation and Superacid Treatment. <i>ACS Nano</i> , 2017, 11, 5179-5185.	7.3	86
25	Infrared Photodetectors Based on 2D Materials and Nanophotonics. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	86
26	Supersensitive, Ultrafast, and Broad-Band Light-Harvesting Scheme Employing Carbon Nanotube/TiO ₂ Core-Shell Nanowire Geometry. <i>ACS Nano</i> , 2012, 6, 6687-6692.	7.3	80
27	Synthetic WSe ₂ monolayers with high photoluminescence quantum yield. <i>Science Advances</i> , 2019, 5, eaau4728.	4.7	78
28	4H-SiC Metal-Semiconductor-Metal Ultraviolet Photodetectors in Operation of 450 nm. <i>IEEE Electron Device Letters</i> , 2012, 33, 1586-1588.	2.2	76
29	Optical and electrical properties of two-dimensional palladium diselenide. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	74
30	Increasing Photoluminescence Quantum Yield by Nanophotonic Design of Quantum-Confined Halide Perovskite Nanowire Arrays. <i>Nano Letters</i> , 2019, 19, 2850-2857.	4.5	67
31	Photon management in nanostructured solar cells. <i>Journal of Materials Chemistry C</i> , 2014, 2, 3144.	2.7	64
32	Neutral Exciton Diffusion in Monolayer MoS ₂ . <i>ACS Nano</i> , 2020, 14, 13433-13440.	7.3	62
33	Concurrent Improvement in Photogain and Speed of a Metal Oxide Nanowire Photodetector through Enhancing Surface Band Bending via Incorporating a Nanoscale Heterojunction. <i>ACS Photonics</i> , 2014, 1, 354-359.	3.2	61
34	Strong optical response and light emission from a monolayer molecular crystal. <i>Nature Communications</i> , 2019, 10, 5589.	5.8	59
35	Photocurrent Amplification at Carbon Nanotube-Metal Contacts. <i>Advanced Materials</i> , 2006, 18, 98-103.	11.1	54
36	Substrate-Dependent Exciton Diffusion and Annihilation in Chemically Treated MoS ₂ and WS ₂ . <i>Journal of Physical Chemistry C</i> , 2020, 124, 12175-12184.	1.5	51

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37	See-Through Ga_2O_3 Solar-Blind Photodetectors for Use in Harsh Environments. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 112-117.	1.9	49
38	Harsh photovoltaics using InGaN/GaN multiple quantum well schemes. Nano Energy, 2015, 11, 104-109.	8.2	49
39	Evaporated $\text{Se}_x\text{Te}_{1-x}$ Thin Films with Tunable Bandgaps for Short-Wave Infrared Photodetectors. Advanced Materials, 2020, 32, e2001329.	11.1	49
40	Surface effects in metal oxide-based nanodevices. Nanoscale, 2015, 7, 19874-19884.	2.8	47
41	Dual-functional Memory and Threshold Resistive Switching Based on the Push-Pull Mechanism of Oxygen Ions. Scientific Reports, 2016, 6, 23945.	1.6	45
42	Resonance-Enhanced Absorption in Hollow Nanoshell Spheres with Omnidirectional Detection and High Responsivity and Speed. Advanced Materials, 2018, 30, e1801972.	11.1	43
43	Trilayered MoS_2 Metal-Semiconductor-Metal Photodetectors: Photogain and Radiation Resistance. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 30-35.	1.9	40
44	360° omnidirectional, printable and transparent photodetectors for flexible optoelectronics. Npj Flexible Electronics, 2018, 2, .	5.1	40
45	Light extraction enhancement with radiation pattern shaping of LEDs by waveguiding nanorods with impedance-matching tips. Nanoscale, 2014, 6, 2624-2628.	2.8	39
46	Self-powered nanodevices for fast UV detection and energy harvesting using core-shell nanowire geometry. Nano Energy, 2018, 51, 294-299.	8.2	39
47	Recent Advances in Two-Dimensional Quantum Dots and Their Applications. Nanomaterials, 2021, 11, 1549.	1.9	39
48	A broadband and omnidirectional light-harvesting scheme employing nanospheres on Si solar cells. Nano Energy, 2014, 6, 36-43.	8.2	38
49	Enhanced Recovery Speed of Nanostructured ZnO Photodetectors Using Nanobelt Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1807-1811.	1.9	36
50	Shape-Dependent Light Harvesting of 3D Gold Nanocrystals on Bulk Heterojunction Solar Cells: Plasmonic or Optical Scattering Effect?. Journal of Physical Chemistry C, 2015, 119, 7554-7564.	1.5	36
51	Inkjet-printed transparent nanowire thin film features for UV photodetectors. RSC Advances, 2015, 5, 70707-70712.	1.7	34
52	Resistive Memory for Harsh Electronics: Immunity to Surface Effect and High Corrosion Resistance via Surface Modification. Scientific Reports, 2014, 4, 4402.	1.6	34
53	Hierarchical structures consisting of SiO_2 nanorods and p-GaN microdomes for efficiently harvesting solar energy for InGaN quantum well photovoltaic cells. Nanoscale, 2012, 4, 7346.	2.8	33
54	Highly Reliable Superhydrophobic Protection for Organic Field-Effect Transistors by Fluoroalkylsilane-Coated TiO_2 Nanoparticles. ACS Nano, 2018, 12, 11062-11069.	7.3	32

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55	Improved photoswitching response times of MoS ₂ field-effect transistors by stacking p-type copper phthalocyanine layer. Applied Physics Letters, 2016, 109, .	1.5	29
56	Dip Coating Passivation of Crystalline Silicon by Lewis Acids. ACS Nano, 2019, 13, 3723-3729.	7.3	28
57	Scanning Probe Lithography Patterning of Monolayer Semiconductors and Application in Quantifying Edge Recombination. Advanced Materials, 2019, 31, e1900136.	11.1	27
58	Enhanced light-extraction from hierarchical surfaces consisting of p-GaN microdomes and SiO ₂ nanorods for GaN-based light-emitting diodes. Applied Physics Letters, 2013, 103, .	1.5	23
59	A generic electroluminescent device for emission from infrared to ultraviolet wavelengths. Nature Electronics, 2020, 3, 612-621.	13.1	23
60	Centimeter-scale and Visible Wavelength Monolayer Light-Emitting Devices. Advanced Functional Materials, 2020, 30, 1907941.	7.8	20
61	Measuring the Edge Recombination Velocity of Monolayer Semiconductors. Nano Letters, 2017, 17, 5356-5360.	4.5	19
62	Bright Mid-Wave Infrared Resonant-Cavity Light-Emitting Diodes Based on Black Phosphorus. Nano Letters, 2022, 22, 1294-1301.	4.5	19
63	Defect Inspection Techniques in SiC. Nanoscale Research Letters, 2022, 17, 30.	3.1	18
64	A Fully Transparent Resistive Memory for Harsh Environments. Scientific Reports, 2015, 5, 15087.	1.6	17
65	An energy-harvesting scheme employing CuGaSe ₂ quantum dot-modified ZnO buffer layers for drastic conversion efficiency enhancement in inorganic-organic hybrid solar cells. Nanoscale, 2013, 5, 6350.	2.8	16
66	Gas sensing improvement of carbon nanotubes by NH ₄ OH flash treatment: a nondestructive purification technique. Journal of Materials Chemistry, 2007, 17, 3581.	6.7	13
67	A Nanostructuring Method to Decouple Electrical and Thermal Transport through the Formation of Electrically Triggered Conductive Nanofilaments. Advanced Materials, 2018, 30, e1705385.	11.1	13
68	Bright electroluminescence in ambient conditions from WSe ₂ p-n diodes using pulsed injection. Applied Physics Letters, 2019, 115, 011103.	1.5	13
69	Increased Optoelectronic Quality and Uniformity of Hydrogenated p-InP Thin Films. Chemistry of Materials, 2016, 28, 4602-4607.	3.2	12
70	Deterministic Assembly of Arrays of Lithographically Defined WS ₂ and MoS ₂ Monolayer Features Directly From Multilayer Sources Into Van Der Waals Heterostructures. Journal of Micro and Nano-Manufacturing, 2019, 7, .	0.8	12
71	Critical Capillary Absorption of Current-Melted Silver Nanodroplets into Multiwalled Carbon Nanotubes. Small, 2012, 8, 2158-2162.	5.2	11
72	Ultrasound thermal mapping based on a hybrid method combining cross-correlation and zero-crossing tracking. Journal of the Acoustical Society of America, 2013, 134, 1530-1540.	0.5	8

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73	Shape-controlled single-crystal growth of InP at low temperatures down to 220 Å°C. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 902-906.	3.3	8
74	Resonance frequency shift of a carbon nanotube with a silver nanoparticle adsorbed at various positions. Applied Physics Letters, 2010, 97, 133105.	1.5	6
75	Low-resistivity C54-TiSi ₂ as a sidewall-confinement nanoscale electrode for three-dimensional vertical resistive memory. Applied Physics Letters, 2014, 105, 182101.	1.5	6
76	Strain promoted conductivity of doped carbon nanotubes. Applied Physics Letters, 2008, 93, 223111.	1.5	4
77	Nanophotonic Devices: Resonance-Enhanced Absorption in Hollow Nanoshell Spheres with Omnidirectional Detection and High Responsivity and Speed (Adv. Mater. 34/2018). Advanced Materials, 2018, 30, 1870257.	11.1	3
78	High-endurance solar-blind photodetectors using AlN on Si substrates for extreme harsh environment applications., 2013,, .		0
79	Thermoelectrics: A Nanostructuring Method to Decouple Electrical and Thermal Transport through the Formation of Electrically Triggered Conductive Nanofilaments (Adv. Mater. 28/2018). Advanced Materials, 2018, 30, 1870243.	11.1	0
80	Monolayer Semiconductors: Scanning Probe Lithography Patterning of Monolayer Semiconductors and Application in Quantifying Edge Recombination (Adv. Mater. 48/2019). Advanced Materials, 2019, 31, 1970340.	11.1	0
81	Effects of Mg Doping on Double Channel Layer Atmospheric Pressure-Plasma Enhanced Chemical Vapor Deposition Fabricated Amorphous InGaZnO Thin Film Transistors. Journal of Nanoelectronics and Optoelectronics, 2021, 16, 1412-1416.	0.1	0
82	Study of InGaZnO Thin Film Transistors With Dual Treatment of Pre-Oxidation ZrO ₂ High- ϵ_r Dielectric and Post-Oxidation InGaZnO Channel by Neutral Beam System. Journal of Nanoelectronics and Optoelectronics, 2021, 16, 1733-1738.	0.1	0