

# Yuerui Lu

## List of Publications by Year in descending order

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118  
papers

7,750  
citations

57631

44  
h-index

51492

86  
g-index

121  
all docs

121  
docs citations

121  
times ranked

10346  
citing authors

#	ARTICLE	IF	CITATIONS
1	Extraordinary Photoluminescence and Strong Temperature/Angle-Dependent Raman Responses in Few-Layer Phosphorene. ACS Nano, 2014, 8, 9590-9596.	7.3	604
2	Selective Etching of Metallic Carbon Nanotubes by Gas-Phase Reaction. Science, 2006, 314, 974-977.	6.0	489
3	Producing air-stable monolayers of phosphorene and their defect engineering. Nature Communications, 2016, 7, 10450.	5.8	443
4	Two-Dimensional CH <sub>3</sub> NH <sub>3</sub> Pb <sub>3</sub> Perovskite: Synthesis and Optoelectronic Application. ACS Nano, 2016, 10, 3536-3542.	7.3	359
5	Optical tuning of exciton and trion emissions in monolayer phosphorene. Light: Science and Applications, 2015, 4, e312-e312.	7.7	276
6	Ultrathin Metal-Organic Framework: An Emerging Broadband Nonlinear Optical Material for Ultrafast Photonics. Advanced Optical Materials, 2018, 6, 1800561.	3.6	268
7	Many-Body Complexes in 2D Semiconductors. Advanced Materials, 2019, 31, e1706945.	11.1	255
8	High-Efficiency Ordered Silicon Nano-Conical-Frustum Array Solar Cells by Self-Powered Parallel Electron Lithography. Nano Letters, 2010, 10, 4651-4656.	4.5	211
9	DNA Functionalization of Carbon Nanotubes for Ultrathin Atomic Layer Deposition of High $\epsilon$ Dielectrics for Nanotube Transistors with 60 mV/Decade Switching. Journal of the American Chemical Society, 2006, 128, 3518-3519.	6.6	188
10	Highly Efficient and Air-Stable Infrared Photodetector Based on 2D Layered Graphene-Black Phosphorus Heterostructure. ACS Applied Materials & Interfaces, 2017, 9, 36137-36145.	4.0	185
11	Schottky diode with Ag on (112̄,0) epitaxial ZnO film. Applied Physics Letters, 2002, 80, 2132-2134.	1.5	181
12	Power generation for wearable systems. Energy and Environmental Science, 2021, 14, 2114-2157.	15.6	178
13	Hydrogenation and Hydrocarbonation and Etching of Single-Walled Carbon Nanotubes. Journal of the American Chemical Society, 2006, 128, 6026-6027.	6.6	159
14	Robust Excitons and Trions in Monolayer MoTe <sub>2</sub> . ACS Nano, 2015, 9, 6603-6609.	7.3	148
15	ELECTRICAL TRANSPORT PROPERTIES AND FIELD EFFECT TRANSISTORS OF CARBON NANOTUBES. Nano, 2006, 01, 1-13.	0.5	142
16	Optical Properties of Ultrashort Semiconducting Single-Walled Carbon Nanotube Capsules Down to Sub-10 nm. Journal of the American Chemical Society, 2008, 130, 6551-6555.	6.6	142
17	Giant Plasmene Nanosheets, Nanoribbons, and Origami. ACS Nano, 2014, 8, 11086-11093.	7.3	134
18	Enhanced second-harmonic generation from two-dimensional MoSe <sub>2</sub> on a silicon waveguide. Light: Science and Applications, 2017, 6, e17060-e17060.	7.7	130

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19	Atomically thin optical lenses and gratings. <i>Light: Science and Applications</i> , 2016, 5, e16046-e16046.	7.7	107
20	Fabrication and Deterministic Transfer of High-Quality Quantum Emitters in Hexagonal Boron Nitride. <i>ACS Photonics</i> , 2018, 5, 2305-2312.	3.2	100
21	Evidence of the direct-to-indirect band gap transition in strained two-dimensional $\text{WS}_2$ and $\text{MoS}_2$ . <i>ACS Nano</i> , 2015, 9, 1100-1104.	1.3	100
22	Light-Matter Interactions in Phosphorene. <i>Accounts of Chemical Research</i> , 2016, 49, 1806-1815.	7.6	97
23	Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus. <i>Advanced Functional Materials</i> , 2019, 29, 1901991.	7.8	97
24	Extraordinarily Bound Quasi-One-Dimensional Trions in Two-Dimensional Phosphorene Atomic Semiconductors. <i>ACS Nano</i> , 2016, 10, 2046-2053.	7.3	92
25	Radiation tolerance of two-dimensional material-based devices for space applications. <i>Nature Communications</i> , 2019, 10, 1202.	5.8	91
26	Exciton and Trion Dynamics in Bilayer $\text{MoS}_2$ . <i>Small</i> , 2015, 11, 6384-6390.	5.2	87
27	Compact Cavity-Enhanced Single-Photon Generation with Hexagonal Boron Nitride. <i>ACS Photonics</i> , 2019, 6, 1955-1962.	3.2	83
28	Efficient and Layer-Dependent Exciton Pumping across Atomically Thin Organic-Inorganic Type-II Heterostructures. <i>Advanced Materials</i> , 2018, 30, e1803986.	11.1	79
29	Manipulation of photoluminescence of two-dimensional $\text{MoSe}_2$ by gold nanoantennas. <i>Scientific Reports</i> , 2016, 6, 22296.	1.6	75
30	Excited State Biexcitons in Atomically Thin $\text{MoSe}_2$ . <i>ACS Nano</i> , 2017, 11, 7468-7475.	7.3	68
31	2D Materials and Heterostructures at Extreme Pressure. <i>Advanced Science</i> , 2020, 7, 2002697.	5.6	68
32	A Soft Resistive Acoustic Sensor Based on Suspended Standing Nanowire Membranes with Point Crack Design. <i>Advanced Functional Materials</i> , 2020, 30, 1910717.	7.8	68
33	Layer-dependent surface potential of phosphorene and anisotropic/layer-dependent charge transfer in phosphorene-gold hybrid systems. <i>Nanoscale</i> , 2016, 8, 129-135.	2.8	65
34	Ferroelectric-Driven Exciton and Trion Modulation in Monolayer Molybdenum and Tungsten Diselenides. <i>ACS Nano</i> , 2019, 13, 5335-5343.	7.3	61
35	Controlled Micro/Nanodome Formation in Proton-Irradiated Bulk Transition-Metal Dichalcogenides. <i>Advanced Materials</i> , 2019, 31, e1903795.	11.1	60
36	2D Materials Based on Main Group Element Compounds: Phases, Synthesis, Characterization, and Applications. <i>Advanced Functional Materials</i> , 2020, 30, 2001127.	7.8	58

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37	Recent Developments in van der Waals Antiferromagnetic 2D Materials: Synthesis, Characterization, and Device Implementation. ACS Nano, 2021, 15, 17175-17213.	7.3	57
38	High-Efficiency Monolayer Molybdenum Ditelluride Light-Emitting Diode and Photodetector. ACS Applied Materials & Interfaces, 2018, 10, 43291-43298.	4.0	56
39	Mechanisms and Applications of Steady-State Photoluminescence Spectroscopy in Two-Dimensional Transition-Metal Dichalcogenides. ACS Nano, 2020, 14, 14579-14604.	7.3	56
40	Wavelength-Tunable Mid-Infrared Lasing from Black Phosphorus Nanosheets. Advanced Materials, 2020, 32, e1808319.	11.1	56
41	Exciton Brightening in Monolayer Phosphorene via Dimensionality Modification. Advanced Materials, 2016, 28, 3493-3498.	11.1	49
42	Ultrathin Ga <sub>2</sub> O <sub>3</sub> Glass: A Large-Scale Passivation and Protection Material for Monolayer WS <sub>2</sub> . Advanced Materials, 2021, 33, e2005732.	11.1	49
43	Tunable unidirectional nonlinear emission from transition-metal-dichalcogenide metasurfaces. Nature Communications, 2021, 12, 5597.	5.8	49
44	Molecule-Induced Conformational Change in Boron Nitride Nanosheets with Enhanced Surface Adsorption. Advanced Functional Materials, 2016, 26, 8202-8210.	7.8	47
45	Atomic localization of quantum emitters in multilayer hexagonal boron nitride. Nanoscale, 2019, 11, 14362-14371.	2.8	46
46	In-Plane Isotropic/Anisotropic 2D van der Waals Heterostructures for Future Devices. Small, 2019, 15, e1804733.	5.2	46
47	Low-concentration mechanical biosensor based on a photonic crystal nanowire array. Nature Communications, 2011, 2, 578.	5.8	45
48	2D organic semiconductors, the future of green nanotechnology. Nano Materials Science, 2019, 1, 246-259.	3.9	45
49	Nonalloyed Al ohmic contacts to Mg <sub>x</sub> Zn <sub>1-x</sub> O. Journal of Electronic Materials, 2002, 31, 811-814.	1.0	43
50	Optical Harmonic Generation in 2D Materials. Advanced Functional Materials, 2022, 32, .	7.8	42
51	Vanadium-Doped Monolayer MoS <sub>2</sub> with Tunable Optical Properties for Field-Effect Transistors. ACS Applied Nano Materials, 2021, 4, 769-777.	2.4	39
52	Tunable Optoelectronic Properties of WS <sub>2</sub> by Local Strain Engineering and Folding. Advanced Electronic Materials, 2020, 6, 1901381.	2.6	38
53	Engineered Creation of Periodic Giant, Nonuniform Strains in MoS <sub>2</sub> Monolayers. Advanced Materials Interfaces, 2020, 7, 2000621.	1.9	38
54	Room temperature single photon source using fiber-integrated hexagonal boron nitride. Journal Physics D: Applied Physics, 2017, 50, 295101.	1.3	37

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55	Anisotropic polaritons in van der Waals materials. <i>Informa</i> Mater, 2020, 2, 777-790.	8.5	36
56	Highly Enhanced Many-Body Interactions in Anisotropic 2D Semiconductors. <i>Accounts of Chemical Research</i> , 2018, 51, 1164-1173.	7.6	34
57	Quantifying Quasi-Fermi Level Splitting and Mapping its Heterogeneity in Atomically Thin Transition Metal Dichalcogenides. <i>Advanced Materials</i> , 2019, 31, e1900522.	11.1	34
58	A prospective future towards bio/medical technology and bioelectronics based on 2D vdWs heterostructures. <i>Nano Research</i> , 2020, 13, 1-17.	5.8	34
59	Two-dimensional materials for light emitting applications: Achievement, challenge and future perspectives. <i>Nano Research</i> , 2021, 14, 1912-1936.	5.8	34
60	Phosphorene: An emerging 2D material. <i>Journal of Materials Research</i> , 2017, 32, 2839-2847.	1.2	33
61	Modulated interlayer charge transfer dynamics in a monolayer TMD/metal junction. <i>Nanoscale</i> , 2019, 11, 418-425.	2.8	33
62	Strongly enhanced photoluminescence in nanostructured monolayer MoS <sub>2</sub> by chemical vapor deposition. <i>Nanotechnology</i> , 2016, 27, 135706.	1.3	32
63	Multiwavelength Single Nanowire InGaAs/InP Quantum Well Light-Emitting Diodes. <i>Nano Letters</i> , 2019, 19, 3821-3829.	4.5	32
64	Supertransport of excitons in atomically thin organic semiconductors at the 2D quantum limit. <i>Light: Science and Applications</i> , 2020, 9, 116.	7.7	32
65	2D organic single crystals: Synthesis, novel physics, high-performance optoelectronic devices and integration. <i>Materials Today</i> , 2021, 50, 442-475.	8.3	32
66	Two-dimensional multiferroics. <i>Nanoscale</i> , 2021, 13, 19324-19340.	2.8	32
67	Two-step metalorganic chemical vapor deposition growth of piezoelectric ZnO thin film on SiO <sub>2</sub> /Si substrate. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2001, 19, 1850-1853.	0.9	31
68	Direct Measurement of Folding Angle and Strain Vector in Atomically Thin WS <sub>2</sub> Using Second-Harmonic Generation. <i>ACS Nano</i> , 2020, 14, 15806-15815.	7.3	31
69	̳-phase modulated monolayer supercritical lens. <i>Nature Communications</i> , 2021, 12, 32.	5.8	30
70	Extraordinary Temperature Dependent Second Harmonic Generation in Atomically Thin Layers of Transition-Metal Dichalcogenides. <i>Advanced Optical Materials</i> , 2020, 8, 2000441.	3.6	30
71	Defect Engineering in Few-Layer Phosphorene. <i>Small</i> , 2018, 14, e1704556.	5.2	27
72	Nanoscale Measurements of Elastic Properties and Hydrostatic Pressure in H <sub>2</sub> -Bulged MoS <sub>2</sub> Membranes. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001024.	1.9	26

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73	Emission Control from Transition Metal Dichalcogenide Monolayers by Aggregation-Induced Molecular Rotors. <i>ACS Nano</i> , 2020, 14, 7444-7453.	7.3	23
74	Twist-driven wide freedom of indirect interlayer exciton emission in MoS <sub>2</sub> /WS <sub>2</sub> heterobilayers. <i>Cell Reports Physical Science</i> , 2021, 2, 100509.	2.8	23
75	Vacuum-Free Self-Powered Parallel Electron Lithography with Sub-35-nm Resolution. <i>Nano Letters</i> , 2010, 10, 2197-2201.	4.5	21
76	A New Strategy for Selective Area Growth of Highly Uniform InGaAs/InP Multiple Quantum Well Nanowire Arrays for Optoelectronic Device Applications. <i>Advanced Functional Materials</i> , 2022, 32, 2103057.	7.8	21
77	Performance degradation and mitigation strategies of silver nanowire networks: a review. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2022, 47, 435-459.	6.8	21
78	Giant Photoluminescence Enhancement and Resonant Charge Transfer in Atomically Thin Two-Dimensional Cr <sub>2</sub> Ge <sub>2</sub> Te <sub>6</sub> /WS <sub>2</sub> Heterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 7423-7433.	4.0	19
79	Nano-engineering and nano-manufacturing in 2D materials: marvels of nanotechnology. <i>Nanoscale Horizons</i> , 2022, 7, 849-872.	4.1	19
80	Electrically driven light emission from hot single-walled carbon nanotubes at various temperatures and ambient pressures. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	18
81	Optical properties of phosphorene. <i>Chinese Physics B</i> , 2017, 26, 034201.	0.7	16
82	A flexible electrostatic kinetic energy harvester based on electret films of electrospun nanofibers. <i>Smart Materials and Structures</i> , 2018, 27, 014001.	1.8	16
83	Generating strong room-temperature photoluminescence in black phosphorus using organic molecules. <i>2D Materials</i> , 2019, 6, 015009.	2.0	15
84	Towards future physics and applications via two-dimensional material NEMS resonators. <i>Nanoscale</i> , 2020, 12, 22366-22385.	2.8	15
85	Carbon Nanotubes: From Growth, Placement and Assembly Control to 60mV/decade and Sub-60 mV/decade Tunnel Transistors. , 2006, , .		14
86	Photonic crystal based all-optical pressure sensor. , 2011, , .		14
87	Constraints on downconversion in atomically thick films. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2018, 35, 672.	0.9	13
88	Quasi-line Spectral Emissions from Highly Crystalline One-Dimensional Organic Nanowires. <i>Nano Letters</i> , 2019, 19, 7877-7886.	4.5	12
89	Aluminium and zinc co-doped CuInS <sub>2</sub> QDs for enhanced trion modulation in monolayer WS <sub>2</sub> toward improved electrical properties. <i>Journal of Materials Chemistry C</i> , 2019, 7, 15074-15081.	2.7	12
90	A High-Efficiency Wavelength-Tunable Monolayer LED with Hybrid Continuous-Pulsed Injection. <i>Advanced Materials</i> , 2021, 33, e2101375.	11.1	10

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91	Analysis of temperature compensated SAW modes in ZnO/SiO <sub>2</sub> /Si multilayer structures. , 0, , .		9
92	Self-powered near field electron lithography. Journal of Vacuum Science & Technology B, 2009, 27, 2537-2541.	1.3	9
93	Electronic applications of graphene mechanical resonators. IET Circuits, Devices and Systems, 2015, 9, 413-419.	0.9	8
94	Elastic and Inelastic Light-Matter Interactions in 2D Materials. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 206-213.	1.9	6
95	Regulate the polarity of phosphorene's mechanical properties by oxidation. Computational Materials Science, 2017, 139, 341-346.	1.4	5
96	An Adaptive Soft Plasmonic Nanosheet Resonator. Laser and Photonics Reviews, 2019, 13, 1800302.	4.4	5
97	Probing the chaotic boundary of a membrane resonator with nanowire arrays. Nanoscale, 2017, 9, 17524-17532.	2.8	4
98	Femtomolar sensitivity DNA photonic crystal nanowire array ultrasonic mass sensor. , 2012, , .		3
99	Blue-shifted and strongly-enhanced light emission in transition-metal dichalcogenide twisted heterobilayers. Npj 2D Materials and Applications, 2022, 6, .	3.9	3
100	Mg <sub>x</sub> Zn <sub>1-x</sub> O: a new piezoelectric material. , 0, , .		2
101	Ultra-sensitive photon sensor based on self-assembled nanoparticle plasmonic membrane resonator. , 2016, , .		2
102	Optoelectronics: Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus (Adv. Funct. Mater. 39/2019). Advanced Functional Materials, 2019, 29, 1970272.	7.8	2
103	Solar Cells: Quantifying Quasi-Fermi Level Splitting and Mapping its Heterogeneity in Atomically Thin Transition Metal Dichalcogenides (Adv. Mater. 25/2019). Advanced Materials, 2019, 31, 1970180.	11.1	2
104	Acoustic speaker based on high-efficiency broadband nano-pillar photonic crystal Opto-thermo-mechanical MEMS excitation. , 2011, , .		1
105	Nonlinearity-assisted frequency stabilization for nanowire array membrane oscillator. , 2013, , .		1
106	2D Nanomaterials: Molecule-Induced Conformational Change in Boron Nitride Nanosheets with Enhanced Surface Adsorption (Adv. Funct. Mater. 45/2016). Advanced Functional Materials, 2016, 26, 8356-8356.	7.8	1
107	Black phosphorus: Light-matter interactions and potential applications. , 2020, , 159-173.		1
108	Analysis of BAW responses in ZnO multi-layer structures using transmission line method. , 0, , .		0

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109	Selective growth of ZnO nanotips using MOCVD. , 0, , .		0
110	Analysis of bulk acoustic wave response in ZnO based structures using transmission-line method. , 0, , .		0
111	Quantum Capacitance Measurement for SWNT FET with Thin ALD High-k Dielectric. Device Research Conference, IEEE Annual, 2007, , .	0.0	0
112	Radioisotope-powered ion gauge with super high stability, long life, and large sensitivity range from ultrahigh vacuum to high pressure. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, L52-L54.	0.6	0
113	Lateral electrostatic accelerometer using Radioisotope Powered Electron Lithography. , 2010, , .		0
114	(Invited) Applications of Nanowire Enabled Micro Opto-Thermal Actuation. ECS Transactions, 2012, 45, 107-116.	0.3	0
115	2D materials for nanophotonic devices. , 2015, , .		0
116	A new two-dimensional material: Phosphorene. , 2015, , .		0
117	2D Materials: Controlled Micro/Nanodome Formation in Protonâ€rradiated Bulk Transitionâ€Metal Dichalcogenides (Adv. Mater. 44/2019). Advanced Materials, 2019, 31, 1970314.	11.1	0
118	High-speed InGaAs/InP Quantum Well Nanowire Array Light Emitting Diodes at Telecommunication Wavelength. , 2021, , .		0