Liwen Sang

List of Publications by Year
in descending order

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119 papers	3,068 citations	201674 27 h-index	175258 52 g-index
120 all docs	120 docs citations	120 times ranked	4059 citing authors

#	Article	IF	Citations
1	A Comprehensive Review of Semiconductor Ultraviolet Photodetectors: From Thin Film to One-Dimensional Nanostructures. Sensors, 2013, 13, 10482-10518.	3.8	675
2	High Detectivity Solarâ€Blind Highâ€Temperature Deepâ€Ultraviolet Photodetector Based on Multiâ€Layered (l00) Facetâ€Oriented Î²â€Ga₂O₃ Nanobelts. Small, 2014, 10, 1848-1856.	10.0	185
3	Electrochemical-Coupling Layer-by-Layer (ECCâ€“LbL) Assembly. Journal of the American Chemical Society, 2011, 133, 7348-7351.	13.7	144
4	New UVâ€A Photodetector Based on Individual Potassium Niobate Nanowires with High Performance. Advanced Optical Materials, 2014, 2, 771-778.	7.3	97
5	Single ZnO Nanowire/pâ€type GaN Heterojunctions for Photovoltaic Devices and UV Lightâ€Emitting Diodes. Advanced Materials, 2010, 22, 4284-4287.	21.0	73
6	An Interface Engineered Multicolor Photodetector Based on nâ€Si(111)/TiO₂ Nanorod Array Heterojunction. Advanced Functional Materials, 2016, 26, 1400-1410.	14.9	64
7	Enhanced performance of InGaN solar cell by using a super-thin AlN interlayer. Applied Physics Letters, 2011, 99, .	3.3	62
8	High-temperature ultraviolet detection based on InGaN Schottky photodiodes. Applied Physics Letters, 2011, 99, .	3.3	61
9	Enhanced UV-visible light photodetectors with a TiO₂/Si heterojunction using band engineering. Journal of Materials Chemistry C, 2017, 5, 12848-12856.	5.5	61
10	Comprehensive Investigation of Single Crystal Diamond Deep-Ultraviolet Detectors. Japanese Journal of Applied Physics, 2012, 51, 090115.	1.5	60
11	High-performance metal-semiconductor-metal InGaN photodetectors using CaF2 as the insulator. Applied Physics Letters, 2011, 98, 103502.	3.3	56
12	Initial leakage current paths in the vertical-type GaN-on-GaN Schottky barrier diodes. Applied Physics Letters, 2017, 111, .	3.3	55
13	Superior electrocatalytic activity of mesoporous Au film templated from diblock copolymer micelles. Nano Research, 2016, 9, 1752-1762.	10.4	46
14	Comprehensive Investigation of Single Crystal Diamond Deep-Ultraviolet Detectors. Japanese Journal of Applied Physics, 2012, 51, 090115.	1.5	43
15	Diamond as the heat spreader for the thermal dissipation of GaN-based electronic devices. Functional Diamond, 2021, 1, 174-188.	3.8	43
16	Reduction in threading dislocation densities in AlN epilayer by introducing a pulsed atomic-layer epitaxial buffer layer. Applied Physics Letters, 2008, 93, 122104.	3.3	42
17	Study on the formation of dodecagonal pyramid on nitrogen polar GaN surface etched by hot H3PO4. Applied Physics Letters, 2009, 95, 071114.	3.3	41
18	Integration of high-dielectric constant Ta2O5 oxides on diamond for power devices. Applied Physics Letters, 2012, 101, .	3.3	41

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19	Arbitrary Multicolor Photodetection by Hetero-integrated Semiconductor Nanostructures. Scientific Reports, 2013, 3, 2368.	3.3	41
20	A Multilevel Intermediateâ€Band Solar Cell by InGaN/GaN Quantum Dots with a Strainâ€Modulated Structure. Advanced Materials, 2014, 26, 1414-1420.	21.0	40
21	Energyâ€Efficient Metalâ€“Insulatorâ€“Metalâ€Semiconductor Fieldâ€Effect Transistors Based on 2D Carrier Gases. Advanced Electronic Materials, 2019, 5, 1800832.	5.1	39
22	P-Channel InGaN/GaN heterostructure metal-oxide-semiconductor field effect transistor based on polarization-induced two-dimensional hole gas. Scientific Reports, 2016, 6, 23683.	3.3	37
23	Nearly ideal vertical GaN Schottky barrier diodes with ultralow turn-on voltage and on-resistance. Applied Physics Express, 2017, 10, 051001.	2.4	36
24	In situ switching layer-by-layer assembly: one-pot rapid layer assembly via alternation of reductive and oxidative electropolymerization. Chemical Communications, 2013, 49, 6879.	4.1	35
25	Analysis of mass transport mechanism in InGaN epitaxy on ridge shaped selective area growth GaN by metal organic chemical vapor deposition. Journal of Applied Physics, 2008, 103, .	2.5	34
26	Temperature-controlled epitaxy of InxGa1-xN alloys and their band gap bowing. Journal of Applied Physics, 2011, 110, 113514.	2.5	32
27	Phase Separation Resulting from Mg Doping in p-InGaN Film Grown on GaN/Sapphire Template. Applied Physics Express, 2010, 3, 111004.	2.4	29
28	Electrochemically Organized Isolated Fullerene-Rich Thin Films with Optical Limiting Properties. ACS Applied Materials & Interfaces, 2016, 8, 24295-24299.	8.0	27
29	Energy dissipation in micron- and submicron-thick single crystal diamond mechanical resonators. Applied Physics Letters, 2014, 105, .	3.3	26
30	InGaN-based thin film solar cells: Epitaxy, structural design, and photovoltaic properties. Journal of Applied Physics, 2015, 117, .	2.5	26
31	Assembly of a high-dielectric constant thin TiOx layer directly on H-terminated semiconductor diamond. Applied Physics Letters, 2016, 108, .	3.3	26
32	Improvement of the quality factor of single crystal diamond mechanical resonators. Japanese Journal of Applied Physics, 2017, 56, 024101.	1.5	26
33	Interface trap characterization of Al2O3/GaN vertical-type MOS capacitors on GaN substrate with surface treatments. Journal of Alloys and Compounds, 2018, 767, 600-605.	5.5	26
34	Single-crystal diamond microelectromechanical resonator integrated with a magneto-strictive galfenol film for magnetic sensing. Carbon, 2019, 152, 788-795.	10.3	26
35	Ultrahigh Performance Onâ€Chip Single Crystal Diamond NEMS/MEMS with Electrically Tailored Selfâ€Sensing Enhancing Actuation. Advanced Materials Technologies, 2019, 4, 1800325.	5.8	25
36	Enhancing Delta E Effect at High Temperatures of Galfenol/Ti/Single-Crystal Diamond Resonators for Magnetic Sensing. ACS Applied Materials & Interfaces, 2020, 12, 23155-23164.	8.0	24

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37	Boosting the doping efficiency of Mg in p-GaN grown on the free-standing GaN substrates. Applied Physics Letters, 2019, 115, .	3.3	22
38	Vacancy-type defects in InxGa1â€“xN alloys probed using a monoenergetic positron beam. Journal of Applied Physics, 2012, 112, .	2.5	20
39	Electrical hysteresis in p-GaN metalâ€“oxideâ€“semiconductor capacitor with atomic-layer-deposited Al₂O₃ as gate dielectric. Applied Physics Express, 2016, 9, 121002.	2.4	19
40	Layered boron nitride enabling high-performance AlGaN/GaN high electron mobility transistor. Journal of Alloys and Compounds, 2020, 829, 154542.	5.5	19
41	Coupling of magneto-strictive FeGa film with single-crystal diamond MEMS resonator for high-reliability magnetic sensing at high temperatures. Materials Research Letters, 2020, 8, 180-186.	8.7	19
42	High-detectivity nanowire photodetectors governed by bulk photocurrent dynamics with thermally stable carbide contacts. Nanotechnology, 2013, 24, 495701.	2.6	18
43	Vertical-Type Ni/GaN UV Photodetectors Fabricated on Free-Standing GaN Substrates. Applied Sciences (Switzerland), 2019, 9, 2895.	2.5	18
44	Enhanced magnetic sensing performance of diamond MEMS magnetic sensor with boron-doped FeGa film. Carbon, 2020, 170, 294-301.	10.3	18
45	Study on threading dislocations blocking mechanism of GaNâ•AlxGa1â”xN superlattices. Applied Physics Letters, 2008, 92, 192112.	3.3	17
46	Valence band edge tail states and band gap defect levels of GaN bulk and In_xGa_{1â”}_xN films detected by hard X-ray photoemission and photothermal deflection spectroscopy. Applied Physics Express, 2018, 11, 021002.	2.4	17
47	Suppression in the electrical hysteresis by using CaF2 dielectric layer for p-GaN MIS capacitors. Journal of Applied Physics, 2018, 123, .	2.5	17
48	Characteristics of Al₂O₃/native oxide/n-GaN capacitors by post-metallization annealing. Semiconductor Science and Technology, 2019, 34, 034001.	2.0	17
49	Temperature dependence of Young's modulus of single-crystal diamond determined by dynamic resonance. Diamond and Related Materials, 2021, 116, 108403.	3.9	17
50	Reducing intrinsic energy dissipation in diamond-on-diamond mechanical resonators toward one million quality factor. Physical Review Materials, 2018, 2, .	2.4	17
51	Impedance analysis of Al2O3/H-terminated diamond metal-oxide-semiconductor structures. Applied Physics Letters, 2015, 106, 083506.	3.3	16
52	Vacancy-type defects in InxGa1â”xN grown on GaN templates probed using monoenergetic positron beams. Journal of Applied Physics, 2013, 114, .	2.5	15
53	Deep-level defects related to the emissive pits in thick InGaN films on GaN template and bulk substrates. APL Materials, 2017, 5, .	5.1	14
54	Effect of Deep-Defects Excitation on Mechanical Energy Dissipation of Single-Crystal Diamond. Physical Review Letters, 2020, 125, 206802.	7.8	14

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55	High-performance visible to near-infrared photodetectors by using (Cd,Zn)Te single crystal. Optics Express, 2019, 27, 8935.	3.4	14
56	Effect of polarization on intersubband transition in AlGaN/GaN multiple quantum wells. Applied Physics Letters, 2013, 102, .	3.3	13
57	Oneâ€Step Selfâ€Assembly Fabrication of High Quality Ni_xMg_{1â€x}O Bowlâ€Shaped Array Film and Its Enhanced Photocurrent by Mg,²⁺ Doping. Advanced Functional Materials, 2015, 25, 3256-3263.	14.9	13
58	Luminescent properties in the strain adjusted phosphor-free GaN based white light-emitting diode. Applied Physics Letters, 2008, 93, .	3.3	12
59	Study of the leakage current mechanism in Schottky contacts to Al_{0.25}Ga_{0.75}N/GaN heterostructures with AlN interlayers. Semiconductor Science and Technology, 2009, 24, 055005.	2.0	12
60	Study of Defect Levels in the Band Gap for a Thick InGaN Film. Japanese Journal of Applied Physics, 2012, 51, 121001.	1.5	12
61	Determination of the surface band bending in In_xGa_{1â^'x}N films by hard x-ray photoemission spectroscopy. Science and Technology of Advanced Materials, 2013, 14, 015007.	6.1	11
62	Reducing energy dissipation and surface effect of diamond nanoelectromechanical resonators by annealing in oxygen ambient. Carbon, 2017, 124, 281-287.	10.3	11
63	Strain-enhanced high Q-factor GaN micro-electromechanical resonator. Science and Technology of Advanced Materials, 2020, 21, 515-523.	6.1	11
64	AlGaN-Based Solar-Blind Schottky Photodetectors Fabricated on AlN/Sapphire Template. Chinese Physics Letters, 2008, 25, 258-261.	3.3	10
65	Mid-infrared Photoconductive Response in AlGaN/GaN Step Quantum Wells. Scientific Reports, 2015, 5, 14386.	3.3	10
66	Temperature dependence on current-voltage characteristics of Niâ•Auâ€“Al0.45Ga0.55N Schottky photodiode. Applied Physics Letters, 2008, 92, 103505.	3.3	9
67	Improvement of strained InGaN solar cell performance with a heavily doped n⁺â€GaN substrate. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1033-1038.	1.8	9
68	High-quality SiN_x/p-GaN metal-insulator-semiconductor interface with low-density trap states. Journal Physics D: Applied Physics, 2019, 52, 085105.	2.8	9
69	Tailoring the magnetic properties of galfenol film grown on single-crystal diamond. Journal of Alloys and Compounds, 2021, 858, 157683.	5.5	9
70	Insight into traps at Al2O3/p-GaN metal-oxide-semiconductor interface fabricated on free-standing GaN substrate. Journal of Alloys and Compounds, 2021, 853, 157356.	5.5	9
71	Capacitance characteristics of back-illuminated Al0.42Ga0.58Nâ•Al0.40Ga0.60N heterojunction p-i-n solar-blind UV photodiode. Applied Physics Letters, 2007, 91, 253510.	3.3	8
72	Fabrication of transparent conducting polymer/GaN Schottky junction for deep level defect evaluation under light irradiation. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 470-473.	1.8	8

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73	Temperature and Light Intensity Dependence of Photocurrent Transport Mechanisms in InGaN pâ€“iâ€“n Homojunction Solar Cells. Japanese Journal of Applied Physics, 2013, 52, 08JF04.	1.5	8
74	A density functional study of the effect of hydrogen on electronic properties and band discontinuity at anatase TiO2/diamond interface. Journal of Applied Physics, 2018, 123, .	2.5	8
75	Point defects introduced by InN alloying into InxGa1â^'xN probed using a monoenergetic positron beam. Journal of Applied Physics, 2013, 113, 123502.	2.5	7
76	Investigation on the interfacial chemical state and band alignment for the sputtering-deposited CaF2/p-GaN heterojunction by angle-resolved X-ray photoelectron spectroscopy. Journal of Applied Physics, 2016, 120, .	2.5	7
77	Interface characteristics of Î²-Ga2O3/Al2O3/Pt capacitors after postmetallization annealing. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	2.1	7
78	Barrier Enhancement Effect of Postannealing in Oxygen Ambient on Ni/AlGaN Schottky Contacts. Chinese Physics Letters, 2007, 24, 2938-2941.	3.3	6
79	AlGaN-Based Deep-Ultraviolet Light Emitting Diodes Fabricated on AlN/sapphire Template. Chinese Physics Letters, 2009, 26, 117801.	3.3	6
80	Fabrication of dodecagonal pyramid on nitrogen face GaN and its effect on the light extraction. Science China Technological Sciences, 2010, 53, 769-771.	4.0	6
81	Study of Defect Levels in the Band Gap for a Thick InGaN Film. Japanese Journal of Applied Physics, 2012, 51, 121001.	1.5	6
82	Precise characterization of atomic-scale corrosion of single crystal diamond in H2 plasma based on MEMS/NEMS. Corrosion Science, 2020, 170, 108651.	6.6	6
83	Polarization-induced hole doping for long-wavelength In-rich InGaN solar cells. Applied Physics Letters, 2021, 119, .	3.3	6
84	Fabrication of three-dimensional CuInS 2 solar-cell structure via supercritical fluid processing. Journal of Supercritical Fluids, 2017, 120, 448-452.	3.2	5
85	High-mobility nâ^'-GaN drift layer grown on Si substrates. Applied Physics Letters, 2021, 118, .	3.3	5
86	Stress effect on the resonance properties of single-crystal diamond cantilever resonators for microscopy applications. Ultramicroscopy, 2022, 234, 113464.	1.9	5
87	Transmission electron microscopy investigation of inversion domain boundary in Al0.65Ga0.35N grown on AlN/sapphire template. Applied Physics Letters, 2009, 95, .	3.3	4
88	Influence of dislocations on indium diffusion in semi-polar InGaN/GaN heterostructures. AIP Advances, 2015, 5, .	1.3	4
89	MOCVD Growth and Investigation of InGaN/GaN Heterostructure Grown on AlGaN/GaN-on-Si Template. Applied Sciences (Switzerland), 2019, 9, 1746.	2.5	4
90	Effects of low temperature buffer layer on all-sputtered epitaxial GaN/AlN film on Si (111) substrate. Japanese Journal of Applied Physics, 2021, 60, SCCG03.	1.5	4

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91	High reactivity of H₂O vapor on GaN surfaces. Science and Technology of Advanced Materials, 2022, 23, 189-198.	6.1	4
92	Invariable optical properties of phosphor-free white light-emitting diode under electrical stress. Chinese Physics B, 2010, 19, 107307.	1.4	3
93	Determination of the transition point from electron accumulation to depletion at the surface of In_xGa_{1â^'}_xN films. Applied Physics Express, 2018, 11, 021001.	2.4	3
94	Influence of post-deposition annealing on interface characteristics at Al₂O₃/n-GaN. , 2019, , .		3
95	Thermal mismatch induced stress characterization by dynamic resonance based on diamond MEMS. Applied Physics Express, 2021, 14, 045501.	2.4	3
96	Highly efficient diamond electromechanical transducer based on released metalâ€“oxideâ€“semiconductor structure. Applied Physics Letters, 2021, 119, .	3.3	3
97	Interface electronic structure and the Schottky barrier at Al-diamond interface: hybrid density functional theory HSE06 investigation. Wuli Xuebao/Acta Physica Sinica, 2017, 66, 088102.	0.5	3
98	Generating robust two-dimensional hole gas at the interface between boron nitride and diamond. Japanese Journal of Applied Physics, 2020, 59, 090910.	1.5	3
99	Highâ€pressure MOCVD growth of InGaN thick films toward the photovoltaic applications. Fundamental Research, 2023, 3, 403-408.	3.3	3
100	FINITE ELEMENT ANALYSIS OF UNDERWATER CYMBAL TRANSDUCERS WITH LARGE DISPLACEMENT AND FAST RESPONSE TIME. Integrated Ferroelectrics, 2006, 78, 103-111.	0.7	2
101	Effect of Indium Ambient on Electrical Properties of Mg-Doped Al _x Ga _{1â^' x} N. Chinese Physics Letters, 2010, 27, 127304.	3.3	2
102	Study of the stacking faults in a-plane GaN on r-plane sapphire grown by metalâ€“organic chemical vapor deposition. Journal of Crystal Growth, 2011, 318, 423-426.	1.5	2
103	InGaN photodiodes using CaF2 insulator for high-temperature UV detection. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 953-956.	0.8	2
104	Single Crystal Diamond Micromechanical and Nanomechanical Resonators. Topics in Applied Physics, 2019, , 91-121.	0.8	2
105	Threshold Voltage Instability of Diamond Metalâ€“Oxideâ€“Semiconductor Fieldâ€Effect Transistors Based on 2D Hole Gas. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900538.	1.8	2
106	Electrical readout/characterization of single crystal diamond (SCD) cantilever resonators. Diamond and Related Materials, 2020, 103, 107711.	3.9	2
107	Integrated TbDyFe Film on a Singleâ€Crystal Diamond Microelectromechanical Resonator for Magnetic Sensing. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100352.	2.4	2
108	Self-Temperature-Compensated GaN MEMS Resonators through Strain Engineering up to 600 K. , 2020, , .		2

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109	Thermal conductivity and phonon scattering of AlGaN nanofilms by elastic theory and Boltzmann transport equation. Semiconductor Science and Technology, 2022, 37, 055003.	2.0	2
110	Improvement of crystal quality of GaN grown on AlN template by MOCVD using HTâ€AlN interlayer. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S317.	0.8	1
111	Nonpolara-plane light-emitting diode with anin-situSiN_xinterlayer onr-plane sapphire grown by metal-organic chemical vapour deposition. Chinese Physics B, 2011, 20, 017804.	1.4	1
112	Fabrication of Cu2ZnSnS4 thin films using a Cu-Zn-Sn-O amorphous precursor and supercritical fluid sulfurization. Thin Solid Films, 2017, 638, 244-250.	1.8	1
113	Terahertz Cyclotron Resonance in AlGaN/GaN Heterostructures. Journal of the Korean Physical Society, 2019, 74, 159-163.	0.7	1
114	Al-rich AlGaN semiconductor materials and their device applications. , 2019, , 1-110.		1
115	Elastic strain engineered nanomechanical GaN resonators with thermoelastic dissipation dilution up to 600â€‰K. Journal of Applied Physics, 2022, 131, .	2.5	1
116	Radiation effect of X-ray with 1 kGy dose on the electrical properties of MESFET based on hydrogen-terminated diamond surface conductivity. Functional Diamond, 2022, 2, 40-45.	3.8	1
117	Polarity Control of an All-Sputtered Epitaxial GaN/AlN/Al Film on a Si(111) Substrate by Intermediate Oxidization. ACS Omega, 2022, 7, 19380-19387.	3.5	1
118	Electrical Characterization of Thick InGaN Films for Photovoltaic Applications. Materials Research Society Symposia Proceedings, 2014, 1635, 29-34.	0.1	0
119	Optical properties of Ga_{0.82}In_{0.18}N p-n homojunction blue-green light-emitting-diode grown by radio-frequency plasma-assisted molecular beam epitaxy. Transactions of the Materials Research Society of Japan, 2015, 40, 149-152.	0.2	0