

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	High-pressure MOCVD growth of InGaN thick films toward the photovoltaic applications. <i>Fundamental Research</i> , 2023, 3, 403-408.	3.3	3
2	Elastic strain engineered nanomechanical GaN resonators with thermoelastic dissipation dilution up to 600‰K. <i>Journal of Applied Physics</i> , 2022, 131, .	2.5	1
3	Stress effect on the resonance properties of single-crystal diamond cantilever resonators for microscopy applications. <i>Ultramicroscopy</i> , 2022, 234, 113464.	1.9	5
4	Thermal conductivity and phonon scattering of AlGaIn nanofilms by elastic theory and Boltzmann transport equation. <i>Semiconductor Science and Technology</i> , 2022, 37, 055003.	2.0	2
5	High reactivity of H ₂ O vapor on GaN surfaces. <i>Science and Technology of Advanced Materials</i> , 2022, 23, 189-198.	6.1	4
6	Radiation effect of X-ray with 1 kGy dose on the electrical properties of MESFET based on hydrogen-terminated diamond surface conductivity. <i>Functional Diamond</i> , 2022, 2, 40-45.	3.8	1
7	Polarity Control of an All-Sputtered Epitaxial GaN/AlN/Al Film on a Si(111) Substrate by Intermediate Oxidization. <i>ACS Omega</i> , 2022, 7, 19380-19387.	3.5	1
8	Tailoring the magnetic properties of galfenol film grown on single-crystal diamond. <i>Journal of Alloys and Compounds</i> , 2021, 858, 157683.	5.5	9
9	Insight into traps at Al ₂ O ₃ /p-GaN metal-oxide-semiconductor interface fabricated on free-standing GaN substrate. <i>Journal of Alloys and Compounds</i> , 2021, 853, 157356.	5.5	9
10	Interface characteristics of $\text{In}^2\text{-Ga}_2\text{O}_3/\text{Al}_2\text{O}_3/\text{Pt}$ capacitors after postmetallization annealing. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2021, 39, .	2.1	7
11	Thermal mismatch induced stress characterization by dynamic resonance based on diamond MEMS. <i>Applied Physics Express</i> , 2021, 14, 045501.	2.4	3
12	Effects of low temperature buffer layer on all-sputtered epitaxial GaN/AlN film on Si (111) substrate. <i>Japanese Journal of Applied Physics</i> , 2021, 60, SCCC03.	1.5	4
13	High-mobility n ⁺ -GaN drift layer grown on Si substrates. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	5
14	Temperature dependence of Young's modulus of single-crystal diamond determined by dynamic resonance. <i>Diamond and Related Materials</i> , 2021, 116, 108403.	3.9	17
15	Integrated TbDyFe Film on a Single-Crystal Diamond Microelectromechanical Resonator for Magnetic Sensing. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100352.	2.4	2
16	Highly efficient diamond electromechanical transducer based on released metal-oxide-semiconductor structure. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	3
17	Diamond as the heat spreader for the thermal dissipation of GaN-based electronic devices. <i>Functional Diamond</i> , 2021, 1, 174-188.	3.8	43
18	Polarization-induced hole doping for long-wavelength In-rich InGaIn solar cells. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	6

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19	Enhanced magnetic sensing performance of diamond MEMS magnetic sensor with boron-doped FeGa film. Carbon, 2020, 170, 294-301.	10.3	18
20	Effect of Deep-Defects Excitation on Mechanical Energy Dissipation of Single-Crystal Diamond. Physical Review Letters, 2020, 125, 206802.	7.8	14
21	Strain-enhanced high Q -factor GaN micro-electromechanical resonator. Science and Technology of Advanced Materials, 2020, 21, 515-523.	6.1	11
22	Layered boron nitride enabling high-performance AlGaIn/GaN high electron mobility transistor. Journal of Alloys and Compounds, 2020, 829, 154542.	5.5	19
23	Electrical readout/characterization of single crystal diamond (SCD) cantilever resonators. Diamond and Related Materials, 2020, 103, 107711.	3.9	2
24	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
25	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
26	Precise characterization of atomic-scale corrosion of single crystal diamond in H ₂ plasma based on MEMS/NEMS. Corrosion Science, 2020, 170, 108651.	6.6	6
27	Self-Temperature-Compensated GaN MEMS Resonators through Strain Engineering up to 600 K. , 2020, , .		2
28	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
29	Vertical-Type Ni/GaN UV Photodetectors Fabricated on Free-Standing GaN Substrates. Applied Sciences (Switzerland), 2019, 9, 2895.	2.5	18
30	Boosting the doping efficiency of Mg in p -GaIn grown on the free-standing GaN substrates. Applied Physics Letters, 2019, 115, .	3.3	22
31	Influence of post-deposition annealing on interface characteristics at Al ₂ O ₃ /n-GaN. , 2019, , .		3
32	Terahertz Cyclotron Resonance in AlGaIn/GaN Heterostructures. Journal of the Korean Physical Society, 2019, 74, 159-163.	0.7	1
33	Single-crystal diamond microelectromechanical resonator integrated with a magneto-strictive galfenol film for magnetic sensing. Carbon, 2019, 152, 788-795.	10.3	26
34	Al-rich AlGaIn semiconductor materials and their device applications. , 2019, , 1-110.		1
35	MOCVD Growth and Investigation of InGaIn/GaN Heterostructure Grown on AlGaIn/GaN-on-Si Template. Applied Sciences (Switzerland), 2019, 9, 1746.	2.5	4
36	Energy-Efficient Metal-Insulator-Metal Semiconductor Field-Effect Transistors Based on 2D Carrier Gases. Advanced Electronic Materials, 2019, 5, 1800832.	5.1	39

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37	Single Crystal Diamond Micromechanical and Nanomechanical Resonators. Topics in Applied Physics, 2019, , 91-121.	0.8	2
38	Threshold Voltage Instability of Diamond Metal-oxide-semiconductor Field-effect Transistors Based on 2D Hole Gas. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900538.	1.8	2
39	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
40	Characteristics of Al ₂ O ₃ /native oxide/n-GaN capacitors by post-metallization annealing. Semiconductor Science and Technology, 2019, 34, 034001.	2.0	17
41	Ultrahigh Performance On-chip Single Crystal Diamond NEMS/MEMS with Electrically Tailored Self-sensing Enhancing Actuation. Advanced Materials Technologies, 2019, 4, 1800325.	5.8	25
42	High-performance visible to near-infrared photodetectors by using (Cd,Zn)Te single crystal. Optics Express, 2019, 27, 8935.	3.4	14
43	Valence band edge tail states and band gap defect levels of GaN bulk and In _x Ga _{1-x} N films detected by hard X-ray photoemission and photothermal deflection spectroscopy. Applied Physics Express, 2018, 11, 021002.	2.4	17
44	A density functional study of the effect of hydrogen on electronic properties and band discontinuity at anatase TiO ₂ /diamond interface. Journal of Applied Physics, 2018, 123, .	2.5	8
45	Suppression in the electrical hysteresis by using CaF ₂ dielectric layer for p-GaN MIS capacitors. Journal of Applied Physics, 2018, 123, .	2.5	17
46	Determination of the transition point from electron accumulation to depletion at the surface of In _x Ga _{1-x} N films. Applied Physics Express, 2018, 11, 021001.	2.4	3
47	Interface trap characterization of Al ₂ O ₃ /GaN vertical-type MOS capacitors on GaN substrate with surface treatments. Journal of Alloys and Compounds, 2018, 767, 600-605.	5.5	26
48	Reducing intrinsic energy dissipation in diamond-on-diamond mechanical resonators toward one million quality factor. Physical Review Materials, 2018, 2, .	2.4	17
49	Fabrication of three-dimensional CuInS ₂ solar-cell structure via supercritical fluid processing. Journal of Supercritical Fluids, 2017, 120, 448-452.	3.2	5
50	Nearly ideal vertical GaN Schottky barrier diodes with ultralow turn-on voltage and on-resistance. Applied Physics Express, 2017, 10, 051001.	2.4	36
51	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
52	Reducing energy dissipation and surface effect of diamond nanoelectromechanical resonators by annealing in oxygen ambient. Carbon, 2017, 124, 281-287.	10.3	11
53	Initial leakage current paths in the vertical-type GaN-on-GaN Schottky barrier diodes. Applied Physics Letters, 2017, 111, .	3.3	55
54	Fabrication of Cu ₂ ZnSnS ₄ thin films using a Cu-Zn-Sn-O amorphous precursor and supercritical fluid sulfurization. Thin Solid Films, 2017, 638, 244-250.	1.8	1

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55	Enhanced UV-visible light photodetectors with a TiO ₂ /Si heterojunction using band engineering. <i>Journal of Materials Chemistry C</i> , 2017, 5, 12848-12856.	5.5	61
56	Improvement of the quality factor of single crystal diamond mechanical resonators. <i>Japanese Journal of Applied Physics</i> , 2017, 56, 024101.	1.5	26
57	Interface electronic structure and the Schottky barrier at Al-diamond interface: hybrid density functional theory HSE06 investigation. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2017, 66, 088102.	0.5	3
58	An Interface Engineered Multicolor Photodetector Based on n ⁺ Si(111)/TiO ₂ Nanorod Array Heterojunction. <i>Advanced Functional Materials</i> , 2016, 26, 1400-1410.	14.9	64
59	Investigation on the interfacial chemical state and band alignment for the sputtering-deposited CaF ₂ /p-GaN heterojunction by angle-resolved X-ray photoelectron spectroscopy. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	7
60	Assembly of a high-dielectric constant thin TiO _x layer directly on H-terminated semiconductor diamond. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	26
61	Superior electrocatalytic activity of mesoporous Au film templated from diblock copolymer micelles. <i>Nano Research</i> , 2016, 9, 1752-1762.	10.4	46
62	Electrochemically Organized Isolated Fullerene-Rich Thin Films with Optical Limiting Properties. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 24295-24299.	8.0	27
63	Electrical hysteresis in p-GaN metal-oxide semiconductor capacitor with atomic-layer-deposited Al ₂ O ₃ as gate dielectric. <i>Applied Physics Express</i> , 2016, 9, 121002.	2.4	19
64	P-Channel InGaN/GaN heterostructure metal-oxide-semiconductor field effect transistor based on polarization-induced two-dimensional hole gas. <i>Scientific Reports</i> , 2016, 6, 23683.	3.3	37
65	Influence of dislocations on indium diffusion in semi-polar InGaN/GaN heterostructures. <i>AIP Advances</i> , 2015, 5, .	1.3	4
66	Mid-infrared Photoconductive Response in AlGaN/GaN Step Quantum Wells. <i>Scientific Reports</i> , 2015, 5, 14386.	3.3	10
67	Optical properties of Ga _{0.82} In _{0.18} N homojunction blue-green light-emitting-diode grown by radio-frequency plasma-assisted molecular beam epitaxy. <i>Transactions of the Materials Research Society of Japan</i> , 2015, 40, 149-152.	0.2	0
68	Improvement of strained InGaN solar cell performance with a heavily doped n ⁺ GaN substrate. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2015, 212, 1033-1038.	1.8	9
69	InGaN-based thin film solar cells: Epitaxy, structural design, and photovoltaic properties. <i>Journal of Applied Physics</i> , 2015, 117, .	2.5	26
70	Impedance analysis of Al ₂ O ₃ /H-terminated diamond metal-oxide-semiconductor structures. <i>Applied Physics Letters</i> , 2015, 106, 083506.	3.3	16
71	One-Step Self-Assembly Fabrication of High Quality NiMg _{1-x} O Bowl-Shaped Array Film and Its Enhanced Photocurrent by Mg ₂₊ Doping. <i>Advanced Functional Materials</i> , 2015, 25, 3256-3263.	14.9	13
72	Energy dissipation in micron- and submicron-thick single crystal diamond mechanical resonators. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	26

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73	A Multilevel Intermediate-Band Solar Cell by InGaN/GaN Quantum Dots with a Strain-Modulated Structure. <i>Advanced Materials</i> , 2014, 26, 1414-1420.	21.0	40
74	High Detectivity Solar-Blind High-Temperature Deep-Ultraviolet Photodetector Based on Multi-Layered ($\text{In}_{1-x}\text{Ga}_x\text{O}$) Facet-Oriented In_2O_3 Nanobelts. <i>Small</i> , 2014, 10, 1848-1856.	10.0	185
75	Electrical Characterization of Thick InGaN Films for Photovoltaic Applications. <i>Materials Research Society Symposia Proceedings</i> , 2014, 1635, 29-34.	0.1	0
76	New UV-A Photodetector Based on Individual Potassium Niobate Nanowires with High Performance. <i>Advanced Optical Materials</i> , 2014, 2, 771-778.	7.3	97
77	Fabrication of transparent conducting polymer/GaN Schottky junction for deep level defect evaluation under light irradiation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2013, 210, 470-473.	1.8	8
78	Effect of polarization on intersubband transition in AlGaIn/GaN multiple quantum wells. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	13
79	Vacancy-type defects in $\text{In}_{1-x}\text{Ga}_x\text{N}$ grown on GaN templates probed using monoenergetic positron beams. <i>Journal of Applied Physics</i> , 2013, 114, .	2.5	15
80	Arbitrary Multicolor Photodetection by Hetero-integrated Semiconductor Nanostructures. <i>Scientific Reports</i> , 2013, 3, 2368.	3.3	41
81	In situ switching layer-by-layer assembly: one-pot rapid layer assembly via alternation of reductive and oxidative electropolymerization. <i>Chemical Communications</i> , 2013, 49, 6879.	4.1	35
82	High-detectivity nanowire photodetectors governed by bulk photocurrent dynamics with thermally stable carbide contacts. <i>Nanotechnology</i> , 2013, 24, 495701.	2.6	18
83	A Comprehensive Review of Semiconductor Ultraviolet Photodetectors: From Thin Film to One-Dimensional Nanostructures. <i>Sensors</i> , 2013, 13, 10482-10518.	3.8	675
84	Determination of the surface band bending in $\text{In}_{1-x}\text{Ga}_x\text{N}$ films by hard x-ray photoemission spectroscopy. <i>Science and Technology of Advanced Materials</i> , 2013, 14, 015007.	6.1	11
85	Point defects introduced by InN alloying into $\text{In}_x\text{Ga}_{1-x}\text{N}$ probed using a monoenergetic positron beam. <i>Journal of Applied Physics</i> , 2013, 113, 123502.	2.5	7
86	Temperature and Light Intensity Dependence of Photocurrent Transport Mechanisms in InGaIn Homojunction Solar Cells. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 08JF04.	1.5	8
87	Integration of high-dielectric constant Ta ₂ O ₅ oxides on diamond for power devices. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	41
88	Vacancy-type defects in $\text{In}_{1-x}\text{Ga}_x\text{N}$ alloys probed using a monoenergetic positron beam. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	20
89	Comprehensive Investigation of Single Crystal Diamond Deep-Ultraviolet Detectors. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 090115.	1.5	43
90	Study of Defect Levels in the Band Gap for a Thick InGaIn Film. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 121001.	1.5	6

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91	InGaN photodiodes using CaF ₂ insulator for high-temperature UV detection. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2012, 9, 953-956.	0.8	2
92	Comprehensive Investigation of Single Crystal Diamond Deep-Ultraviolet Detectors. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 090115.	1.5	60
93	Study of Defect Levels in the Band Gap for a Thick InGaN Film. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 121001.	1.5	12
94	Enhanced performance of InGaN solar cell by using a super-thin AlN interlayer. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	62
95	High-temperature ultraviolet detection based on InGaN Schottky photodiodes. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	61
96	Electrochemical-Coupling Layer-by-Layer (ECC-LbL) Assembly. <i>Journal of the American Chemical Society</i> , 2011, 133, 7348-7351.	13.7	144
97	Study of the stacking faults in a-plane GaN on r-plane sapphire grown by metal-organic chemical vapor deposition. <i>Journal of Crystal Growth</i> , 2011, 318, 423-426.	1.5	2
98	Temperature-controlled epitaxy of In _x Ga _{1-x} N alloys and their band gap bowing. <i>Journal of Applied Physics</i> , 2011, 110, 113514.	2.5	32
99	Nonpolar a-plane light-emitting diode with an in-situ SiN _x interlayer on r-plane sapphire grown by metal-organic chemical vapour deposition. <i>Chinese Physics B</i> , 2011, 20, 017804.	1.4	1
100	High-performance metal-semiconductor-metal InGaN photodetectors using CaF ₂ as the insulator. <i>Applied Physics Letters</i> , 2011, 98, 103502.	3.3	56
101	Fabrication of dodecagonal pyramid on nitrogen face GaN and its effect on the light extraction. <i>Science China Technological Sciences</i> , 2010, 53, 769-771.	4.0	6
102	Single ZnO Nanowire/p-type GaN Heterojunctions for Photovoltaic Devices and UV Light-Emitting Diodes. <i>Advanced Materials</i> , 2010, 22, 4284-4287.	21.0	73
103	Invariable optical properties of phosphor-free white light-emitting diode under electrical stress. <i>Chinese Physics B</i> , 2010, 19, 107307.	1.4	3
104	Phase Separation Resulting from Mg Doping in p-InGaN Film Grown on GaN/Sapphire Template. <i>Applied Physics Express</i> , 2010, 3, 111004.	2.4	29
105	Effect of Indium Ambient on Electrical Properties of Mg-Doped Al _x Ga _{1-x} N. <i>Chinese Physics Letters</i> , 2010, 27, 127304.	3.3	2
106	Study on the formation of dodecagonal pyramid on nitrogen polar GaN surface etched by hot H ₃ PO ₄ . <i>Applied Physics Letters</i> , 2009, 95, 071114.	3.3	41
107	Transmission electron microscopy investigation of inversion domain boundary in Al _{0.65} Ga _{0.35} N grown on AlN/sapphire template. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	4
108	Study of the leakage current mechanism in Schottky contacts to Al _{0.25} Ga _{0.75} N/GaN heterostructures with AlN interlayers. <i>Semiconductor Science and Technology</i> , 2009, 24, 055005.	2.0	12

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109	AlGa _N -Based Deep-Ultraviolet Light Emitting Diodes Fabricated on AlN/sapphire Template. Chinese Physics Letters, 2009, 26, 117801.	3.3	6
110	Improvement of crystal quality of GaN grown on AlN template by MOCVD using HT- AlN interlayer. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S317.	0.8	1
111	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
112	Luminescent properties in the strain adjusted phosphor-free GaN based white light-emitting diode. Applied Physics Letters, 2008, 93, .	3.3	12
113	AlGa _N -Based Solar-Blind Schottky Photodetectors Fabricated on AlN/Sapphire Template. Chinese Physics Letters, 2008, 25, 258-261.	3.3	10
114	Temperature dependence on current-voltage characteristics of Ni \cdot Au \cdot Al _{0.45} Ga _{0.55} N Schottky photodiode. Applied Physics Letters, 2008, 92, 103505.	3.3	9
115	Analysis of mass transport mechanism in InGa _N epitaxy on ridge shaped selective area growth GaN by metal organic chemical vapor deposition. Journal of Applied Physics, 2008, 103, .	2.5	34
116	Study on threading dislocations blocking mechanism of GaN \cdot Al _x Ga _{1-x} N superlattices. Applied Physics Letters, 2008, 92, 192112.	3.3	17
117	Barrier Enhancement Effect of Postannealing in Oxygen Ambient on Ni/AlGa _N Schottky Contacts. Chinese Physics Letters, 2007, 24, 2938-2941.	3.3	6
118	Capacitance characteristics of back-illuminated Al _{0.42} Ga _{0.58} N \cdot Al _{0.40} Ga _{0.60} N heterojunction p-i-n solar-blind UV photodiode. Applied Physics Letters, 2007, 91, 253510.	3.3	8
119	FINITE ELEMENT ANALYSIS OF UNDERWATER CYMBAL TRANSDUCERS WITH LARGE DISPLACEMENT AND FAST RESPONSE TIME. Integrated Ferroelectrics, 2006, 78, 103-111.	0.7	2