Jong-In Shim

List of Publications by Year
in descending order

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74 papers	1,415 citations	331670 21 h-index	345221 36 g-index
75 all docs	75 docs citations	75 times ranked	949 citing authors

#	Article	IF	Citations
1	Rate equation analysis of efficiency droop in InGaN light-emitting diodes. Applied Physics Letters, 2009, 95, .	3.3	189
2	Study of droop phenomena in InGaN-based blue and green light-emitting diodes by temperature-dependent electroluminescence. Applied Physics Letters, 2012, 100, .	3.3	101
3	Analysis of efficiency droop in nitride light-emitting diodes by the reduced effective volume of InGaN active material. Applied Physics Letters, 2012, 100, .	3.3	99
4	Efficiency droop in AlGaInP and GaInN light-emitting diodes. Applied Physics Letters, 2012, 100, .	3.3	63
5	Analysis of efficiency droop in 280-nm AlGaN multiple-quantum-well light-emitting diodes based on carrier rate equation. Applied Physics Express, 2015, 8, 022104.	2.4	62
6	An Explanation of Efficiency Droop in InGaN-based Light Emitting Diodes: Saturated Radiative Recombination Rate at Randomly Distributed In-Rich Active Areas. Journal of the Korean Physical Society, 2011, 58, 503-508.	0.7	60
7	Nonradiative recombination mechanisms in InGaN/GaN-based light-emitting diodes investigated by temperature-dependent measurements. Applied Physics Letters, 2014, 104, .	3.3	54
8	Measuring the internal quantum efficiency of light-emitting diodes: towards accurate and reliable room-temperature characterization. Nanophotonics, 2018, 7, 1601-1615.	6.0	49
9	Analysis of dominant carrier recombination mechanisms depending on injection current in InGaN green light emitting diodes. Applied Physics Letters, 2014, 104, .	3.3	44
10	Conduction Mechanisms of Leakage Currents in InGaN/GaN-Based Light-Emitting Diodes. IEEE Transactions on Electron Devices, 2015, 62, 587-592.	3.0	42
11	Measurement of Internal Electric Field in GaN-Based Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2012, 48, 500-506.	1.9	39
12	Structural Parameter Dependence of Light Extraction Efficiency in Photonic Crystal InGaN Vertical Light-Emitting Diode Structures. IEEE Journal of Quantum Electronics, 2010, 46, 714-720.	1.9	36
13	Current- and temperature-dependent efficiency droops in InGaN-based blue and AlGaInP-based red light-emitting diodes. Japanese Journal of Applied Physics, 2019, 58, SCCC08.	1.5	33
14	On the ideality factor of the radiative recombination current in semiconductor light-emitting diodes. Applied Physics Letters, 2016, 109, .	3.3	32
15	Carrier density dependence of polarization switching characteristics of light emission in deep-ultraviolet AlGaN/AlN quantum well structures. Applied Physics Letters, 2013, 102, .	3.3	29
16	Measurement of piezoelectric field in single- and double-quantum-well green LEDs using electroreflectance spectroscopy. Japanese Journal of Applied Physics, 2014, 53, 098002.	1.5	27
17	Analysis of nonradiative recombination mechanisms and their impacts on the device performance of InGaN/GaN light-emitting diodes. Japanese Journal of Applied Physics, 2015, 54, 02BA01.	1.5	27
18	Influence of carrier overflow on the forward-voltage characteristics of InGaN-based light-emitting diodes. Applied Physics Letters, 2014, 105, .	3.3	26

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19	Measuring the Internal Quantum Efficiency of Light-Emitting Diodes at an Arbitrary Temperature. IEEE Journal of Quantum Electronics, 2018, 54, 1-6.	1.9	25
20	Efficiency and Electron Leakage Characteristics in GaN-Based Light-Emitting Diodes Without AlGaN Electron-Blocking-Layer Structures. IEEE Photonics Technology Letters, 2011, 23, 1866-1868.	2.5	23
21	Effects of unbalanced carrier injection on the performance characteristics of InGaN light-emitting diodes. Applied Physics Express, 2016, 9, 081002.	2.4	23
22	V-pits as Barriers to Diffusion of Carriers in InGaN/GaN Quantum Wells. Journal of Electronic Materials, 2015, 44, 4134-4138.	2.2	21
23	Optoelectronic Performance Variations in InGaN/GaN Multiple-Quantum-Well Light-Emitting Diodes: Effects of Potential Fluctuation. Materials, 2018, 11, 743.	2.9	21
24	Analysis of carrier recombination dynamics in InGaN-based light-emitting diodes by differential carrier lifetime measurement. Applied Physics Express, 2017, 10, 052101.	2.4	20
25	Investigation of Dominant Nonradiative Mechanisms as a Function of Current in InGaN/GaN Light-Emitting Diodes. Applied Physics Express, 2013, 6, 052105.	2.4	19
26	Investigation of carrier spillâ€over in In<scp>G</scp>a<scp>N</scp>â€based lightâ€emitting diodes by temperature dependences of resonant photoluminescence and openâ€circuit voltage. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 2204-2208.	1.8	17
27	Enhanced Radiative Recombination Rate by Local Potential Fluctuation in InGaN/AlGaN Near-Ultraviolet Light-Emitting Diodes. Applied Sciences (Switzerland), 2019, 9, 871.	2.5	17
28	Forward-Capacitance Measurement on Wide-Bandgap Light-Emitting Diodes. IEEE Photonics Technology Letters, 2016, 28, 2407-2410.	2.5	14
29	Carrier accumulation in the active region and its impact on the device performance of InGaN-based light-emitting diodes. Applied Physics Express, 2017, 10, 122101.	2.4	14
30	Investigation of Luminance Degradation in Organic Light-Emitting Diodes by Impedance Spectroscopy. IEEE Photonics Technology Letters, 2018, 30, 1183-1185.	2.5	14
31	Analysis of the stress distribution in the nonuniformly bent GaN thin film grown on a sapphire substrate. Journal of Applied Physics, 2010, 107, .	2.5	13
32	Modified Shockley Equation for GaInN-Based Light-Emitting Diodes: Origin of the Power- Efficiency Degradation Under High Current Injection. IEEE Journal of Quantum Electronics, 2019, 55, 1-11.	1.9	13
33	A computational method of determining reflectance at abrupt waveguide interfaces. Journal of Lightwave Technology, 1996, 14, 2436-2443.	4.6	12
34	Effects of Current, Temperature, and Chip Size on the Performance of AlGaInP-Based Red Micro-Light-Emitting Diodes with Different Contact Schemes. ECS Journal of Solid State Science and Technology, 2021, 10, 095001.	1.8	12
35	Thermodynamic analysis of GaInN-based light-emitting diodes operated by quasi-resonant optical excitation. Journal of Applied Physics, 2020, 128, .	2.5	10
36	Factors Determining the Carrier Distribution in InGaN/GaN Multiple-Quantum-Well Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2018, 54, 1-7.	1.9	9

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37	Systematic Analysis of the Photocurrent Spectroscopy on InGaN/GaN Blue Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2013, 49, 1062-1065.	1.9	8
38	Currentâ€“voltage characteristics of InGaN/GaN blue light-emitting diodes investigated by photovoltaic parameters. Japanese Journal of Applied Physics, 2019, 58, 012005.	1.5	8
39	Identifying the cause of thermal droop in GaInN-based LEDs by carrier- and thermo-dynamics analysis. Scientific Reports, 2020, 10, 17433.	3.3	8
40	Effects of the number of quantum wells on the performance of near-ultraviolet light-emitting diodes. Journal of the Korean Physical Society, 2015, 66, 1554-1558.	0.7	6
41	Interactive Study of Electroreflectance and Photocurrent Spectra in InGaN/GaN-Based Blue LEDs. IEEE Journal of Quantum Electronics, 2017, 53, 1-6.	1.9	6
42	Measurement of the Piezoelectric Field in InGaN/AlGaN Multiple-Quantum-Well Near-Ultraviolet Light-Emitting Diodes by Electroreflectance Spectroscopy. IEEE Journal of Quantum Electronics, 2019, 55, 1-7.	1.9	6
43	Three-Dimensional Analysis of Temperature Distributions Based on Circuit Modeling of Light-Emitting Diodes. IEEE Transactions on Electron Devices, 2012, 59, 1799-1802.	3.0	5
44	Determination of the effect of a strain relaxation layer on the internal electric field measurement in an InGaN/GaN multiple-quantum-well structure by using electroreflectance spectroscopy. Journal of the Korean Physical Society, 2013, 62, 1291-1294.	0.7	5
45	Correlation between the efficiency droop and the blueshift of the electroluminescence in InGaN/GaN multiple-quantum-well blue light-emitting diodes. Journal of the Korean Physical Society, 2013, 63, 1218-1221.	0.7	5
46	Influences of the p-GaN Growth Temperature on the Optoelectronic Performances of GaN-Based Blue Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2016, 52, 1-8.	1.9	5
47	Interrelation Between the Internal Quantum Efficiency and Forward Voltage of Blue LEDs. IEEE Photonics Technology Letters, 2019, 31, 1441-1444.	2.5	5
48	Reviewâ€”Active Efficiency as a Key Parameter for Understanding the Efficiency Droop in InGaN-Based Light-Emitting Diodes. ECS Journal of Solid State Science and Technology, 2020, 9, 015013.	1.8	5
49	Strain relaxation effect on electronic properties of compressively strained InGaAs/InP vertically stacked multiple quantum wires. Journal of Applied Physics, 2010, 108, 023104.	2.5	4
50	Piezoelectric field in InGaN-based quantum wells grown on c-plane sapphire substrates measured by electroreflectance spectroscopy: from near-ultraviolet to green spectra. Japanese Journal of Applied Physics, 2020, 59, 038001.	1.5	4
51	Investigation of the Carrier Distribution Characteristics in InGaN Multiple Quantum Wells by Using Dual-wavelength Light-emitting Diodes. Journal of the Korean Physical Society, 2011, 58, 311-315.	0.7	4
52	Understanding Microscopic Properties of Lightâ€Emitting Diodes from Macroscopic Characterization: Ideality Factor, Sâ€parameter, and Internal Quantum Efficiency. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, .	1.8	4
53	Effect of Defects on Strain Relaxation in InGaN/AlGaN Multipleâ€Quantumâ€Well Nearâ€Ultraviolet Lightâ€Emitting Diodes. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, 2100418.	1.8	3
54	Generation of sidewall defects in InGaN/GaN blue micro-LEDs under forward-current stress. Applied Physics Letters, 2022, 121, 013501.	3.3	3

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55	Effects of polarization field on vertical transport in GaN/AlGaN resonant tunneling diodes. Journal of the Korean Physical Society, 2012, 60, 1957-1960.	0.7	2
56	Fabrication of Less Bowed Light-Emitting Diodes on Sapphire Substrates with a SiO2 Thin Film on Their Back Sides. Journal of the Korean Physical Society, 2019, 75, 480-484.	0.7	2
57	Measuring the surface temperature of light-emitting diodes by thermoreflectance. Japanese Journal of Applied Physics, 2021, 60, 052003.	1.5	2
58	Investigation of optical processes in InGaN-based light-emitting diodes using electroreflectance and photocurrent spectroscopies. Proceedings of SPIE, 2017, , .	0.8	1
59	Analysis of Transient Degradation Behaviors of Organic Light-Emitting Diodes under Electrical Stress. Applied Sciences (Switzerland), 2021, 11, 7627.	2.5	1
60	1.5 Î¼m InGaAsP/InP multi-gain-levered-MQW-DFB-LD with high efficiency and large bandwidth FM response. , 0, , .		0
61	3-dimensional current flow analysis in InGaN light emitting diodes grown on sapphire substrate. , 2009, , .		0
62	Droop studies for high-performance InGaN blue light-emitting diodes. , 2013, , .		0
63	Low-frequency noise characteristics of InGaN-based light-emitting diodes. , 2015, , .		0
64	Techniques for optoelectronic performance evaluation in InGaN-based light-emitting diodes (LEDs). , 2015, , .		0
65	Influence of current aging on the characteristics of Near-Ultraviolet LEDs. , 2015, , .		0
66	Effect of the p-type GaN thickness on the near-ultraviolet light-emitting diodes. , 2015, , .		0
67	Radiative and non-radiative carrier lifetimes in InGaN-based light-emitting diodes investigated by impedance analysis. , 2015, , .		0
68	Carrier overflow in InGaN/GaN light-emitting diodes investigated by temperature-dependent short-circuit current characteristics. , 2015, , .		0
69	Analysis of the characteristics with increasing the number of QWs for near-ultraviolet LEDs. , 2015, , .		0
70	Wafer-Level Electroluminescence Metrology for InGaN Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2016, 52, 1-6.	1.9	0
71	Improvement of The Light Output of Blue InGaN-Based Light Emitting Diodes by Using a Buried Stripe-Typen-Contact and Reflective Bonding Pad. ECS Journal of Solid State Science and Technology, 2020, 9, 015021.	1.8	0
72	Effect of Interface State Density of the AlGaN Electron Blocking Layer/GaN Barrier Layer in InGaN Blue Light-Emitting Diodes. Journal of the Korean Physical Society, 2020, 76, 522-526.	0.7	0

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73	Analysis of degradation mechanisms in GaN-based light-emitting diodes under reverse-bias stress: effects of defects and junction-temperature increase. Japanese Journal of Applied Physics, 2021, 60, 032006.	1.5	0
74	Theoretical studies on in-plane polarization characteristics of (11$$ar{2}$$0) nonpolar InGaN/GaN quantum-well structures grown on InGaN substrates. Journal of the Korean Physical Society, 0, , .	0.7	0