Han-Youl Ryu

List of Publications by Year
in descending order

88 papers	2,831 citations	201575 27 h-index	175177 52 g-index
89 all docs	89 docs citations	89 times ranked	1984 citing authors

#	Article	IF	Citations
1	Rate equation analysis of efficiency droop in InGaN light-emitting diodes. Applied Physics Letters, 2009, 95, .	1.5	189
2	Investigation of Light Extraction Efficiency in AlGaN Deep-Ultraviolet Light-Emitting Diodes. Applied Physics Express, 2013, 6, 062101.	1.1	158
3	Very-low-threshold photonic band-edge lasers from free-standing triangular photonic crystal slabs. Applied Physics Letters, 2002, 80, 3476-3478.	1.5	149
4	Square-lattice photonic band-gap single-cell laser operating in the lowest-order whispering gallery mode. Applied Physics Letters, 2002, 80, 3883-3885.	1.5	145
5	High-quality-factor and small-mode-volume hexapole modes in photonic-crystal-slab nanocavities. Applied Physics Letters, 2003, 83, 4294-4296.	1.5	145
6	Characteristics of modified single-defect two-dimensional photonic crystal lasers. IEEE Journal of Quantum Electronics, 2002, 38, 1353-1365.	1.0	130
7	Nondegenerate monopole-mode two-dimensional photonic band gap laser. Applied Physics Letters, 2001, 79, 3032-3034.	1.5	118
8	Room-temperature triangular-lattice two-dimensional photonic band gap lasers operating at 1.54 Î¼m. Applied Physics Letters, 2000, 76, 2982-2984.	1.5	116
9	Two-dimensional photonic crystal hexagonal waveguide ring laser. Applied Physics Letters, 2002, 81, 2499-2501.	1.5	111
10	Effect of current spreading on the efficiency droop of InGaN light-emitting diodes. Optics Express, 2011, 19, 2886.	1.7	100
11	Analysis of efficiency droop in nitride light-emitting diodes by the reduced effective volume of InGaN active material. Applied Physics Letters, 2012, 100, .	1.5	99
12	Photonic bandedge lasers in two-dimensional square-lattice photonic crystal slabs. Applied Physics Letters, 2003, 83, 3870-3872.	1.5	90
13	Spontaneous emission rate of an electric dipole in a general microcavity. Physical Review B, 1999, 60, 4688-4695.	1.1	80
14	High quality-factor whispering-gallery mode in the photonic crystal hexagonal disk cavity. Optics Express, 2004, 12, 1708.	1.7	74
15	Two-dimensional photonic crystal semiconductor lasers: computational design, fabrication, and characterization. IEEE Journal of Selected Topics in Quantum Electronics, 2002, 8, 891-908.	1.9	71
16	Enhancement of light extraction from two-dimensional photonic crystal slab structures. IEEE Journal of Selected Topics in Quantum Electronics, 2002, 8, 231-237.	1.9	64
17	Measurement of junction temperature in GaN-based laser diodes using voltage-temperature characteristics. Applied Physics Letters, 2005, 87, 093506.	1.5	64
18	Large enhancement of light extraction efficiency in AlGaN-based nanorod ultraviolet light-emitting diode structures. Nanoscale Research Letters, 2014, 9, 58.	3.1	52

#	Article	IF	Citations
19	Effect of size nonuniformities on the band gap of two-dimensional photonic crystals. Physical Review B, 1999, 59, 5463-5469.	1.1	47
20	Subwavelength Optical Resonant Cavity-Induced Enhancement of the Near-Band-Edge Emission from ZnO-Core/SnO₂-Shell Nanorods. Journal of Physical Chemistry C, 2011, 115, 8513-8518.	1.5	43
21	Measurement of Internal Electric Field in GaN-Based Light-Emitting Diodes. IEEE Journal of Quantum Electronics, 2012, 48, 500-506.	1.0	39
22	Effect of nonradiative recombination on light emitting properties of two-dimensional photonic crystal slab structures. Applied Physics Letters, 2001, 78, 1174-1176.	1.5	38
23	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.	1.0	36
24	High Efficiency GaN Light-Emitting Diodes With Two Dimensional Photonic Crystal Structures of Deep-Hole Square Lattices. IEEE Journal of Quantum Electronics, 2010, 46, 116-120.	1.0	34
25	The smallest possible whispering-gallery-like mode in the square lattice photonic-crystal slab single-defect cavity. IEEE Journal of Quantum Electronics, 2003, 39, 314-322.	1.0	33
26	High-brightness Phosphor-conversion White Light Source Using InGaN Blue Laser Diode. Journal of the Optical Society of Korea, 2010, 14, 415-419.	0.6	32
27	Nondegenerate monopole mode of single defect two-dimensional triangular photonic band-gap cavity. Journal of Applied Physics, 2002, 92, 654-659.	1.1	29
28	Conditions of single guided mode in two-dimensional triangular photonic crystal slab waveguides. Journal of Applied Physics, 2000, 88, 4941-4946.	1.1	27
29	Far- and near-field investigations on the lasing modes in two-dimensional photonic crystal slab lasers. IEEE Journal of Quantum Electronics, 2002, 38, 857-866.	1.0	26
30	Analysis of Time-resolved Photoluminescence of InGaN Quantum Wells Using the Carrier Rate Equation. Japanese Journal of Applied Physics, 2010, 49, 112402.	0.8	24
31	Characteristics of single defect laser modes in a two-dimensional square lattice photonic crystal slab. Journal of Applied Physics, 2003, 93, 831-837.	1.1	23
32	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.	1.3	23
33	Dependence of efficiencies in GaN-based vertical blue light-emitting diodes on the thickness and doping concentration of the n-GaN layer. Optics Express, 2013, 21, A190.	1.7	23
34	Single-mode operation of two-dimensional photonic crystal laser with central post. IEEE Photonics Technology Letters, 2003, 15, 1327-1329.	1.3	22
35	Effects of two-step Mg doping in p-GaN on efficiency characteristics of InGaN blue light-emitting diodes without AlGaN electron-blocking layers. Applied Physics Letters, 2013, 102, .	1.5	22
36	High Efficiency InGaN Blue Light-Emitting Diode With ${>}{m 4}hbox{-}{m W}$ Output Power at 3 A. IEEE Photonics Technology Letters, 2014, 26, 649-652.	1.3	21

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37	Modification of internal quantum efficiency and efficiency droop in GaN-based flip-chip light-emitting diodes via the Purcell effect. Optics Express, 2015, 23, A1157.	1.7	21
38	Evaluation of Light Extraction Efficiency of GaN-Based Nanorod Light-Emitting Diodes by Averaging over Source Positions and Polarizations. Crystals, 2018, 8, 27.	1.0	18
39	Modeling and simulation of efficiency droop in GaN-based blue light-emitting diodes incorporating the effect of reduced active volume of InGaN quantum wells. Current Applied Physics, 2017, 17, 1298-1302.	1.1	17
40	Temperature dependence of the Auger recombination coefficient in InGaN/GaN multiple-quantum-well light-emitting diodes. Optics Express, 2020, 28, 27459.	1.7	16
41	Optimization of InGaN/GaN superlattice structures for high-efficiency vertical blue light-emitting diodes. Journal of Applied Physics, 2013, 114, 173101.	1.1	15
42	Effect of active-layer structures on temperature characteristics of InGaN blue laser diodes. Optics Express, 2008, 16, 10849.	1.7	14
43	High-finesse AlxOy/AlGaAs nonabsorbing optical cavity. Applied Physics Letters, 1998, 72, 2205-2207.	1.5	13
44	Analysis on the Luminous Efficiency of Phosphor-Conversion White Light-Emitting Diode. Journal of the Optical Society of Korea, 2013, 17, 22-26.	0.6	13
45	Light Extraction Efficiency of GaN-Based Micro-Scale Light-Emitting Diodes Investigated Using Finite-Difference Time-Domain Simulation. IEEE Photonics Journal, 2020, 12, 1-10.	1.0	12
46	Electroreflectance spectroscopy of compressively strained InGaN/GaN multi-quantum well structures. Current Applied Physics, 2014, 14, 1504-1508.	1.1	11
47	Analysis of below-threshold efficiency characteristics of InGaN-based blue laser diodes. Journal of Applied Physics, 2012, 112, .	1.1	10
48	Low-threshold Photonic Crystal Lasers from InGaAsP Free-standing Slab Structures. Journal of the Optical Society of Korea, 2002, 6, 59-71.	0.6	9
49	Evaluation of the internal quantum efficiency in blue and green light-emitting diodes using the rate equation model. Journal of the Korean Physical Society, 2013, 63, 180-184.	0.3	9
50	Ideality factor of GaN-based light-emitting diodes determined by the measurement of photovoltaic characteristics. Journal of the Korean Physical Society, 2014, 65, 1639-1643.	0.3	9
51	Analysis of the Temperature Dependence of Phosphor Conversion Efficiency in White Light-Emitting Diodes. Journal of the Optical Society of Korea, 2015, 19, 311-316.	0.6	9
52	Extraction Efficiency in GaN Nanorod Light-emitting Diodes Investigated by Finite-difference Time-domain Simulation. Journal of the Korean Physical Society, 2011, 58, 878-882.	0.3	9
53	Estimate of the nonradiative carrier lifetime in InGaN/GaN quantum well structures by using time-resolved photoluminescence. Journal of the Korean Physical Society, 2012, 60, 1934-1938.	0.3	6
54	Investigation of Light Extraction Efficiency and Internal Quantum Efficiency in High-Power Vertical Blue Light-Emitting Diode with 3.3 W Output Power. Japanese Journal of Applied Physics, 2013, 52, 10MA09.	0.8	6

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55	Polarization-Engineered High-Efficiency GaInN Light-Emitting Diodes Optimized by Genetic Algorithm. IEEE Photonics Journal, 2015, 7, 1-9.	1.0	6
56	Investigation of the Purcell effect in GaN-based vertical LED structures using FDTD simulation. Optical and Quantum Electronics, 2016, 48, 1.	1.5	6
57	Formation of a Polycrystalline Silicon Thin Film by Using Blue Laser Diode Annealing. Journal of the Korean Physical Society, 2018, 72, 939-942.	0.3	6
58	Modeling and analysis of the effects of inhomogeneous carrier distributions in InGaN multiple quantum wells. Current Applied Physics, 2020, 20, 1351-1358.	1.1	6
59	Small signal analysis of the modulation bandwidth of light-emitting diodes for visible light communication. Optics and Laser Technology, 2022, 152, 108170.	2.2	6
60	Simulation of the effects of AlGaN electron-blocking layers on the characteristics of InGaN blue light-emitting diodes. Journal of the Korean Physical Society, 2012, 61, 1395-1399.	0.3	5
61	Evaluation of the temperature-dependent internal quantum efficiency and the light-extraction efficiency in a GaN-based blue light-emitting diode by using a rate equation model. Journal of the Korean Physical Society, 2016, 69, 1286-1289.	0.3	5
62	Investigation into the Anomalous Temperature Characteristics of InGaN Double Quantum Well Blue Laser Diodes Using Numerical Simulation. Nanoscale Research Letters, 2017, 12, 366.	3.1	5
63	Efficiency Droop and Effective Active Volume in GaN-Based Light-Emitting Diodes Grown on Sapphire and Silicon Substrates. Applied Sciences (Switzerland), 2019, 9, 4160.	1.3	5
64	Investigation of the radiative efficiency and threshold in InGaN laser diodes under the influence of efficiency droop. Journal of the Korean Physical Society, 2012, 60, 754-758.	0.3	4
65	Internal quantum efficiency of GaN-based light-emitting diodes grown on silicon substrates determined from rate equation analyses. Current Applied Physics, 2013, 13, 1600-1603.	1.1	4
66	Numerical study on the wavelength-dependence of light extraction efficiency in AlGaN-based ultraviolet light-emitting diodes. Optical and Quantum Electronics, 2014, 46, 1329-1335.	1.5	4
67	Strong Modification of Spontaneous Emission Rate in Nanorod Light-Emitting Diode Structures. Journal of Nanoscience and Nanotechnology, 2014, 14, 8377-8381.	0.9	4
68	Relationship between threading dislocations and the optical properties in GaN-based LEDs on Si Substrates. Journal of the Korean Physical Society, 2015, 67, 1085-1088.	0.3	4
69	Evaluation of Crystalline Volume Fraction of Laser-Annealed Polysilicon Thin Films Using Raman Spectroscopy and Spectroscopic Ellipsometry. Micromachines, 2021, 12, 999.	1.4	4
70	Modification of the Light Extraction Efficiency in Micro-cavityVertical InGaN Light-emitting Diode Structures. Journal of the Korean Physical Society, 2009, 55, 1267-1271.	0.3	4
71	Large Enhancement of Extraction Efficiency in Thin-Film Photonic Crystal InGaN Light-Emitting Diode Structures. Journal of the Korean Physical Society, 2009, 55, 2642-2645.	0.3	4
72	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.	0.3	4

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73	Investigation of the Optimum Mg Doping Concentration in p-Type-Doped Layers of InGaN Blue Laser Diode Structures. Crystals, 2021, 11, 1335.	1.0	4
74	Laser-Power Dependence of Poly-Silicon Crystallization Using 355-nm Nanosecond Laser Annealing. Journal of the Korean Physical Society, 2020, 76, 1116-1120.	0.3	3
75	Accurate determination of junction temperature in a GaN-based blue light-emitting diode using nonlinear voltage-temperature relation. Optical and Quantum Electronics, 2021, 53, 1.	1.5	3
76	?Electroluminescence study of inhomogeneous carrier distribution in InGaN multiple-quantum-well light-emitting diode structures. Journal of the Korean Physical Society, 2010, 56, 1256-1260.	0.3	3
77	Temperature Dependence of Electron Leakage Current in InGaN Blue Light-Emitting Diode Structures. Nanomaterials, 2022, 12, 2405.	1.9	3
78	An efficiency droop model of the saturated radiative recombination rate and its verification by radiative and nonradiative carrier lifetime measurements in InGaN-based light emitting diodes. Proceedings of SPIE, 2011, , .	0.8	2
79	Effect of Light Absorption in InGaN/GaN Vertical Light-Emitting Diodes. Journal of Nanoscience and Nanotechnology, 2015, 15, 5135-5139.	0.9	2
80	InGaAs/GaAs quantum well intermixing using proton irradiation for non-absorbing mirror. Current Applied Physics, 2016, 16, 1005-1008.	1.1	2
81	Negative characteristic temperature of GaN-based blue laser diode investigated by numerical simulation. Optical and Quantum Electronics, 2017, 49, 1.	1.5	2
82	Temperature dependence of the color rendering index of a phosphor-conversion white light-emitting diode. AIP Advances, 2019, 9, .	0.6	2
83	Numerical Investigation of Light Extraction Efficiency of GaN-based Vertical Blue Micron-Scale Light-Emitting Diode Structures. Journal of Nanoscience and Nanotechnology, 2021, 21, 1869-1874.	0.9	2
84	?Effect of Ridge Passivation Layers on the Optical Characteristics of InGaN Laser Diodes. Journal of the Korean Physical Society, 2010, 56, 1350-1354.	0.3	2
85	Effect of Ridge Shape on the Fundamental Single-Mode Operation of InGaN Laser Diode Structures. Journal of the Korean Physical Society, 2008, 52, 1779-1785.	0.3	1
86	Uncoupling Spectral Region in Two-Dimensional Square Lattice Photonic Crystals. Journal of the Optical Society of Korea, 2003, 7, 34-37.	0.6	0
87	Modulation of hole-injection in GaInN-light emitting triodes and its effect on carrier recombination behavior. AIP Advances, 2015, 5, 107104.	0.6	0
88	Numerical investigation on the negative characteristic temperature of InGaN blue laser diodes. , 2016, , .		0