Jong Kyu Kim

List of Publications by Year
in descending order

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105	9,444	101384	38300
papers	citations	36 h-index	95 g-index

108	108	108	10276
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hexagonal Boron Nitride for Nextâ€Generation Photonics and Electronics. Advanced Materials, 2023, 35, .	11.1	43
2	Tailoring Binding Abilities By Incorporating Oxophilic Transition Metals on 3D Nanostructured Ni Arrays for Accelerated Alkaline Hydrogen Evolution Reaction. ECS Meeting Abstracts, 2022, MA2022-01, 1386-1386.	0.0	0
3	Tailoring Binding Abilities by Incorporating Oxophilic Transition Metals on 3D Nanostructured Ni Arrays for Accelerated Alkaline Hydrogen Evolution Reaction. Journal of the American Chemical Society, 2021, 143, 1399-1408.	6.6	161
4	ZnFe₂O₄ Dendrite/SnO₂ Helix 3D Heteroâ€Structure Photoanodes for Enhanced Photoelectrochemical Water Splitting: Triple Functions of SnO₂ Nanohelix. Small, 2021, 17, e2103861.	5.2	14
5	Van der Waals Heterostructure of Hexagonal Boron Nitride with an AlGaN/GaN Epitaxial Wafer for High-Performance Radio Frequency Applications. ACS Applied Materials & Interfaces, 2021, 13, 59440-59449.	4.0	8
6	AlGaN Deep-Ultraviolet Light-Emitting Diodes with Localized Surface Plasmon Resonance by a High-Density Array of 40 nm Al Nanoparticles. ACS Applied Materials & Interfaces, 2020, 12, 36339-36346.	4.0	23
7	Resistive Switching in Few-Layer Hexagonal Boron Nitride Mediated by Defects and Interfacial Charge Transfer. ACS Applied Materials & Interfaces, 2020, 12, 46288-46295.	4.0	18
8	Three-Dimensional Tungsten Disulfide Raman Biosensor for Dopamine Detection. ACS Applied Bio Materials, 2020, 3, 7687-7695.	2.3	5
9	Counter-intuitive junction temperature behavior in AlGaN-based deep-ultraviolet light-emitting diodes. AIP Advances, 2020, 10, 045135.	0.6	2
10	Remote heteroepitaxy of GaN microrod heterostructures for deformable light-emitting diodes and wafer recycle. Science Advances, 2020, 6, eaaz5180.	4.7	80
11	Microwave-assisted evolution of WO₃ and WS₂/WO₃ hierarchical nanotrees. Journal of Materials Chemistry A, 2020, 8, 9654-9660.	5.2	18
12	Gate-tunable gas sensing behaviors in air-stable ambipolar organic thin-film transistors. RSC Advances, 2020, 10, 1910-1916.	1.7	14
13	Improvements in structural and optical properties of wafer-scale hexagonal boron nitride film by post-growth annealing. Scientific Reports, 2019, 9, 10590.	1.6	21
14	High-Output and Bending-Tolerant Triboelectric Nanogenerator Based on an Interlocked Array of Surface-Functionalized Indium Tin Oxide Nanohelixes. ACS Energy Letters, 2019, 4, 1748-1754.	8.8	48
15	Transfer or delivery of micro light-emitting diodes for light-emitting diode displays. AIP Advances, 2019, 9, 100901.	0.6	0
16	Amorphous Tin Oxide Nanohelix Structure Based Electrode for Highly Reversible Na-Ion Batteries. ACS Nano, 2019, 13, 6513-6521.	7.3	34
17	Wafer-scale and selective-area growth of high-quality hexagonal boron nitride on Ni(111) by metal-organic chemical vapor deposition. Scientific Reports, 2019, 9, 5736.	1.6	42
18	Epitaxial van der Waals Contacts between Transition-Metal Dichalcogenide Monolayer Polymorphs. Nano Letters, 2019, 19, 1814-1820.	4.5	37

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19	Enhanced catalytic activity of edge-exposed 1T phase WS₂ grown directly on a WO₃ nanohelical array for water splitting. Journal of Materials Chemistry A, 2019, 7, 26378-26384.	5.2	23
20	Overcoming ineffective resistance modulation in p-type NiO gas sensor by nanoscale Schottky contacts. Nanotechnology, 2019, 30, 115501.	1.3	7
21	Performance of Recessed Anode AlGaN/GaN Schottky Barrier Diode Passivated With High-Temperature Atomic Layer-Deposited Al₂O₃ Layer. IEEE Transactions on Electron Devices, 2019, 66, 324-329.	1.6	11
22	Low Temperature Solution-Processable Cesium Lead Bromide Microcrystals for Light Conversion. Crystal Growth and Design, 2018, 18, 3161-3166.	1.4	16
23	Fundamental Limitations of Wide-Bandgap Semiconductors for Light-Emitting Diodes. ACS Energy Letters, 2018, 3, 655-662.	8.8	48
24	Directly Assembled 3D Molybdenum Disulfide on Silicon Wafer for Efficient Photoelectrochemical Water Reduction. Advanced Sustainable Systems, 2018, 2, 1700142.	2.7	36
25	Defect-Mediated In-Plane Electrical Conduction in Few-Layer sp2-Hybridized Boron Nitrides. ACS Applied Materials & Interfaces, 2018, 10, 17287-17294.	4.0	10
26	Observation of space-charge-limited current in AlGaN/GaN ultraviolet light-emitting diodes. Materials Letters, 2018, 214, 217-219.	1.3	11
27	Microwave-assisted synthesis of group 5 transition metal dichalcogenide thin films. Journal of Materials Chemistry C, 2018, 6, 11303-11311.	2.7	14
28	Force Sensors: A Highly Sensitive Force Sensor with Fast Response Based on Interlocked Arrays of Indium Tin Oxide Nanosprings toward Human Tactile Perception (Adv. Funct. Mater. 42/2018). Advanced Functional Materials, 2018, 28, 1870304.	7.8	0
29	Epitaxial growth of WO₃ nanoneedles achieved using a facile flame surface treatment process engineering of hole transport and water oxidation reactivity. Journal of Materials Chemistry A, 2018, 6, 19542-19546.	5.2	31
30	A Highly Sensitive Force Sensor with Fast Response Based on Interlocked Arrays of Indium Tin Oxide Nanosprings toward Human Tactile Perception. Advanced Functional Materials, 2018, 28, 1804132.	7.8	36
31	Multiple Heterojunction in Single Titanium Dioxide Nanoparticles for Novel Metal-Free Photocatalysis. Nano Letters, 2018, 18, 4257-4262.	4.5	45
32	Flexible Near-Field Wireless Optoelectronics as Subdermal Implants for Broad Applications in Optogenetics. Neuron, 2017, 93, 509-521.e3.	3.8	323
33	White lightâ€emitting diodes: History, progress, and future. Laser and Photonics Reviews, 2017, 11, 1600147.	4.4	557
34	Role of hydrogen carrier gas on the growth of few layer hexagonal boron nitrides by metal-organic chemical vapor deposition. AIP Advances, 2017, 7, .	0.6	20
35	Improved performance of AlGaN-based deep ultraviolet light-emitting diodes with nano-patterned AlN/sapphire substrates. Applied Physics Letters, 2017, 110, .	1.5	87
36	Optical and Facet-Dependent Carrier Recombination Properties of Hendecafacet InGaN/GaN Microsized Light Emitters. Crystal Growth and Design, 2017, 17, 3649-3655.	1.4	5

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37	Pressure-Dependent Growth of Wafer-Scale Few-layer h-BN by Metalâ€“Organic Chemical Vapor Deposition. Crystal Growth and Design, 2017, 17, 2569-2575.	1.4	21
38	Enhanced light extraction efficiency of micro-ring array AlGaN deep ultraviolet light-emitting diodes. Japanese Journal of Applied Physics, 2017, 56, 092101.	0.8	18
39	The Effect of Imbalanced Carrier Transport on the Efficiency Droop in GaInN-Based Blue and Green Light-Emitting Diodes. Energies, 2017, 10, 1277.	1.6	13
40	Reversible phase modulation and hydrogen storage in multivalent VO2 epitaxial thin films. Nature Materials, 2016, 15, 1113-1119.	13.3	237
41	Temperature Dependence of Efficiency in GaInN/GaN Lightâ€Emitting Diodes with a GaInN Underlayer. International Journal of Applied Ceramic Technology, 2016, 13, 234-238.	1.1	1
42	Highly photoresponsive and wavelength-selective circularly-polarized-light detector based on metal-oxides hetero-chiral thin film. Scientific Reports, 2016, 6, 19580.	1.6	21
43	An elegant route to overcome fundamentally-limited light extraction in AlGaN deep-ultraviolet light-emitting diodes: Preferential outcoupling of strong in-plane emission. Scientific Reports, 2016, 6, 22537.	1.6	46
44	A wafer-scale antireflective protection layer of solution-processed TiO₂ nanorods for high performance silicon-based water splitting photocathodes. Journal of Materials Chemistry A, 2016, 4, 9477-9485.	5.2	47
45	Arrays of Truncated Cone AlGaN Deep-Ultraviolet Light-Emitting Diodes Facilitating Efficient Outcoupling of in-Plane Emission. ACS Photonics, 2016, 3, 2030-2034.	3.2	47
46	Unassisted photoelectrochemical water splitting exceeding 7% solar-to-hydrogen conversion efficiency using photon recycling. Nature Communications, 2016, 7, 11943.	5.8	144
47	Electron Holography: Correlative Highâ€Resolution Mapping of Strain and Charge Density in a Strained Piezoelectric Multilayer (Adv. Mater. Interfaces 1/2015). Advanced Materials Interfaces, 2015, 2, .	1.9	3
48	Modulation of hole-injection in GaInN-light emitting triodes and its effect on carrier recombination behavior. AIP Advances, 2015, 5, 107104.	0.6	0
49	Polarization-Engineered High-Efficiency GaInN Light-Emitting Diodes Optimized by Genetic Algorithm. IEEE Photonics Journal, 2015, 7, 1-9.	1.0	6
50	U-shape phenomenon in the efficiency-versus-current curves in AlGaN-based deep-ultraviolet light-emitting diodes. , 2015, , .		0
51	Direct mapping of strain state in nonpolar InGaN/GaN multilayers using dark-field inline electron holography. , 2015, , .		0
52	Enhanced light extraction efficiency of AlGaN-based deep-ultraviolet light-emitting diodes by utilizing strong sidewall emission. , 2015, , .		0
53	Correlative Highâ€Resolution Mapping of Strain and Charge Density in a Strained Piezoelectric Multilayer. Advanced Materials Interfaces, 2015, 2, 1400281.	1.9	18
54	Onset of the Efficiency Droop in GaInN Quantum Well Light-Emitting Diodes under Photoluminescence and Electroluminescence Excitation. ACS Photonics, 2015, 2, 1013-1018.	3.2	20

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55	Three-Dimensional Metal-Oxide Nanohelix Arrays Fabricated by Oblique Angle Deposition: Fabrication, Properties, and Applications. Nanoscale Research Letters, 2015, 10, 369.	3.1	36
56	Overcoming the fundamental light-extraction efficiency limitations of deep ultraviolet light-emitting diodes by utilizing transverse-magnetic-dominant emission. Light: Science and Applications, 2015, 4, e263-e263.	7.7	108
57	Visible Color Tunable Emission in Three-Dimensional Light Emitting Diodes by MgO Passivation of Pyramid Tip. ACS Applied Materials & Interfaces, 2015, 7, 27743-27748.	4.0	8
58	Opto-electronic properties of TiO₂nanohelices with embedded HC(NH₂)₂PbI₃perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 9179-9186.	5.2	67
59	Strong correlation between capacitance and breakdown voltage of GaInN/GaN light-emitting diodes. Electronic Materials Letters, 2014, 10, 1155-1157.	1.0	6
60	Threeâ€Dimensional Branched Nanowire Heterostructures as Efficient Lightâ€Extraction Layer in Lightâ€Emitting Diodes. Advanced Functional Materials, 2014, 24, 3384-3391.	7.8	13
61	Threeâ€Dimensional Nanostructured Indiumâ€Tinâ€Oxide Electrodes for Enhanced Performance of Bulk Heterojunction Organic Solar Cells. Advanced Energy Materials, 2014, 4, 1301566.	10.2	27
62	Efficient photoelectrochemical hydrogen production from bismuth vanadate-decorated tungsten trioxide helix nanostructures. Nature Communications, 2014, 5, 4775.	5.8	367
63	Efficiency droop in lightâ€emitting diodes: Challenges and countermeasures. Laser and Photonics Reviews, 2013, 7, 408-421.	4.4	413
64	Enhanced overall efficiency of GaInN-based light-emitting diodes with reduced efficiency droop by Al-composition-graded AlGaN/GaN superlattice electron blocking layer. Applied Physics Letters, 2013, 103, .	1.5	60
65	Enhanced phosphor conversion efficiency of GaN-based white light-emitting diodes having dichroic-filtering contacts. Journal of Materials Chemistry C, 2013, 1, 5733.	2.7	6
66	Enhanced Omnidirectional Photovoltaic Performance of Solar Cells Using Multipleâ€Discreteâ€Layer Tailoredâ€and Lowâ€Refractive Index Antiâ€Reflection Coatings. Advanced Functional Materials, 2013, 23, 583-590.	7.8	104
67	Effect of Quantum Barrier Thickness in the Multiple-Quantum-Well Active Region of GaInN/GaN Light-Emitting Diodes. IEEE Photonics Journal, 2013, 5, 1600207-1600207.	1.0	30
68	Temperature dependent efficiency droop in GaInN light-emitting diodes with different current densities. Applied Physics Letters, 2012, 100, .	1.5	109
69	Analysis of the reverse leakage current in AlGaN/GaN Schottky barrier diodes treated with fluorine plasma. Applied Physics Letters, 2012, 100, .	1.5	36
70	Carrier transport mechanism of AlGaN/GaN Schottky barrier diodes with various Al mole fractions. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 851-854.	0.8	9
71	Reduction of efficiency droop in GaInN/GaN light-emitting diodes with thick AlGaN cladding layers. Electronic Materials Letters, 2012, 8, 1-4.	1.0	9
72	EFFICIENCY DROOP IN GaInN HIGH-POWER LIGHT-EMITTING DIODES. International Journal of High Speed Electronics and Systems, 2011, 20, 247-265.	0.3	4

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73	Temperatureâ€dependent lightâ€output characteristics of GaInN lightâ€emitting diodes with different dislocation densities. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 947-950.	0.8	34
74	Promotion of hole injection enabled by GaInN/GaN light-emitting triodes and its effect on the efficiency droop. Applied Physics Letters, 2011, 99, 181115.	1.5	20
75	Strong light extraction enhancement in GaInN light-emitting diodes by using self-organized nanoscale patterning of p-type GaN. Applied Physics Letters, 2011, 98, .	1.5	76
76	Optically functional surface composed of patterned graded-refractive-index coatings to enhance light-extraction of GaInN light-emitting diodes. Journal of Applied Physics, 2011, 110, .	1.1	20
77	Nanostructured Multilayer Tailored-Refractive-Index Antireflection Coating for Glass with Broadband and Omnidirectional Characteristics. Applied Physics Express, 2011, 4, 052503.	1.1	51
78	Characteristics of blue and ultraviolet light-emitting diodes with current density and temperature. Electronic Materials Letters, 2010, 6, 51-53.	1.0	13
79	Growth and characteristics of GaInN/GaInN multiple quantum well light-emitting diodes. Journal of Applied Physics, 2010, 107, 063102.	1.1	24
80	Electroluminescence induced by photoluminescence excitation in GaInN/GaN light-emitting diodes. Applied Physics Letters, 2009, 95, .	1.5	25
81	Improved performance of GaN-based blue light emitting diodes with InGaN/GaN multilayer barriers. Applied Physics Letters, 2009, 95, .	1.5	39
82	Color tunable light-emitting diodes with modified pulse-width modulation. Physica Status Solidi - Rapid Research Letters, 2009, 3, 284-286.	1.2	0
83	Origin of efficiency droop in GaN-based light-emitting diodes. Applied Physics Letters, 2007, 91, .	1.5	1,208
84	Solid-State Light Sources Getting Smart. Science, 2005, 308, 1274-1278.	6.0	3,206
85	Junction temperature in light-emitting diodes assessed by different methods. , 2005, 5739, 16.		73
86	Junction Temperature in Ultraviolet Light-Emitting Diodes. Japanese Journal of Applied Physics, 2005, 44, 7260-7266.	0.8	81
87	Ohmic contacts for high power LEDs. Physica Status Solidi A, 2004, 201, 2831-2836.	1.7	5
88	Effect of microstructural change on magnetic property of Mn-implanted p-type GaN. Applied Physics Letters, 2003, 82, 583-585.	1.5	69
89	Electrical properties of metal contacts on laser-irradiated n-type GaN. Applied Physics Letters, 2003, 82, 580-582.	1.5	20
90	Current conduction mechanism of Pt/GaN and Pt/Al0.35Ga0.65N Schottky diodes. Journal of Applied Physics, 2003, 94, 7201-7205.	1.1	20

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91	Microstructural study of Pt contact on p-type GaN. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 87.	1.6	9
92	GaN metalâ€“semiconductorâ€“metal ultraviolet photodetector with IrO2 Schottky contact. Applied Physics Letters, 2002, 81, 4655-4657.	1.5	49
93	Mechanism of two-dimensional electron gas formation in AlxGa1â^'xN/GaN heterostructures. Applied Physics Letters, 2002, 81, 1249-1251.	1.5	45
94	Mechanism for Ohmic contact formation of Ti onn-type GaN investigated using synchrotron radiation photoemission spectroscopy. Journal of Applied Physics, 2002, 91, 9214-9217.	1.1	51
95	Low-resistance Ti/Al ohmic contact on undoped ZnO. Journal of Electronic Materials, 2002, 31, 868-871.	1.0	46
96	Room-temperature Ohmic contact on n-type GaN with surface treatment using Cl2 inductively coupled plasma. Applied Physics Letters, 2001, 78, 2015-2017.	1.5	58
97	Ohmic contact formation mechanism of Ni on n-type 4Hâ€“SiC. Applied Physics Letters, 2001, 79, 1816-1818.	1.5	132
98	X-ray Photoemission Determination of the Surface Fermi Level Motion and Pinning on n- and p-GaN during the Formation of Au, Ni, and Ti Metal Contacts. Materials Research Society Symposia Proceedings, 2001, 693, 13.	0.1	1
99	Effects of surface treatment using aqua regia solution on the change of surface band bending of p-type GaN. Journal of Electronic Materials, 2001, 30, 129-133.	1.0	44
100	Effects of surface treatments on the electrical and the microstructural changes of Pd contact on p-type GaN. Journal of Electronic Materials, 2001, 30, 170-174.	1.0	10
101	Microstructural and electrical investigation of Ni/Au ohmic contact on p-type GaN. Journal of Electronic Materials, 2001, 30, L8-L12.	1.0	13
102	Low-resistance and thermally stable ohmic contact on p-type GaN using Pd/Ni metallization. Applied Physics Letters, 2001, 79, 1822-1824.	1.5	36
103	Structural Evolution of Ni/Au Contact on GaN(0001). Materials Research Society Symposia Proceedings, 2000, 639, 1171.	0.1	0
104	Ohmic contact formation mechanism of nonalloyed Pd contacts to p-type GaN observed by positron annihilation spectroscopy. Applied Physics Letters, 1999, 74, 2289-2291.	1.5	62
105	Origin of efficiency droop in GaN-based light-emitting diodes. , 0, .		1