Russell D Dupuis

List of Publications by Year
in descending order

83 papers	2,508 citations	159358 30 h-index	214527 47 g-index
85 all docs	85 docs citations	85 times ranked	1856 citing authors

#	Article	IF	Citations
1	Improvement of peak quantum efficiency and efficiency droop in III-nitride visible light-emitting diodes with an InAlN electron-blocking layer. Applied Physics Letters, 2010, 96, .	1.5	183
2	Barrier effect on hole transport and carrier distribution in InGaNâˆ•GaN multiple quantum well visible light-emitting diodes. Applied Physics Letters, 2008, 93, .	1.5	129
3	Temperature dependence of threshold current for quantumâ€well AlxGa1â^'xAsâ€GaAs heterostructure laser diodes. Applied Physics Letters, 1980, 36, 19-21.	1.5	117
4	Improvement of quantum efficiency by employing active-layer-friendly lattice-matched InAlN electron blocking layer in green light-emitting diodes. Applied Physics Letters, 2010, 96, .	1.5	89
5	Low-threshold stimulated emission at 249â€‰nm and 256â€‰nm from AlGaN-based multiple-quantum-well lasers grown on sapphire substrates. Applied Physics Letters, 2014, 105, .	1.5	78
6	Highâ€efficiency GaAlAs/GaAs heterostructure solar cells grown by metalorganic chemical vapor deposition. Applied Physics Letters, 1977, 31, 201-203.	1.5	77
7	Deep-ultraviolet lasing at 243â€‰nm from photo-pumped AlGaN/AlN heterostructure on AlN substrate. Applied Physics Letters, 2013, 102, .	1.5	77
8	Phononâ€sideband MOâ€CVD quantumâ€well AlxGa1â^'xAsâ€GaAs heterostructure laser. Applied Physics Letters, 1979, 34, 502-505.	1.5	73
9	Phononâ€assisted recombination and stimulated emission in quantumâ€well AlxGa1â^'xAsâ€GaAs heterostructures. Journal of Applied Physics, 1980, 51, 1328-1337.	1.1	73
10	Roomâ€temperature continuous operation of photopumped MOâ€CVD AlxGa1â^'xAsâ€GaAsâ€AlxGa1â^'xAs quantumâ€well lasers. Applied Physics Letters, 1978, 33, 73-75.	1.5	64
11	Control of quantum-confined Stark effect in InGaNâˆ•GaN multiple quantum well active region by p-type layer for III-nitride-based visible light emitting diodes. Applied Physics Letters, 2008, 92, .	1.5	60
12	Lowâ€threshold continuous laser operation (300â€“337â€‰Â°K) of multilayer MOâ€CVD AlxGa1â^'xAsâ€GaAs quantumâ€well heterostructures. Applied Physics Letters, 1978, 33, 737-739.	1.5	57
13	Al0.5Ga0.5Asâ€GaAs heterojunction phototransistors grown by metalorganic chemical vapor deposition. Applied Physics Letters, 1979, 34, 562-564.	1.5	56
14	Demonstration of transverse-magnetic deep-ultraviolet stimulated emission from AlGaN multiple-quantum-well lasers grown on a sapphire substrate. Applied Physics Letters, 2015, 106, .	1.5	53
15	Bandgap bowing in BGaN thin films. Applied Physics Letters, 2008, 93, .	1.5	51
16	Electrical properties of polycrystalline GaAs films. Journal of Applied Physics, 1980, 51, 3794-3800.	1.1	47
17	Growth of highâ€quality AlN layers on sapphire substrates at relatively low temperatures by metalorganic chemical vapor deposition. Physica Status Solidi (B): Basic Research, 2015, 252, 1089-1095.	0.7	46
18	Origins of unintentional incorporation of gallium in AlInN layers during epitaxial growth, part I: Growth of AlInN on AlN and effects of prior coating. Journal of Crystal Growth, 2014, 388, 137-142.	0.7	45

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19	Distributed Bragg reflectors based on diluted boron-based BAlN alloys for deep ultraviolet optoelectronic applications. Applied Physics Letters, 2012, 100, 051101.	1.5	44
20	Origins of unintentional incorporation of gallium in InAlN layers during epitaxial growth, part II: Effects of underlying layers and growth chamber conditions. Journal of Crystal Growth, 2014, 388, 143-149.	0.7	44
21	Thermal characterization of gallium nitride p-i-n diodes. Applied Physics Letters, 2018, 112, .	1.5	42
22	Bandfilling in metalorganic chemical vapor deposited AlxGa1âˆ’xAsâ€GaAsâ€AlxGa1âˆ’xAs quantumâ€well heterostructure lasers. Journal of Applied Physics, 1978, 49, 5392-5397.	1.1	39
23	Epitaxial tilting of GaN grown on vicinal surfaces of sapphire. Applied Physics Letters, 2005, 86, 211916.	1.5	39
24	Temperature dependence of the crystalline quality of AlN layer grown on sapphire substrates by metalorganic chemical vapor deposition. Journal of Crystal Growth, 2015, 414, 76-80.	0.7	38
25	Sub-250â€‰nm low-threshold deep-ultraviolet AlGaN-based heterostructure laser employing HfO2/SiO2 dielectric mirrors. Applied Physics Letters, 2013, 103, .	1.5	36
26	Growth of Vertically Aligned ZnO Nanobelt Arrays on GaN Substrate. Journal of Physical Chemistry C, 2008, 112, 18935-18937.	1.5	35
27	100â€nm thick singleâ€phase wurtzite BAlN films with boron contents over 10%. Physica Status Solidi (B): Basic Research, 2017, 254, 1600699.	0.7	35
28	Design and Analysis of 250-nm AlInN Laser Diodes on AlN Substrates Using Tapered Electron Blocking Layers. IEEE Journal of Quantum Electronics, 2012, 48, 703-711.	1.0	34
29	Band alignment of B0.14Al0.86N/Al0.7Ga0.3N heterojunction. Applied Physics Letters, 2017, 111, .	1.5	31
30	Tunnel injection and phononâ€assisted recombination in multiple quantumâ€well AlxGa1âˆ’xAsâ€GaAspâ€nheterostructure lasers grown by metalorganic chemical vapor deposition. Journal of Applied Physics, 1979, 50, 5835-5840.	1.1	30
31	Roomâ€temperature operation of distributedâ€Braggâ€confinement Ga1âˆ’xAlxAsâ€GaAs lasers grown by metalorganic chemical vapor deposition. Applied Physics Letters, 1978, 33, 68-69.	1.5	29
32	Transistor laser with emission wavelength at 1544nm. Applied Physics Letters, 2008, 93, 021111.	1.5	29
33	Sub 250â€‰nm deep-UV AlGaN/AlN distributed Bragg reflectors. Applied Physics Letters, 2017, 110, .	1.5	29
34	700â€h continuous roomâ€temperature operation of AlxGa1âˆ’xAsâ€GaAs heterostructure lasers grown by metalorganic chemical vapor deposition. Applied Physics Letters, 1979, 35, 311-314.	1.5	27
35	Vanadium-based ohmic contacts to n-type Al0.6Ga0.4N. Journal of Electronic Materials, 2004, 33, 418-421.	1.0	27
36	Mapping the electrostatic potential across AlGaNâˆ•AlNâˆ•GaN heterostructures using electron holography. Applied Physics Letters, 2007, 90, 032101.	1.5	26

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37	Effect of internal electrostatic fields in InGaN quantum wells on the properties of green light emitting diodes. Applied Physics Letters, 2007, 91, .	1.5	25
38	Structural and optical characterization of type-II InAs/InAs1â^'xSbx superlattices grown by metalorganic chemical vapor deposition. Applied Physics Letters, 2011, 99, .	1.5	25
39	Threshold voltage control of InAlN/GaN heterostructure field-effect transistors for depletion- and enhancement-mode operation. Applied Physics Letters, 2010, 96, .	1.5	24
40	Onset of surface stimulated emission at 260â€‰nm from AlGaN multiple quantum wells. Applied Physics Letters, 2015, 107, .	1.5	24
41	High-Current-Gain Direct-Growth GaN/InGaN Double Heterojunction Bipolar Transistors. IEEE Transactions on Electron Devices, 2010, 57, 2964-2969.	1.6	22
42	Influence of TMAl preflow on AlN epitaxy on sapphire. Applied Physics Letters, 2017, 110, 192106.	1.5	22
43	Graded-base InGaNâ•GaN heterojunction bipolar light-emitting transistors. Applied Physics Letters, 2006, 89, 082108.	1.5	21
44	III-nitride heterostructure field-effect transistors grown on semi-insulating GaN substrate without regrowth interface charge. Applied Physics Letters, 2008, 92, .	1.5	20
45	Lowâ€temperature operation of multiple quantumâ€well AlxGa1â^'xAsâ€GaAspâ€nheterostructure lasers grown by metalorganic chemical vapor deposition. Journal of Applied Physics, 1979, 50, 5830-5834.	1.1	19
46	The effect of InGaN underlayers on the electronic and optical properties of InGaN/GaN quantum wells. Applied Physics Letters, 2013, 102, .	1.5	19
47	Temperature-Dependent Characteristics of GaN Homojunction Rectifiers. IEEE Transactions on Electron Devices, 2015, 62, 2679-2683.	1.6	19
48	Working toward high-power GaN/InGaN heterojunction bipolar transistors. Semiconductor Science and Technology, 2013, 28, 074025.	1.0	17
49	Crystal structure and composition of BAlN thin films: Effect of boron concentration in the gas flow. Journal of Crystal Growth, 2017, 475, 334-340.	0.7	17
50	Structural defects and luminescence features in heteroepitaxial GaN grown on on-axis and misoriented substrates. Journal of Applied Physics, 2005, 97, 116101.	1.1	16
51	Comparison of GaN and In0.04Ga0.96N p-Layers on the Electrical and Electroluminescence Properties of Green Light Emitting Diodes. Journal of Electronic Materials, 2007, 36, 426-430.	1.0	16
52	Modulation of high current gain (Î²>49) light-emitting InGaNâ•GaN heterojunction bipolar transistors. Applied Physics Letters, 2007, 91, 232114.	1.5	15
53	AlGaN-Based Vertical Injection Laser Diodes Using Inverse Tapered p-Waveguide for Efficient Hole Transport. IEEE Journal of Quantum Electronics, 2014, 50, 166-173.	1.0	14
54	Strain management of AlGaN-based distributed Bragg reflectors with GaN interlayer grown by metalorganic chemical vapor deposition. Applied Physics Letters, 2016, 109, .	1.5	14

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55	Electrically conducting n-type AlGaN/GaN distributed Bragg reflectors grown by metalorganic chemical vapor deposition. Journal of Crystal Growth, 2016, 443, 81-84.	0.7	14
56	Ohmic contacts to p-type Al0.45Ga0.55N. Journal of Applied Physics, 2004, 96, 7325-7331.	1.1	13
57	Metalorganic chemical vapor deposition growth and characterization of InGaP/GaAs superlattices. Journal of Electronic Materials, 2006, 35, 705-710.	1.0	13
58	Optically pumped AlGaN quantumâ€well lasers at subâ€250 nm grown by MOCVD on AlN substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 258-260.	0.8	13
59	Structural properties, crystal quality and growth modes of MOCVD-grown AlN with TMAl pretreatment of sapphire substrate. Journal Physics D: Applied Physics, 2017, 50, 395101.	1.3	13
60	Hydrogen-related, deeply bound excitons in Mg-doped GaN films. Applied Physics Letters, 2013, 103, 082103.	1.5	12
61	Inverse-Tapered p-Waveguide for Vertical Hole Transport in High-[Al] AlGaN Emitters. IEEE Photonics Technology Letters, 2015, 27, 1768-1771.	1.3	9
62	GaN/InGaN Heterojunction Bipolar Transistors With $f_{T} > hbox{5} hbox{GHz}$. IEEE Electron Device Letters, 2011, 32, 1065-1067.	2.2	8
63	Lattice vibration modes in type-II superlattice InAs/GaSb with no-common-atom interface and overlapping vibration spectra. Physical Review B, 2015, 91, .	1.1	8
64	Revealing microstructure and dislocation behavior in BAlN/AlGaN heterostructures. Applied Physics Express, 2018, 11, 011001.	1.1	8
65	Visible spectrum light-emitting transistors. Applied Physics Letters, 2006, 88, 012108.	1.5	7
66	Surface treatment on the growth surface of semiâ€insulating GaN bulk substrate for IIIâ€nitride heterostructure fieldâ€effect transistors. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1849-1851.	0.8	7
67	III-N High-Power Bipolar Transistors. ECS Transactions, 2013, 58, 261-267.	0.3	7
68	Erratic dislocations within funnel defects in AlN templates for AlGaN epitaxial layer growth. Applied Physics Letters, 2009, 94, 171912.	1.5	6
69	Effect of Group-III precursors on unintentional gallium incorporation during epitaxial growth of InAlN layers by metalorganic chemical vapor deposition. Journal of Applied Physics, 2015, 118, .	1.1	5
70	Experimental demonstration of the polarization-dependent photon-mediated carrier redistribution in tunneling injection InP quantum-dot lasers with external-grating feedback. Applied Physics Letters, 2007, 90, 211102.	1.5	4
71	Geiger mode simulation of GaN homojunction avalanche photodetectors. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S662.	0.8	4
72	Traveling dipole domains in AlGaN/GaN heterostructures and the direct generation of millimeterâ€wave oscillations. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2285-2287.	0.8	4

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73	Optical Properties of Strain-balanced InAsâˆ•InAs[sub 1-x]Sb[sub x] Type-II Superlattices. , 2011, , .		3
74	PERFORMANCE ENHANCEMENT OF InGaN-BASED LASER DIODES USING A STEP-GRADED Al_{x}Ga_{1-x}N ELECTRON BLOCKING LAYER. International Journal of High Speed Electronics and Systems, 2011, 20, 515-520.	0.3	3
75	Effect of thin strain-compensated Al0.6Ga0.4P layers on the growth of multiple-stacked InP/In0.5Al0.3Ga0.2P quantum dots. Journal of Electronic Materials, 2006, 35, 701-704.	1.0	2
76	Doping-dependent device functionality of InP/InAlGaAs long-wavelength light-emitting transistors. Applied Physics Letters, 2011, 99, 103502.	1.5	2
77	Radiative recombination in GaN/InGaN heterojunction bipolar transistors. Applied Physics Letters, 2015, 107, 242104.	1.5	2
78	Relationship of basal plane and prismatic stacking faults in GaN to low temperature photoluminescence peaks at â¼3.4 eV and â¼3.2 eV. Materials Research Society Symposia Proceedings, 2004, 831, 200.	0.1	1
79	MOCVD growth of InGaN:Mg for GaN/InGaN HBTs. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2157-2160.	0.8	1
80	Device performance of light emitting transistors with C-doped and Zn-doped base layers. , 2009, , .		1
81	III-N Epitaxial Growth for Nitride Devices. Materials Research Society Symposia Proceedings, 2005, 892, 97.	0.1	0
82	Onset of deep UV surface stimulated emission from AlGaN multiple quantum wells. , 2016, , .		0
83	Growth of single-phase wurtzite BAlN with 7.2%-B contents. , 2016, , .		0