

Andrew Armstrong

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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|-------------------|-------------------------|----------------|-----------------|
| 79 papers | 1,492 citations | 22 h-index | 35 g-index |
| 82 ext. papers | 1,717 ext. citations | 2.9 avg, IF | 4.68 L-index |

| # | Paper | IF | Citations |
|----|--|------|-----------|
| 79 | Demonstration of >6.0-kV Breakdown Voltage in Large Area Vertical GaN p-n Diodes With Step-Etched Junction Termination Extensions. <i>IEEE Transactions on Electron Devices</i> , 2022 , 69, 1931-1937 | 2.9 | 4 |
| 78 | Selective area regrowth and doping for vertical gallium nitride power devices: Materials challenges and recent progress. <i>Materials Today</i> , 2021 , 49, 296-296 | 21.8 | 6 |
| 77 | Etched-and-Regrown GaN pn-Diodes With 1600 V Blocking Voltage. <i>IEEE Journal of the Electron Devices Society</i> , 2021 , 9, 318-323 | 2.3 | 1 |
| 76 | Low voltage drop tunnel junctions grown monolithically by MOCVD. <i>Applied Physics Letters</i> , 2021 , 118, 053503 | 3.4 | 4 |
| 75 | Carrier Diffusion Lengths in Continuously Grown and Etched-and-Regrown GaN Pin Diodes. <i>IEEE Electron Device Letters</i> , 2021 , 42, 1041-1044 | 4.4 | |
| 74 | High-resolution planar electron beam induced current in bulk diodes using high-energy electrons. <i>Applied Physics Letters</i> , 2021 , 119, 014103 | 3.4 | |
| 73 | Al _{0.7} Ga _{0.3} N MESFET With All-Refractory Metal Process for High Temperature Operation. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 4278-4282 | 2.9 | 2 |
| 72 | All-MOCVD-grown gallium nitride diodes with ultra-low resistance tunnel junctions. <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 155103 | 3 | 3 |
| 71 | Al-rich AlGa _N based transistors. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2020 , 38, 020803 | 2.9 | 18 |
| 70 | Device-Level Multidimensional Thermal Dynamics With Implications for Current and Future Wide Bandgap Electronics. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2020 , 142, | 2 | 8 |
| 69 | Development of High-Voltage Vertical GaN PN Diodes 2020 , | | 2 |
| 68 | X-ray topography characterization of gallium nitride substrates for power device development. <i>Journal of Crystal Growth</i> , 2020 , 544, 125709 | 1.6 | 14 |
| 67 | Interfacial Impurities and Their Electronic Signatures in High-Voltage Regrown Nonpolar m-Plane GaN Vertical p _n Diodes. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 1900757 | 1.6 | 9 |
| 66 | Synchrotron X-ray topography characterization of high quality ammonothermal-grown gallium nitride substrates. <i>Journal of Crystal Growth</i> , 2020 , 551, 125903 | 1.6 | 11 |
| 65 | Defect suppression in wet-treated etched-and-regrown nonpolar m-plane GaN vertical Schottky diodes: A deep-level optical spectroscopy analysis. <i>Journal of Applied Physics</i> , 2020 , 128, 185703 | 2.5 | 2 |
| 64 | Fully transparent GaN homojunction tunnel junction-enabled cascaded blue LEDs. <i>Applied Physics Letters</i> , 2020 , 117, 051103 | 3.4 | 3 |
| 63 | High temperature operation to 500 °C of AlGa _N graded polarization-doped field-effect transistors. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2020 , 38, 033202 | 1.3 | 1 |

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| 62 | III-Nitride ultra-wide-bandgap electronic devices. <i>Semiconductors and Semimetals</i> , 2019 , 102, 397-416 | 0.6 | 3 |
| 61 | High-frequency, high-power performance of AlGa _N -channel high-electron-mobility transistors: an RF simulation study. <i>Japanese Journal of Applied Physics</i> , 2019 , 58, SCCD04 | 1.4 | 11 |
| 60 | Operation Up to 500 °C of Al _{0.85} Ga _{0.15} N/Al _{0.7} Ga _{0.3} N High Electron Mobility Transistors. <i>IEEE Journal of the Electron Devices Society</i> , 2019 , 7, 444-452 | 2.3 | 27 |
| 59 | Enhancement-mode AlGa _N channel high electron mobility transistor enabled by p-AlGa _N gate. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2019 , 37, 021208 | 1.3 | 12 |
| 58 | Regrown Vertical GaN p _n Diodes with Low Reverse Leakage Current. <i>Journal of Electronic Materials</i> , 2019 , 48, 3311-3316 | 1.9 | 10 |
| 57 | Enhancement-mode Al _{0.85} Ga _{0.15} N/Al _{0.7} Ga _{0.3} N high electron mobility transistor with fluorine treatment. <i>Applied Physics Letters</i> , 2019 , 114, 112104 | 3.4 | 15 |
| 56 | Extreme Temperature Operation of Ultra-Wide Bandgap AlGa _N High Electron Mobility Transistors. <i>IEEE Transactions on Semiconductor Manufacturing</i> , 2019 , 32, 473-477 | 2.6 | 13 |
| 55 | Saturation Velocity Measurement of Al _{0.7} Ga _{0.3} N-Channel High Electron Mobility Transistors. <i>Journal of Electronic Materials</i> , 2019 , 48, 5581-5585 | 1.9 | 6 |
| 54 | Investigation of dry-etch-induced defects in >600 V regrown, vertical, GaN, p-n diodes using deep-level optical spectroscopy. <i>Journal of Applied Physics</i> , 2019 , 126, 145703 | 2.5 | 13 |
| 53 | Multidimensional thermal analysis of an ultrawide bandgap AlGa _N channel high electron mobility transistor. <i>Applied Physics Letters</i> , 2019 , 115, 153503 | 3.4 | 21 |
| 52 | Visible- and solar-blind photodetectors using AlGa _N high electron mobility transistors with a nanodot-based floating gate. <i>Photonics Research</i> , 2019 , 7, B24 | 6 | 8 |
| 51 | AlGa _N polarization-doped field effect transistor with compositionally graded channel from Al _{0.6} Ga _{0.4} N to AlN. <i>Applied Physics Letters</i> , 2019 , 114, 052103 | 3.4 | 15 |
| 50 | Ultra-Wide Bandgap Al _x Ga _{1-x} N Channel Transistors. <i>International Journal of High Speed Electronics and Systems</i> , 2019 , 28, 1940009 | 0.5 | 3 |
| 49 | High-Voltage Regrown Nonpolar $\{m\}$ -Plane Vertical p-n Diodes: A Step Toward Future Selective-Area-Doped Power Switches. <i>IEEE Electron Device Letters</i> , 2019 , 40, 387-390 | 4.4 | 20 |
| 48 | Tunnel-injected sub 290 nm ultra-violet light emitting diodes with 2.8% external quantum efficiency. <i>Applied Physics Letters</i> , 2018 , 112, 071107 | 3.4 | 45 |
| 47 | High Al-Content AlGa _N Transistor With 0.5 A/mm Current Density and Lateral Breakdown Field Exceeding 3.6 MV/cm. <i>IEEE Electron Device Letters</i> , 2018 , 39, 256-259 | 4.4 | 40 |
| 46 | Visible-blind and solar-blind detection induced by defects in AlGa _N high electron mobility transistors. <i>Journal of Applied Physics</i> , 2018 , 123, 114502 | 2.5 | 14 |
| 45 | Ohmic Contact-Free Mobility Measurement in Ultra-Wide Bandgap AlGa _N /AlGa _N Devices. <i>IEEE Electron Device Letters</i> , 2018 , 39, 55-58 | 4.4 | 2 |

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|----|---|-----|----|
| 44 | Measuring the minority carrier diffusion length in n-GaN using bulk STEM EBIC. <i>Microscopy and Microanalysis</i> , 2018 , 24, 1842-1843 | 0.5 | 0 |
| 43 | RF Performance of Al _{0.85} Ga _{0.15} N/Al _{0.70} Ga _{0.30} N High Electron Mobility Transistors With 80-nm Gates. <i>IEEE Electron Device Letters</i> , 2018 , 1-1 | 4.4 | 15 |
| 42 | Ultra-wide band gap AlGa _N polarization-doped field effect transistor. <i>Japanese Journal of Applied Physics</i> , 2018 , 57, 074103 | 1.4 | 14 |
| 41 | Review Ultra-Wide-Bandgap AlGa _N Power Electronic Devices. <i>ECS Journal of Solid State Science and Technology</i> , 2017 , 6, Q3061-Q3066 | 2 | 70 |
| 40 | Tunnel-injected sub-260 nm ultraviolet light emitting diodes. <i>Applied Physics Letters</i> , 2017 , 110, 201102 | 3.4 | 48 |
| 39 | Imaging the Impact of Proton Irradiation on Edge Terminations in Vertical GaN PIN Diodes. <i>IEEE Electron Device Letters</i> , 2017 , 38, 945-948 | 4.4 | 5 |
| 38 | Ohmic contacts to Al-rich AlGa _N heterostructures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017 , 214, 1600842 | 1.6 | 25 |
| 37 | Simulations of Junction Termination Extensions in Vertical GaN Power Diodes. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 2291-2297 | 2.9 | 21 |
| 36 | Evolution of AlGa _N deep level defects as a function of alloying and compositional grading and resultant impact on electrical conductivity. <i>Applied Physics Letters</i> , 2017 , 111, 042103 | 3.4 | 6 |
| 35 | Reflective metal/semiconductor tunnel junctions for hole injection in AlGa _N UV LEDs. <i>Applied Physics Letters</i> , 2017 , 111, 051104 | 3.4 | 26 |
| 34 | Al _{0.85} Ga _{0.15} N/Al _{0.70} Ga _{0.30} N High Electron Mobility Transistors with Schottky Gates and Large On/Off Current Ratio over Temperature. <i>ECS Journal of Solid State Science and Technology</i> , 2017 , 6, Q161-Q165 ²⁹ | | |
| 33 | Deep-Level Characterization: Electrical and Optical Methods. <i>Power Electronics and Power Systems</i> , 2017 , 145-163 | 0.3 | |
| 32 | Proton irradiation effects on minority carrier diffusion length and defect introduction in homoepitaxial and heteroepitaxial n-GaN. <i>Journal of Applied Physics</i> , 2017 , 122, 235705 | 2.5 | 12 |
| 31 | High Temperature Operation of Al _{0.45} Ga _{0.55} N/Al _{0.30} Ga _{0.70} N High Electron Mobility Transistors. <i>ECS Journal of Solid State Science and Technology</i> , 2017 , 6, S3010-S3013 | 2 | 23 |
| 30 | Planar Ohmic Contacts to Al _{0.45} Ga _{0.55} N/Al _{0.30} Ga _{0.70} N High Electron Mobility Transistors. <i>ECS Journal of Solid State Science and Technology</i> , 2017 , 6, S3067-S3071 | 2 | 24 |
| 29 | In-Operando Spatial Imaging of Edge Termination Electric Fields in GaN Vertical p-n Junction Diodes. <i>IEEE Electron Device Letters</i> , 2016 , 1-1 | 4.4 | 2 |
| 28 | Vertical GaN Power Diodes With a Bilayer Edge Termination. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 419-425 | 2.9 | 69 |
| 27 | High voltage and high current density vertical GaN power diodes. <i>Electronics Letters</i> , 2016 , 52, 1170-1171.1 | 1.1 | 56 |

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| 26 | Design of p-type cladding layers for tunnel-injected UV-A light emitting diodes. <i>Applied Physics Letters</i> , 2016 , 109, 191105 | 3.4 | 28 |
| 25 | An AlN/Al _{0.85} Ga _{0.15} N high electron mobility transistor. <i>Applied Physics Letters</i> , 2016 , 109, 033509 | 3.4 | 89 |
| 24 | Design and demonstration of ultra-wide bandgap AlGa _N tunnel junctions. <i>Applied Physics Letters</i> , 2016 , 109, 121102 | 3.4 | 43 |
| 23 | Polarization-induced electrical conductivity in ultra-wide band gap AlGa _N alloys. <i>Applied Physics Letters</i> , 2016 , 109, 222101 | 3.4 | 13 |
| 22 | Role of self-trapped holes in the photoconductive gain of Gallium oxide Schottky diodes. <i>Journal of Applied Physics</i> , 2016 , 119, 103102 | 2.5 | 118 |
| 21 | Identification of the primary compensating defect level responsible for determining blocking voltage of vertical Ga _N power diodes. <i>Applied Physics Letters</i> , 2016 , 109, 183503 | 3.4 | 9 |
| 20 | Enhanced light extraction in tunnel junction-enabled top emitting UV LEDs. <i>Applied Physics Express</i> , 2016 , 9, 052102 | 2.4 | 23 |
| 19 | Detection and modeling of leakage current in AlGa _N -based deep ultraviolet light-emitting diodes. <i>Journal of Applied Physics</i> , 2015 , 117, 095301 | 2.5 | 28 |
| 18 | Defect-reduction mechanism for improving radiative efficiency in InGa _N /Ga _N light-emitting diodes using InGa _N underlayers. <i>Journal of Applied Physics</i> , 2015 , 117, 134501 | 2.5 | 54 |
| 17 | Growth temperature dependence of Si doping efficiency and compensating deep level defect incorporation in Al _{0.7} Ga _{0.3} N. <i>Journal of Applied Physics</i> , 2015 , 117, 185704 | 2.5 | 15 |
| 16 | Sub 300 nm wavelength III-Nitride tunnel-injected ultraviolet LEDs 2015 , | | 4 |
| 15 | Spectroscopic investigations of band offsets of MgO/Al _x Ga _{1-x} N epitaxial heterostructures with varying AlN content. <i>Applied Physics Letters</i> , 2015 , 107, 102101 | 3.4 | 9 |
| 14 | Laser diodes with 353 nm wavelength enabled by reduced-dislocation-density AlGa _N templates. <i>Applied Physics Express</i> , 2015 , 8, 112702 | 2.4 | 18 |
| 13 | Interband tunneling for hole injection in III-nitride ultraviolet emitters. <i>Applied Physics Letters</i> , 2015 , 106, 141103 | 3.4 | 67 |
| 12 | . <i>IEEE Transactions on Nuclear Science</i> , 2015 , 62, 2912-2918 | 1.7 | 20 |
| 11 | Contribution of deep-level defects to decreasing radiative efficiency of InGa _N /Ga _N quantum wells with increasing emission wavelength. <i>Applied Physics Express</i> , 2014 , 7, 032101 | 2.4 | 40 |
| 10 | Energy Frontier Research Center for Solid-State Lighting Science: Exploring New Materials Architectures and Light Emission Phenomena. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 13330-13345 | 3.8 | 12 |
| 9 | Sensitivity of on-resistance and threshold voltage to buffer-related deep level defects in AlGa _N /Ga _N high electron mobility transistors. <i>Semiconductor Science and Technology</i> , 2013 , 28, 074020 | 1.8 | 7 |

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| 8 | Influence of growth temperature and temperature ramps on deep level defect incorporation in m-plane GaN. <i>Applied Physics Letters</i> , 2013 , 103, 232108 | 3.4 | 11 |
| 7 | Highly nonlinear defect-induced carrier recombination rates in semiconductors. <i>Journal of Applied Physics</i> , 2013 , 114, 144502 | 2.5 | 8 |
| 6 | . <i>IEEE Transactions on Electron Devices</i> , 2012 , 59, 2115-2122 | 2.9 | 32 |
| 5 | III-nitride nanowires: novel materials for solid-state lighting 2011 , | | 2 |
| 4 | Quantitative and Depth-Resolved Investigation of Deep-Level Defects in InGaN/GaN Heterostructures. <i>Journal of Electronic Materials</i> , 2011 , 40, 369-376 | 1.9 | 5 |
| 3 | Sub-bandgap light-induced carrier generation at room temperature in 4H-SiC metal oxide semiconductor capacitors. <i>Applied Physics Letters</i> , 2011 , 99, 173502 | 3.4 | 1 |
| 2 | Depletion-Mode Photoconductivity Study of Deep Levels in GaN Nanowires. <i>Journal of Electronic Materials</i> , 2009 , 38, 484-489 | 1.9 | 19 |
| 1 | In situ scanning electron microscope electrical characterization of GaN nanowire nanodiodes using tungsten and tungsten/gallium nanoprobe. <i>Solid State Communications</i> , 2009 , 149, 1608-1610 | 1.6 | 6 |