# Gregor KoblmÃ¼ller

List of Publications by Year
in descending order



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|---|---|---|---|
| 116 papers | 4,046 citations | 76196 40 h-index | 133063 59 g-index |
| 118 all docs | 118 docs citations | 118 times ranked | 3822 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Lasing from individual GaAs-AlGaAs core-shell nanowires up to room temperature. Nature Communications, 2013, 4, 2931. | 5.8 | 207 |
| 2 | Growth kinetics in position-controlled and catalyst-free InAs nanowire arrays on Si(111) grown by selective area molecular beam epitaxy. Journal of Applied Physics, 2010, 108, . | 1.1 | 141 |
| 3 | Direct Observation of a Noncatalytic Growth Regime for GaAs Nanowires. Nano Letters, 2011, 11, 3848-3854. | 4.5 | 119 |
| 4 | Spontaneous Alloy Composition Ordering in GaAs-AlGaAs Coreâ€"Shell Nanowires. Nano Letters, 2013, 13, 1522-1527. | 4.5 | 116 |
| 5 | Self-induced growth of vertical free-standing InAs nanowires on Si(111) by molecular beam epitaxy. Nanotechnology, 2010, 21, 365602. | 1.3 | 113 |
| 6 | Monolithically Integrated High-Î² Nanowire Lasers on Silicon. Nano Letters, 2016, 16, 152-156. | 4.5 | 112 |
| 7 | Optimization of the surface and structural quality of N-face InN grown by molecular beam epitaxy. Applied Physics Letters, 2006, 89, 071902. | 1.5 | 103 |
| 8 | Thermal conductivity of GaAs nanowires studied by micro-Raman spectroscopy combined with laser heating. Applied Physics Letters, 2010, 97, . | 1.5 | 96 |
| 9 | <i>In situ</i> investigation of growth modes during plasma-assisted molecular beam epitaxy of (0001) GaN. Applied Physics Letters, 2007, 91, . | 1.5 | 87 |
| 10 | Excitation wavelength dependence of terahertz emission from InN and InAs. Applied Physics Letters, 2006, 89, 141115. | 1.5 | 81 |
| 11 | Measuring Three-Dimensional Strain and Structural Defects in a Single InGaAs Nanowire Using Coherent X-ray Multiangle Bragg Projection Ptychography. Nano Letters, 2018, 18, 811-819. | 4.5 | 80 |
| 12 | Dislocation-induced thermal transport anisotropy in single-crystal group-III nitride films. Nature Materials, 2019, 18, 136-140. | 13.3 | 76 |
| 13 | Enhanced Luminescence Properties of InAsâ€"InAsP Coreâ€"Shell Nanowires. Nano Letters, 2013, 13, 6070-6077. | 4.5 | 73 |
| 14 | Absence of vapor-liquid-solid growth during molecular beam epitaxy of self-induced InAs nanowires on Si. Applied Physics Letters, 2011, 98, 123114. | 1.5 | 69 |
| 15 | Growth and properties of InGaAs nanowires on silicon. Physica Status Solidi - Rapid Research Letters, 2014, 8, 11-30. | 1.2 | 68 |
| 16 | Hole transport and photoluminescence in Mg-doped InN. Journal of Applied Physics, 2010, 107, . | 1.1 | 67 |
| 17 | Evaluation of threading dislocation densities in In- and N-face InN. Journal of Applied Physics, 2010, 107, . | 1.1 | 66 |
| 18 | Alloy Fluctuations Act as Quantum Dot-like Emitters in GaAs-AlGaAs Coreâ€"Shell Nanowires. ACS Nano, 2015, 9, 8335-8343. | 7.3 | 65 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Dynamic Acoustic Control of Individual Optically Active Quantum Dot-like Emission Centers in Heterostructure Nanowires. Nano Letters, 2014, 14, 2256-2264. | 4.5 | 64 |
| 20 | Demonstration of Confined Electron Gas and Steep-Slope Behavior in Delta-Doped GaAs-AlGaAs Coreâ€"Shell Nanowire Transistors. Nano Letters, 2015, 15, 3295-3302. | 4.5 | 60 |
| 21 | Direct Measurements of Fermi Level Pinning at the Surface of Intrinsically n-Type InGaAs Nanowires. Nano Letters, 2016, 16, 5135-5142. | 4.5 | 60 |
| 22 | High electron mobility GaN grown under N-rich conditions by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2007, 91, . | 1.5 | 59 |
| 23 | Effect of charged dislocation scattering on electrical and electrothermal transport in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>n</mml:mi></mml:math>-type InN. Physical Review B, 2011, 84, . | 1.1 | 59 |
| 24 | Coaxial GaAs-AlGaAs core-multishell nanowire lasers with epitaxial gain control. Applied Physics Letters, 2016, 108, . | 1.5 | 59 |
| 25 | The role of threading dislocations and unintentionally incorporated impurities on the bulk electron conductivity of In-face InN. Applied Physics Letters, 2009, 95, 022103. | 1.5 | 58 |
| 26 | Directional and Dynamic Modulation of the Optical Emission of an Individual GaAs Nanowire Using Surface Acoustic Waves. Nano Letters, 2011, 11, 1512-1517. | 4.5 | 56 |
| 27 | High Mobility One- and Two-Dimensional Electron Systems in Nanowire-Based Quantum Heterostructures. Nano Letters, 2013, 13, 6189-6196. | 4.5 | 56 |
| 28 | High compositional homogeneity in In-rich InGaAs nanowire arrays on nanoimprinted SiO<sub>2</sub>/Si (111). Applied Physics Letters, 2012, 101, 043116. | 1.5 | 54 |
| 29 | Ga Adlayer Governed Surface Defect Evolution of (0001)GaN Films Grown by Plasma-Assisted Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2005, 44, L906-L908. | 0.8 | 50 |
| 30 | Tunable Quantum Confinement in Ultrathin, Optically Active Semiconductor Nanowires Via Reverseâ€Reaction Growth. Advanced Materials, 2015, 27, 2195-2202. | 11.1 | 50 |
| 31 | GaAsâ€"AlGaAs coreâ€"shell nanowire lasers on silicon: invited review. Semiconductor Science and Technology, 2017, 32, 053001. | 1.0 | 48 |
| 32 | Crystal Phase Quantum Dots in the Ultrathin Core of GaAsâ€"AlGaAs Coreâ€"Shell Nanowires. Nano Letters, 2015, 15, 7544-7551. | 4.5 | 47 |
| 33 | Surface structure and chemical states of a-plane and c-plane InN films. Applied Physics Letters, 2009, 95, . | 1.5 | 46 |
| 34 | Role of microstructure on optical properties in high-uniformity In<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>âˆ'</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:math>Ga<mml: xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>As nanowire arrays: Evidence of a wider wurtzite band gap. Physical Review B, 2013, 87, . | 1.1 | 46 |
| 35 | Lattice-Matched InGaAsâ€"InAlAs Coreâ€"Shell Nanowires with Improved Luminescence and Photoresponse Properties. Nano Letters, 2015, 15, 3533-3540. | 4.5 | 46 |
| 36 | Characterisation of Multiple Carrier Transport in Indium Nitride Grown by Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2006, 45, L1090-L1092. | 0.8 | 43 |

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|---|---|---|---|
| 37 | Size, composition, and doping effects on In(Ga)As nanowire/Si tunnel diodes probed by conductive atomic force microscopy. Applied Physics Letters, 2012, 101, 233102. | 1.5 | 43 |
| 38 | Tuning Lasing Emission toward Long Wavelengths in GaAs-(In,Al)GaAs Coreâ€“Multishell Nanowires. Nano Letters, 2018, 18, 6292-6300. | 4.5 | 43 |
| 39 | Nano Antenna Array for Terahertz Detection. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 2751-2757. | 2.9 | 42 |
| 40 | Acoustically regulated carrier injection into a single optically active quantum dot. Physical Review B, 2013, 88, . | 1.1 | 41 |
| 41 | Influence of Ga/N ratio on morphology, vacancies, and electrical transport in GaN grown by molecular beam epitaxy at high temperature. Applied Physics Letters, 2010, 97, 191915. | 1.5 | 39 |
| 42 | Effects of stacking variations on the lattice dynamics of InAs nanowires. Physical Review B, 2011, 84, . | 1.1 | 39 |
| 43 | Molecular beam epitaxy and structural anisotropy of m-plane InN grown on free-standing GaN. Applied Physics Letters, 2008, 93, 171902. | 1.5 | 38 |
| 44 | Rate-limiting mechanisms in high-temperature growth of catalyst-free InAs nanowires with large thermal stability. Nanotechnology, 2012, 23, 235602. | 1.3 | 37 |
| 45 | Strong Terahertz Emission and Its Origin from Catalyst-Free InAs Nanowire Arrays. Nano Letters, 2014, 14, 1508-1514. | 4.5 | 37 |
| 46 | Diameter dependent optical emission properties of InAs nanowires grown on Si. Applied Physics Letters, 2012, 101, 053103. | 1.5 | 36 |
| 47 | Low defect-mediated reverse-bias leakage in (0001) GaN via high-temperature molecular beam epitaxy. Applied Physics Letters, 2010, 96, . | 1.5 | 35 |
| 48 | Ultrafast Photodetection in the Quantum Wells of Single AlGaAs/GaAs-Based Nanowires. Nano Letters, 2015, 15, 6869-6874. | 4.5 | 35 |
| 49 | Effect of interwire separation on growth kinetics and properties of site-selective GaAs nanowires. Applied Physics Letters, 2014, 105, . | 1.5 | 34 |
| 50 | Direct Coupling of Coherent Emission from Site-Selectively Grown IIIâ€“V Nanowire Lasers into Proximal Silicon Waveguides. ACS Photonics, 2017, 4, 2537-2543. | 3.2 | 34 |
| 51 | E<sub>1</sub>(A) Electronic Band Gap in Wurtzite InAs Nanowires Studied by Resonant Raman Scattering. Nano Letters, 2013, 13, 3011-3016. | 4.5 | 32 |
| 52 | Surface, bulk, and interface electronic properties of nonpolar InN. Applied Physics Letters, 2010, 97, . | 1.5 | 30 |
| 53 | Probing the trapping and thermal activation dynamics of excitons at single twin defects in GaAsâ€“AlGaAs coreâ€“shell nanowires. New Journal of Physics, 2013, 15, 113032. | 1.2 | 30 |
| 54 | Ultrafast photocurrents and THz generation in single InAsâ€nanowires. Annalen Der Physik, 2013, 525, 180-188. | 0.9 | 27 |

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| 55 | Widely tunable alloy composition and crystal structure in catalyst-free InGaAs nanowire arrays grown by selective area molecular beam epitaxy. Applied Physics Letters, 2016, 108, . | 1.5 | 27 |
| 56 | Photocurrents in a Single InAs Nanowire/Silicon Heterojunction. ACS Nano, 2015, 9, 9849-9858. | 7.3 | 26 |
| 57 | Thermoelectric properties of In-rich InGaN and InN/InGaN superlattices. AIP Advances, 2016, 6, 045216. | 0.6 | 26 |
| 58 | The Native Material Limit of Electron and Hole Mobilities in Semiconductor Nanowires. ACS Nano, 2016, 10, 4942-4953. | 7.3 | 26 |
| 59 | GaN thermal transport limited by the interplay of dislocations and size effects. Physical Review B, 2020, 102, . | 1.1 | 26 |
| 60 | Continuous wave lasing from individual GaAs-AlGaAs core-shell nanowires. Applied Physics Letters, 2016, 108, . | 1.5 | 24 |
| 61 | Delayed nucleation during molecular-beam epitaxial growth of GaN observed by line-of-sight quadrupole mass spectrometry. Applied Physics Letters, 2002, 80, 2281-2283. | 1.5 | 23 |
| 62 | Radio frequency occupancy state control of a single nanowire quantum dot. Journal Physics D: Applied Physics, 2014, 47, 394011. | 1.3 | 22 |
| 63 | In vacancies in InN grown by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2010, 97, 251907. | 1.5 | 20 |
| 64 | Quantumâ€Confinementâ€Enhanced Thermoelectric Properties in Modulationâ€Doped GaAsâ€“AlGaAs Coreâ€“Shell Nanowires. Advanced Materials, 2020, 32, e1905458. | 11.1 | 19 |
| 65 | Quantum Transport and Sub-Band Structure of Modulation-Doped GaAs/AlAs Coreâ€“Superlattice Nanowires. Nano Letters, 2017, 17, 4886-4893. | 4.5 | 18 |
| 66 | Low-threshold strain-compensated InGaAs/(In,Al)GaAs multi-quantum well nanowire lasers emitting near 1.3 <b>Î¼</b>m at room temperature. Applied Physics Letters, 2021, 118, . | 1.5 | 18 |
| 67 | Trade-off between morphology, extended defects, and compositional fluctuation induced carrier localization in high In-content InGaN films. Journal of Applied Physics, 2014, 116, . | 1.1 | 17 |
| 68 | Suppression of alloy fluctuations in GaAs-AlGaAs core-shell nanowires. Applied Physics Letters, 2016, 109, . | 1.5 | 17 |
| 69 | Ultrathin catalyst-free InAs nanowires on silicon with distinct 1D sub-band transport properties. Nanoscale, 2020, 12, 21857-21868. | 2.8 | 17 |
| 70 | Surface acoustic wave controlled charge dynamics in a thin InGaAs quantum well. JETP Letters, 2012, 95, 575-580. | 0.4 | 16 |
| 71 | Contactless Optical Characterization of Carrier Dynamics in Free-Standing InAs-InAlAs Coreâ€“Shell Nanowires on Silicon. Nano Letters, 2019, 19, 990-996. | 4.5 | 16 |
| 72 | Influence of growth conditions and polarity on interface-related electron density in InN. Journal of Applied Physics, 2008, 104, . | 1.1 | 15 |

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| 73 | Optimization of AlAs/AlGaAs quantum well heterostructures on on-axis and misoriented GaAs (111)B. Applied Physics Letters, 2012, 100, 192106. | 1.5 | 14 |
| 74 | Long-term mutual phase locking of picosecond pulse pairs generated by a semiconductor nanowire laser. Nature Communications, 2017, 8, 15521. | 5.8 | 14 |
| 75 | Carrier concentration dependent photoluminescence properties of Si-doped InAs nanowires. Applied Physics Letters, 2018, 112, . | 1.5 | 14 |
| 76 | Breakdown of Corner States and Carrier Localization by Monolayer Fluctuations in Radial Nanowire Quantum Wells. Nano Letters, 2019, 19, 3336-3343. | 4.5 | 14 |
| 77 | Demonstration of <i>n</i>-type behavior in catalyst-free Si-doped GaAs nanowires grown by molecular beam epitaxy. Applied Physics Letters, 2020, 116, . | 1.5 | 14 |
| 78 | Ultrafast electron cycloids driven by the transverse spin of a surface acoustic wave. Science Advances, 2021, 7, . | 4.7 | 14 |
| 79 | Correlated Chemical and Electrically Active Dopant Analysis in Catalyst-Free Si-Doped InAs Nanowires. ACS Nano, 2018, 12, 1603-1610. | 7.3 | 13 |
| 80 | He-Ion Microscopy as a High-Resolution Probe for Complex Quantum Heterostructures in Coreâ€“Shell Nanowires. Nano Letters, 2018, 18, 3911-3919. | 4.5 | 13 |
| 81 | Connecting Composition-Driven Faceting with Facet-Driven Composition Modulation in GaAsâ€“AlGaAs Coreâ€“Shell Nanowires. Nano Letters, 2018, 18, 5179-5185. | 4.5 | 13 |
| 82 | Effect of MBE Growth Conditions on Multiple Electron Transport in InN. Journal of Electronic Materials, 2008, 37, 593-596. | 1.0 | 12 |
| 83 | Microscopic nature of crystal phase quantum dots in ultrathin GaAs nanowires by nanoscale luminescence characterization. New Journal of Physics, 2016, 18, 063009. | 1.2 | 12 |
| 84 | Electrical and electrothermal transport in InN: The roles of defects. Physica B: Condensed Matter, 2009, 404, 4862-4865. | 1.3 | 11 |
| 85 | Reduced threading dislocation densities in high-T/N-rich grown InN films by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2013, 102, 051916. | 1.5 | 11 |
| 86 | Optical absorption of composition-tunable InGaAs nanowire arrays. Nanotechnology, 2019, 30, 495703. | 1.3 | 11 |
| 87 | Strain relaxation dependent island nucleation rates during the Stranskiâ€“Krastanow growth of GaN on AlN by molecular beam epitaxy. Applied Physics Letters, 2008, 93, 243105. | 1.5 | 10 |
| 88 | Carrier trapping and activation at short-period wurtzite/zinc-blende stacking sequences in polytypic InAs nanowires. Physical Review B, 2018, 97, . | 1.1 | 10 |
| 89 | Optimized waveguide coupling of an integrated III-V nanowire laser on silicon. Journal of Applied Physics, 2019, 125, . | 1.1 | 10 |
| 90 | Growth dynamics and compositional structure in periodic InAsSb nanowire arrays on Si (111) grown by selective area molecular beam epitaxy. Nanotechnology, 2021, 32, 135604. | 1.3 | 10 |

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| 91 | N-type conductivity and properties of carbon-doped InN(0001) films grown by molecular beam epitaxy. Journal of Applied Physics, 2013, 113, 033501. | 1.1 | 9 |
| 92 | Noise Insights into Electronic Transport. JETP Letters, 2018, 108, 71-83. | 0.4 | 9 |
| 93 | Charge-neutral nonlocal response in superconductor-InAs nanowire hybrid devices. Semiconductor Science and Technology, 2021, 36, 09LT04. | 1.0 | 9 |
| 94 | Enhanced THz emission efficiency of composition-tunable InGaAs nanowire arrays. Applied Physics Letters, 2017, 110, . | 1.5 | 8 |
| 95 | In situ characterization of GaN quantum dot growth with reflection high-energy electron diffraction and line-of-sight mass spectrometry. Journal of Applied Physics, 2006, 99, 124909. | 1.1 | 6 |
| 96 | Pressure dependence of Raman spectrum in InAs nanowires. Journal of Physics Condensed Matter, 2014, 26, 235301. | 0.7 | 6 |
| 97 | Proximity effect and interface transparency in Al/InAs-nanowire/Al diffusive junctions. Semiconductor Science and Technology, 2017, 32, 094007. | 1.0 | 6 |
| 98 | Purcell enhanced coupling of nanowire quantum emitters to silicon photonic waveguides. Optics Express, 2021, 29, 43068. | 1.7 | 6 |
| 99 | Nucleation Phenomena during Molecular Beam Epitaxy of GaN Observed by Line-of-Sight Quadrupole Mass Spectrometry. Physica Status Solidi A, 2002, 194, 515-519. | 1.7 | 5 |
| 100 | Multiple carrier transport in Nâ€face indium nitride. Physica Status Solidi (B): Basic Research, 2008, 245, 907-909. | 0.7 | 5 |
| 101 | Epitaxial type-I and type-II InAs-AlAsSb coreâ€"shell nanowires on silicon. Applied Physics Letters, 2021, 119, . | 1.5 | 5 |
| 102 | Nanoscale mapping of carrier recombination in GaAs/AlGaAs core-multishell nanowires by cathodoluminescence imaging in a scanning transmission electron microscope. Applied Physics Letters, 2019, 115, 243102. | 1.5 | 4 |
| 103 | Quantification of Ga surface coverages and their desorption kinetics on GaN (0001) and (000-1) surfaces. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2178-2182. | 0.8 | 3 |
| 104 | Intensity-dependent photoluminescence studies of the electric field in N-face and In-face InN/InGaN multiple quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1846-1848. | 0.8 | 3 |
| 105 | Pulsed THz emission from wurtzite phase catalyst-free InAs nanowires. Journal Physics D: Applied Physics, 2020, 53, 19LT01. | 1.3 | 3 |
| 106 | High-Dimensional Acousto-optoelectric Correlation Spectroscopy Reveals Coupled Carrier Dynamics in Polytypic Nanowires. Physical Review Applied, 2021, 16, . | 1.5 | 3 |
| 107 | Sub-nanosecond acousto-electric carrier redistribution dynamics and transport in polytypic GaAs nanowires. Nanotechnology, 2021, 32, . | 1.3 | 3 |
| 108 | Heat-Mode Excitation in a Proximity Superconductor. Nanomaterials, 2022, 12, 1461. | 1.9 | 2 |

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| 109 | INDIUM NITRIDE: A NEW MATERIAL FOR HIGH EFFICIENCY, COMPACT, 1550nm LASER-BASED TERAHERTZ SOURCES IN CHEMICAL AND BIOLOGICAL DETECTION. International Journal of High Speed Electronics and Systems, 2008, 18, 3-9. | 0.3 | 1 |
| 110 | One-step transfer printing of patterned nanogap electrodes. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 040602. | 0.6 | 1 |
| 111 | Contact Architecture Controls Conductance in Monolayer Devices. ACS Applied Materials & Interfaces, 2020, 12, 28446-28450. | 4.0 | 1 |
| 112 | Noise Insights into Electronic Transport. , 0, . | | 1 |
| 113 | Nanometer-scale Resolved Cathodoluminescence Imaging: New Insights into GaAs/AlGaAs Core-shell Nanowire Lasers. Microscopy and Microanalysis, 2017, 23, 1470-1471. | 0.2 | 0 |
| 114 | Tuning Lasing Emission towards Long Wavelengths in GaAs-(In,Al)GaAs Core-Multishell Nanowires. , 2019, , . | | 0 |
| 115 | Waveguide Coupling of an Integrated Nanowire Laser on Silicon with Enhanced End-Facet Reflectivity. , 2019, , . | | 0 |
| 116 | Pulsed THz emission from wurtzite phase catalyst-free InAs nanowires. , 2020, , . | | 0 |