

# Volkmar Dierolf

## List of Publications by Year in descending order

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124  
papers

3,010  
citations

185998

28  
h-index

174990

52  
g-index

128  
all docs

128  
docs citations

128  
times ranked

2260  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Modeling defect mediated color-tunability in LEDs with Eu-doped GaN-based active layers. Journal of Applied Physics, 2022, 131, 045701.   | 1.1 | 2         |
| 2  | Determination of the structure of lithium niobosilicate glasses by molecular dynamics simulation with a new Nb-O potential. Computational Materials Science, 2022, 207, 111307.                                 | 1.4 | 5         |
| 3  | The role of glass composition in the 3D laser fabrication of lithium niobate single crystal in lithium niobosilicate glass. Optical Materials, 2022, 128, 112380.   | 1.7 | 2         |
| 4  | Effects of Surface Orientation and Termination Plane on Glass-to-Crystal Transformation of Lithium Disilicate by Molecular Dynamics Simulations. Physica Status Solidi (B): Basic Research, 2021, 258, 2000427. | 0.7 | 4         |
| 5  | Evolution of glass structure during femtosecond laser assisted crystallization of LaBGeO5 in glass. Journal of Non-Crystalline Solids, 2021, 551, 120396.   | 1.5 | 10        |
| 6  | The source of lattice rotation in rotating lattice single (RLS) crystals. Scripta Materialia, 2021, 193, 22-26.   | 2.6 | 5         |
| 7  | Polarization and Surface Effects on the Seed Orientation of Laser-Induced $Sb_2S_3$ Crystals on Sb-Si Glass. Crystal Growth and Design, 2021, 21, 4276-4284.  | 1.4 | 3         |
| 8  | Molecular dynamics simulation of the effect of cooling rate on the structure and properties of lithium disilicate glass. Journal of Non-Crystalline Solids, 2021, 569, 120991.                                  | 1.5 | 11        |
| 9  | Effect of Laser Beam Profile on Rotating Lattice Single Crystal Growth in $Sb_2S_3$ Model Glass. Crystals, 2021, 11, 36.  | 1.0 | 2         |
| 10 | In situ study of rotating lattice single-crystal formation in $Sb_2S_3$ glass by Laue $\frac{1}{4}$ XRD. Journal of the American Ceramic Society, 2020, 103, 3954-3961.   | 1.9 | 1         |
| 11 | Direct detection of rare earth ion distributions in gallium nitride and its influence on growth morphology. Journal of Applied Physics, 2020, 127, 013102.  | 1.1 | 6         |
| 12 | Temporally modulated energy shuffling in highly interconnected nanosystems. Nanophotonics, 2020, 10, 851-876.   | 2.9 | 5         |
| 13 | Picosecond time-resolved dynamics of energy transfer between GaN and the various excited states of $E_u$ ions. Physical Review B, 2019, 100, 115411.  | 1.1 | 3         |
| 14 | Challenges of Laser-Induced Single-Crystal Growth in Glass: Incongruent Matrix Composition and Laser Scanning Rate. Crystal Growth and Design, 2019, 19, 4489-4497.   | 1.4 | 10        |
| 15 | Influence of the Laser Scanning Rate on the Structure of Rotating Lattice Single Crystal Lines. Crystal Growth and Design, 2019, 19, 6324-6330.   | 1.4 | 4         |
| 16 | Ferroelectric domain engineering of lithium niobate single crystal confined in glass. MRS Communications, 2019, 9, 334-339.   | 0.8 | 9         |
| 17 | Single Crystal Growth via Solid-to-Solid Transformation of Glass. Transactions of the Indian Institute of Metals, 2019, 72, 1971-1979.  | 0.7 | 0         |
| 18 | Color-Tunability in GaN LEDs Based on Atomic Emission Manipulation under Current Injection. ACS Photonics, 2019, 6, 1153-1161.  | 3.2 | 15        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | Perspective: Toward efficient GaN-based red light emitting diodes using europium doping. Journal of Applied Physics, 2018, 123, .   | 1.1 | 100       |
| 20 | Re-Excitation of Trivalent Europium Ions Doped into Gallium Nitride Revealed through Photoluminescence under Pulsed Laser Excitation. ACS Photonics, 2018, 5, 875-880.  | 3.2 | 10        |
| 21 | Femtosecond laser-writing of 3D crystal architecture in glass: Growth dynamics and morphological control. Materials and Design, 2018, 146, 228-238.   | 3.3 | 30        |
| 22 | Fabrication of single crystal architecture in Sb-S-I glass: Transition from dot to line. Journal of Non-Crystalline Solids, 2018, 501, 43-48.   | 1.5 | 4         |
| 23 | Fabrication of graded index single crystal in glass. Scientific Reports, 2017, 7, 44327.  | 1.6 | 30        |
| 24 | Laser Fabrication of Two-Dimensional Rotating-Lattice Single Crystal. Crystal Growth and Design, 2017, 17, 1735-1746.   | 1.4 | 14        |
| 25 | Charge state of vacancy defects in Eu-doped GaN. Physical Review B, 2017, 96, .   | 1.1 | 20        |
| 26 | Pathway Towards High-Efficiency Eu-doped GaN Light-Emitting Diodes. Scientific Reports, 2017, 7, 14648.   | 1.6 | 14        |
| 27 | Physics of Efficiency Droop in GaN:Eu Light-Emitting Diodes. Scientific Reports, 2017, 7, 16773.  | 1.6 | 7         |
| 28 | Engineering the internal quantum efficiency of GaN:Eu based red light emitting diodes. , 2017, , .  |     | 0         |
| 29 | Optical properties and structure of Er:LaBGeO <sub>5</sub> laser-induced crystals-in-glass. Optical Materials Express, 2017, 7, 4095.   | 1.6 | 12        |
| 30 | Growth of Eu-doped GaN and its magneto-optical properties. , 2016, , 259-280.   |     | 3         |
| 31 | Utilization of native oxygen in Eu(RE)-doped GaN for enabling device compatibility in optoelectronic applications. Scientific Reports, 2016, 6, 18808.  | 1.6 | 29        |
| 32 | Laser-induced growth of oriented Sb <sub>2</sub> S <sub>3</sub> single crystal dots on the surface of 82SbSi <sup>18</sup> Sb <sub>2</sub> S <sub>3</sub> glasses. Journal of Non-Crystalline Solids, 2016, 431, 36-40. | 1.5 | 8         |
| 33 | Optical and magnetic characterization of III-N:Nd grown by molecular beam epitaxy. , 2016, , 281-312.   |     | 0         |
| 34 | Demonstration of single crystal growth via solid-solid transformation of a glass. Scientific Reports, 2016, 6, 23324.   | 1.6 | 30        |
| 35 | Rotating lattice single crystal architecture on the surface of glass. Scientific Reports, 2016, 6, 36449.   | 1.6 | 22        |
| 36 | Direct laser-writing of ferroelectric single-crystal waveguide architectures in glass for 3D integrated optics. Scientific Reports, 2015, 5, 10391.   | 1.6 | 83        |

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|----|--|-----|-----------|
| 37 | Thermodynamics and Kinetics of Three $\text{Mg}_2\text{H}_2\text{N}$ Complexes in Mg:GaN from Combined First Principles Calculation and Experiment. <i>Physical Review Letters</i> , 2014, 112, .      | 2.9 | 1         |
| 38 | Crystallization of Stoichiometric $\text{SbSI}$ Glass. <i>Journal of the American Ceramic Society</i> , 2014, 97, 198-205.   | 1.9 | 16        |
| 39 | Present understanding of Eu luminescent centers in Eu-doped GaN grown by organometallic vapor phase epitaxy. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 05FA13.                            | 0.8 | 42        |
| 40 | Formation of Ferroelectric Phases in $\text{SbSI}$ Glasses. <i>Journal of the American Ceramic Society</i> , 2014, 97, 3458-3462.  | 1.9 | 9         |
| 41 | Light Aided Domain Patterning and Rare Earth Emission Based Imaging of Ferroelectric Domains. <i>Springer Series in Materials Science</i> , 2014, , 135-162.   | 0.4 | 0         |
| 42 | The role of donor-acceptor pairs in the excitation of Eu-ions in GaN:Eu epitaxial layers. <i>Journal of Applied Physics</i> , 2014, 115, .   | 1.1 | 45        |
| 43 | Formation of laser-induced SbSI single crystal architecture in $\text{SbSI}$ glasses. <i>Journal of Non-Crystalline Solids</i> , 2013, 377, 245-249.   | 1.5 | 7         |
| 44 | Defect roles in the excitation of Eu ions in Eu:GaN. <i>Optics Express</i> , 2013, 21, 30633.  | 1.7 | 9         |
| 45 | Challenges of CW laser-induced crystallization in a chalcogenide glass. <i>Optical Materials Express</i> , 2013, 3, 1026.  | 1.6 | 14        |
| 46 | Probing Laser Induced Space Charge Fields with Rare Earth Dopants. <i>Materials Research Society Symposia Proceedings</i> , 2013, 1592, 1.   | 0.1 | 0         |
| 47 | Electron-beam-induced migration of hydrogen in Mg-doped GaN using Eu as a probe. <i>Physical Review B</i> , 2013, 88, .  | 1.1 | 15        |
| 48 | Fluorescence in planar and ridge waveguides fabricated in Erbium-Doped lithium-niobate-on-insulator (Er:LNOI)., 2013, , .  |     | 1         |
| 49 | Vibrationally induced center reconfiguration in co-doped GaN:Eu, Mg epitaxial layers: Local hydrogen migration vs. activation of non-radiative channels. <i>Applied Physics Letters</i> , 2013, 103, . | 1.5 | 12        |
| 50 | Nonlinear-optical response and Raman signals of nanocrystalline lithium niobate. , 2013, , .   |     | 0         |
| 51 | Luminescence properties of Eu-doped GaN under resonant excitation and quantitative evaluation of luminescent sites. <i>Journal of Applied Physics</i> , 2013, 114, .                                   | 1.1 | 35        |
| 52 | Local probing of the interaction between intrinsic defects and ferroelectric domain walls in lithium niobate. <i>Applied Physics Letters</i> , 2013, 102, .  | 1.5 | 16        |
| 53 | Effect of thermal annealing on luminescence properties of Eu,Mg-codoped GaN grown by organometallic vapor phase epitaxy. <i>Applied Physics Letters</i> , 2013, 102, 141904.                           | 1.5 | 16        |
| 54 | Luminescence Properties of Eu-Doped GaN Grown on GaN Substrate. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 08JM03.   | 0.8 | 17        |

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|----|--|-----|-----------|
| 55 | Influence of ferroelectric domain walls on the Raman scattering process in lithium tantalate and niobate. <i>Optics Letters</i> , 2012, 37, 1032.  | 1.7 | 26        |
| 56 | Crystal-field analysis and Zeeman splittings of energy levels of Nd <sup>3+</sup> (4 <i>f</i> <sup>3</sup> ) in GaN. <i>Journal of Applied Physics</i> , 2011, 110, .                                      | 1.1 | 9         |
| 57 | Approaches for high internal quantum efficiency green InGaN light-emitting diodes with large overlap quantum wells. <i>Optics Express</i> , 2011, 19, A991.  | 1.7 | 535       |
| 58 | Near-infrared photoluminescence properties of neodymium in in situ doped AlN grown using plasma-assisted molecular beam epitaxy. <i>Optical Materials Express</i> , 2011, 1, 78.                           | 1.6 | 10        |
| 59 | Laser fabrication of semiconducting ferroelectric single crystal SbSI features on chalcogenide glass. <i>Optical Materials Express</i> , 2011, 1, 652.   | 1.6 | 27        |
| 60 | Site and sample dependent electron-phonon coupling of Eu ions in epitaxial-grown GaN layers. <i>Optical Materials</i> , 2011, 33, 1050-1054.   | 1.7 | 48        |
| 61 | Excitation of Eu <sup>3+</sup> in gallium nitride epitaxial layers: Majority versus trap defect center. <i>Applied Physics Letters</i> , 2011, 98, 011102.   | 1.5 | 44        |
| 62 | Optical and magneto-optical properties of neodymium and erbium doped gallium nitride epilayers. , 2011, , .  |     | 0         |
| 63 | Enhanced magnetization in erbium doped GaN thin films due to strain induced electric fields. <i>Applied Physics Letters</i> , 2011, 99, 122506.  | 1.5 | 12        |
| 64 | Frequency shift of Raman modes due to an applied electric field and domain inversion in LiNbO <sub>3</sub> . <i>Physical Review B</i> , 2011, 84, .  | 1.1 | 26        |
| 65 | Site Selective Magneto-Optical Studies of Eu ions in Gallium Nitride. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1342, 93.   | 0.1 | 3         |
| 66 | Nature and Excitation Mechanism of the Emission-dominating Minority Eu-center in GaN Grown by Organometallic Vapor-phase Epitaxy. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1342, 67. | 0.1 | 4         |
| 67 | Domain walls in Lithium Niobate and Lithium Tantalate: Local structure and properties. , 2011, , .   |     | 0         |
| 68 | Shape of ferroelectric domains in LiNbO <sub>3</sub> and LiTaO <sub>3</sub> from defect/domain-wall interactions. <i>Applied Physics Letters</i> , 2011, 98, .   | 1.5 | 19        |
| 69 | Site Selective Spectroscopy on Erbium Ions in Stoichiometric Lithium Tantalate. <i>Journal of Physics: Conference Series</i> , 2010, 249, 012011.  | 0.3 | 0         |
| 70 | Influence of heat and UV light on the coercive field of Lithium Niobate crystals. <i>Applied Physics B: Lasers and Optics</i> , 2010, 101, 535-539.  | 1.1 | 13        |
| 71 | Structure and energetics of ferroelectric domain walls in LiNbO <sub>3</sub> atomic-level simulations. <i>Physical Review B</i> , 2010, 82, .  | 1.1 | 45        |
| 72 | Stability and charge transfer levels of extrinsic defects in LiNbO <sub>3</sub> . <i>Physical Review B</i> , 2010, 82, .   | 1.1 | 41        |

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|----|--|-----|-----------|
| 73 | Structure and energetics of Er defects in $\text{LiNbO}_3$ first-principles and thermodynamic calculations. <i>Physical Review B</i> , 2009, 80, .   | 1.1 | 35        |
| 74 | Growths of staggered InGaN quantum wells light-emitting diodes emitting at 520–525 nm employing graded growth-temperature profile. <i>Applied Physics Letters</i> , 2009, 95, .  | 1.5 | 150       |
| 75 | Design and characteristics of staggered InGaN quantum-well light-emitting diodes in the green spectral regime. <i>IET Optoelectronics</i> , 2009, 3, 283-295.  | 1.8 | 91        |
| 76 | Excitation pathways and efficiency of $\text{Eu}^{2+}$ ions in GaN by site-selective spectroscopy. <i>Applied Physics B: Lasers and Optics</i> , 2009, 97, 607-618.  | 1.1 | 56        |
| 77 | Energy levels of $\text{Nd}^{3+}$ ions in GaN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, S671-S674.   | 0.8 | 5         |
| 78 | Directionally controlled 3D ferroelectric single crystal growth in $\text{LaBGeO}_5$ glass by femtosecond laser irradiation. <i>Optics Express</i> , 2009, 17, 23284.  | 1.7 | 72        |
| 79 | Crystal-field split levels of $\text{Nd}^{3+}$ ions in GaN measured by luminescence spectroscopy. <i>Journal of Applied Physics</i> , 2009, 105, 053101.   | 1.1 | 23        |
| 80 | Characteristics of staggered InGaN quantum wells light-emitting diodes emitting at 480&#x2013;525 nm. , 2009, , .  |     | 0         |
| 81 | Light Aided Domain Patterning and Rare Earth Emission Based Imaging of Ferroelectric Domains. <i>Springer Series in Materials Science</i> , 2009, , 137-164.   | 0.4 | 0         |
| 82 | Site-specific excitation of Eu ions in GaN. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2008, 205, 30-33.  | 0.8 | 7         |
| 83 | Stability of intrinsic defects and defect clusters in $\text{LiNbO}_3$ from density functional theory calculations. <i>Physical Review B</i> , 2008, 78, .   | 1.1 | 109       |
| 84 | Excitation Pathways of Rare Earth Ions by Energetic Electrons. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1111, 1.   | 0.1 | 0         |
| 85 | GaN Doped with Neodymium by Plasma-Assisted Molecular Beam Epitaxy for Potential Lasing Applications. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1111, 1.  | 0.1 | 2         |
| 86 | The influence of 180° ferroelectric domain wall width on the threshold field for wall motion. <i>Journal of Applied Physics</i> , 2008, 104, 084107.   | 1.1 | 53        |
| 87 | Spontaneous recombination rate and luminescence efficiency of staggered InGaN quantum wells light emitting diodes. , 2008, , .   |     | 0         |
| 88 | The Site Selectivity of the E-beam Excitation of Eu ion in GaN. , 2007, , .  |     | 0         |
| 89 | Improved Photoluminescence of InGaN Quantum Wells Grown on Nano-Patterned AGOG Sapphire Substrate by Metalorganic Vapor Phase Epitaxy. <i>Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS</i> , 2007, , . | 0.0 | 1         |
| 90 | Physical and Optical Characterization of GaN Doped with Neodymium grown by Plasma-Assisted Molecular Beam Epitaxy. , 2007, , .   |     | 0         |

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|-----|--|-----|-----------|
| 91  | Near Field Optical Spectroscopy Studies of Carrier Localization in Al <sub>x</sub> Ga <sub>1-x</sub> N Alloys. , 2007, , .   |     | 0         |
| 92  | Near Field Optical Imaging of Carrier Localization in Al <sub>x</sub> Ga <sub>1-x</sub> N Alloys. , 2007, , .  |     | 0         |
| 93  | Defect-Driven Domain Wall Interactions in Trigonal Ferroelectrics. Annual Review of Materials Research, 2007, 37, 449-489.   | 4.3 | 229       |
| 94  | Combined excitation emission spectroscopy of defects for site-selective probing of ferroelectric domain inversion in lithium niobate. Journal of Luminescence, 2007, 125, 67-79. | 1.5 | 31        |
| 95  | Raman studies of ferroelectric domain walls in lithium tantalate and niobate. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 830-833.                  | 0.8 | 33        |
| 96  | Identification of defect-trap-related europium sites in gallium nitride. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 834-837.                       | 0.8 | 4         |
| 97  | Site-selective studies of erbium ion defects in thermally grown silicon oxides. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 749-752.                | 0.8 | 0         |
| 98  | Defect based real-time diagnostics of ferroelectric domain wall motion. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 690-694.                        | 0.8 | 0         |
| 99  | Ferroelectric Materials. , 2006, , 6-1-6-66.   |     | 3         |
| 100 | Luminescence and Raman Based Real Time Imaging of Ferroelectric Domain Walls. Materials Research Society Symposia Proceedings, 2006, 966, 1.                                     | 0.1 | 0         |
| 101 | The role of defects in light induced domain inversion in lithium niobate. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 136-140.                      | 0.8 | 14        |
| 102 | Combined Excitation Emission Spectroscopy of Europium ions in GaN and AlGa <sub>N</sub> Films. Materials Research Society Symposia Proceedings, 2005, 866, 84.                   | 0.1 | 6         |
| 103 | Enhanced room-temperature luminescence efficiency through carrier localization in Al <sub>x</sub> Ga <sub>1-x</sub> N alloys. Applied Physics Letters, 2005, 86, 031916.         | 1.5 | 90        |
| 104 | Multistep Resonant Excitation of Erbium Ions in Thin Silicon Oxide Layers. Materials Research Society Symposia Proceedings, 2005, 866, 41.                                       | 0.1 | 3         |
| 105 | Real-time diagnostic of the defect-domain wall interaction in LiNbO <sub>3</sub> during domain inversion. , 2005, , .  |     | 0         |
| 106 | Site selective spectroscopy of Eu-doped GaN. , 2005, , .   |     | 0         |
| 107 | Site-selective spectroscopy of Er in GaN. Journal of Applied Physics, 2004, 95, 5464-5470.   | 1.1 | 52        |
| 108 | Direct-write method for domain inversion patterns in LiNbO <sub>3</sub> . Applied Physics Letters, 2004, 84, 3987-3989.  | 1.5 | 58        |

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|-----|--|-----|-----------|
| 109 | Inspection of periodically poled waveguide devices by confocal luminescence microscopy. Applied Physics B: Lasers and Optics, 2004, 78, 363-366.   | 1.1 | 41        |
| 110 | Confocal two photon emission microscopy: A new approach to waveguide imaging. Journal of Luminescence, 2003, 102-103, 201-205.   | 1.5 | 16        |
| 111 | Analytical form of frequency dependence of dgd in concatenated single-mode fiber systems. Journal of Lightwave Technology, 2003, 21, 2217-2223.  | 2.7 | 4         |
| 112 | Ferroelectric domain imaging by defect-luminescence microscopy. Journal of Applied Physics, 2003, 93, 2295-2297.   | 1.1 | 44        |
| 113 | Rearrangement of Rare Earth Defects Under Domain Inversion in LiNbO <sub>3</sub> . Radiation Effects and Defects in Solids, 2003, 158, 247-250.  | 0.4 | 6         |
| 114 | Confocal Photoluminescence and Cathodoluminescence Studies of AlGa <sub>N</sub> . Materials Research Society Symposia Proceedings, 2003, 798, 616.   | 0.1 | 1         |
| 115 | Comparative Studies of Er <sup>3+</sup> Ions in LiNbO <sub>3</sub> Waveguides Produced by Different Methods. Radiation Effects and Defects in Solids, 2003, 158, 263-267.  | 0.4 | 7         |
| 116 | Site-selective spectroscopy of Er <sup>3+</sup> :Ti:LiNbO <sub>3</sub> waveguides. Applied Physics B: Lasers and Optics, 2001, 72, 803-810.  | 1.1 | 17        |
| 117 | Spectral line broadening mechanism of Er <sup>3+</sup> transitions in Er:Ti:LiNbO <sub>3</sub> channel waveguides. Applied Physics B: Lasers and Optics, 2001, 73, 443-448.  | 1.1 | 9         |
| 118 | High-resolution site selective optical spectroscopy of rare earth and transition metal defects in insulators. Journal of Luminescence, 2000, 87-89, 989-991.   | 1.5 | 19        |
| 119 | Combined excitation-emission spectroscopy of Er <sup>3+</sup> ions in stoichiometric LiNbO <sub>3</sub> : The site selectivity of direct and up conversion excitation processes. Physical Review B, 2000, 61, 8043-8052. | 1.1 | 68        |
| 120 | Study of poled lithium niobate waveguide devices by confocal defect spectroscopy. , 0, , .   |     | 0         |
| 121 | In-situ confocal luminescence microscopy study of lithium niobate during domain inversion. , 0, , .  |     | 0         |
| 122 | Combined excitation emission spectroscopy of Eu-doped GaN. , 0, , .  |     | 0         |
| 123 | A Silicon-based Light Emitter. , 0, , .  |     | 0         |
| 124 | Curved lattices of crystals formed in glass. International Journal of Applied Glass Science, 0, , .  | 1.0 | 4         |