

# 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	Approaches for high internal quantum efficiency green InGaN light-emitting diodes with large overlap quantum wells. Optics Express, 2011, 19, A991.	1.7	535
2	Defect-Driven Domain Wall Interactions in Trigonal Ferroelectrics. Annual Review of Materials Research, 2007, 37, 449-489.	4.3	229
3	Growths of staggered InGaN quantum wells light-emitting diodes emitting at 520-525 nm employing graded growth-temperature profile. Applied Physics Letters, 2009, 95, .	1.5	150
4	Stability of intrinsic defects and defect clusters in $\text{LiNbO}_3$ from density functional theory calculations. Physical Review B, 2008, 78, .	1.1	109
5	Perspective: Toward efficient GaN-based red light emitting diodes using europium doping. Journal of Applied Physics, 2018, 123, .	1.1	100
6	Design and characteristics of staggered InGaN quantum-well light-emitting diodes in the green spectral regime. IET Optoelectronics, 2009, 3, 283-295.	1.8	91
7	Enhanced room-temperature luminescence efficiency through carrier localization in $\text{Al}_x\text{Ga}_{1-x}\text{N}$ alloys. Applied Physics Letters, 2005, 86, 031916.	1.5	90
8	Direct laser-writing of ferroelectric single-crystal waveguide architectures in glass for 3D integrated optics. Scientific Reports, 2015, 5, 10391.	1.6	83
9	Directionally controlled 3D ferroelectric single crystal growth in $\text{LaBGeO}_5$ glass by femtosecond laser irradiation. Optics Express, 2009, 17, 23284.	1.7	72
10	Combined excitation-emission spectroscopy of $\text{Er}^{3+}$ ions in stoichiometric $\text{LiNbO}_3$ : The site selectivity of direct and up conversion excitation processes. Physical Review B, 2000, 61, 8043-8052.	1.1	68
11	Direct-write method for domain inversion patterns in $\text{LiNbO}_3$ . Applied Physics Letters, 2004, 84, 3987-3989.	1.5	58
12	Excitation pathways and efficiency of $\text{Eu}^{2+}$ ions in GaN by site-selective spectroscopy. Applied Physics B: Lasers and Optics, 2009, 97, 607-618.	1.1	56
13	The influence of $180^\circ$ ferroelectric domain wall width on the threshold field for wall motion. Journal of Applied Physics, 2008, 104, 084107.	1.1	53
14	Site-selective spectroscopy of Er in GaN. Journal of Applied Physics, 2004, 95, 5464-5470.	1.1	52
15	Site and sample dependent electron-phonon coupling of Eu ions in epitaxial-grown GaN layers. Optical Materials, 2011, 33, 1050-1054.	1.7	48
16	Structure and energetics of ferroelectric domain walls in $\text{LiNbO}_3$ atomic-level simulations. Physical Review B, 2010, 82, .	1.1	45
17	The role of donor-acceptor pairs in the excitation of Eu-ions in GaN:Eu epitaxial layers. Journal of Applied Physics, 2014, 115, .	1.1	45
18	Ferroelectric domain imaging by defect-luminescence microscopy. Journal of Applied Physics, 2003, 93, 2295-2297.	1.1	44

#	ARTICLE	IF	CITATIONS
19	Excitation of Eu <sup>3+</sup> in gallium nitride epitaxial layers: Majority versus trap defect center. Applied Physics Letters, 2011, 98, 011102.	1.5	44
20	Present understanding of Eu luminescent centers in Eu-doped GaN grown by organometallic vapor phase epitaxy. Japanese Journal of Applied Physics, 2014, 53, 05FA13.	0.8	42
21	Inspection of periodically poled waveguide devices by confocal luminescence microscopy. Applied Physics B: Lasers and Optics, 2004, 78, 363-366.	1.1	41
22	Stability and charge transfer levels of extrinsic defects in $\text{LiNbO}_3$ . Physical Review B, 2010, 82, .	1.1	41
23	Structure and energetics of Er defects in $\text{LiNbO}_3$ first-principles and thermodynamic calculations. Physical Review B, 2009, 80, .	1.1	35
24	Luminescence properties of Eu-doped GaN under resonant excitation and quantitative evaluation of luminescent sites. Journal of Applied Physics, 2013, 114, .	1.1	35
25	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
26	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
27	Demonstration of single crystal growth via solid-solid transformation of a glass. Scientific Reports, 2016, 6, 23324.	1.6	30
28	Fabrication of graded index single crystal in glass. Scientific Reports, 2017, 7, 44327.	1.6	30
29	Femtosecond laser-writing of 3D crystal architecture in glass: Growth dynamics and morphological control. Materials and Design, 2018, 146, 228-238.	3.3	30
30	Utilization of native oxygen in Eu(RE)-doped GaN for enabling device compatibility in optoelectronic applications. Scientific Reports, 2016, 6, 18808.	1.6	29
31	Laser fabrication of semiconducting ferroelectric single crystal SbSI features on chalcogenide glass. Optical Materials Express, 2011, 1, 652.	1.6	27
32	Frequency shift of Raman modes due to an applied electric field and domain inversion in $\text{LiNbO}_3$ . Physical Review B, 2011, 84, .	1.1	26
33	Influence of ferroelectric domain walls on the Raman scattering process in lithium tantalate and niobate. Optics Letters, 2012, 37, 1032.	1.7	26
34	Crystal-field split levels of Nd <sup>3+</sup> ions in GaN measured by luminescence spectroscopy. Journal of Applied Physics, 2009, 105, 053101.	1.1	23
35	Rotating lattice single crystal architecture on the surface of glass. Scientific Reports, 2016, 6, 36449.	1.6	22
36	Charge state of vacancy defects in Eu-doped GaN. Physical Review B, 2017, 96, .	1.1	20

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37	High-resolution site selective optical spectroscopy of rare earth and transition metal defects in insulators. <i>Journal of Luminescence</i> , 2000, 87-89, 989-991.	1.5	19
38	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
39	Site-selective spectroscopy of Er <sup>3+</sup> :Ti:LiNbO <sub>3</sub> waveguides. <i>Applied Physics B: Lasers and Optics</i> , 2001, 72, 803-810.	1.1	17
40	Luminescence Properties of Eu-Doped GaN Grown on GaN Substrate. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 08JM03.	0.8	17
41	Confocal two photon emission microscopy: A new approach to waveguide imaging. <i>Journal of Luminescence</i> , 2003, 102-103, 201-205.	1.5	16
42	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
43	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
44	Thermodynamics and Kinetics of Three $\text{Mg}^{\text{H}}\text{V}_2\text{N}$ Complexes in Mg:GaN from Combined First-Principles Calculation and Experiment. <i>Physical Review Letters</i> , 2014, 112, .	2.9	16
45	Crystallization of Stoichiometric $\text{SbSI}$ Glass. <i>Journal of the American Ceramic Society</i> , 2014, 97, 198-205.	1.9	16
46	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
47	Color-Tunability in GaN LEDs Based on Atomic Emission Manipulation under Current Injection. <i>ACS Photonics</i> , 2019, 6, 1153-1161.	3.2	15
48	The role of defects in light induced domain inversion in lithium niobate. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 136-140.	0.8	14
49	Challenges of CW laser-induced crystallization in a chalcogenide glass. <i>Optical Materials Express</i> , 2013, 3, 1026.	1.6	14
50	Laser Fabrication of Two-Dimensional Rotating-Lattice Single Crystal. <i>Crystal Growth and Design</i> , 2017, 17, 1735-1746.	1.4	14
51	Pathway Towards High-Efficiency Eu-doped GaN Light-Emitting Diodes. <i>Scientific Reports</i> , 2017, 7, 14648.	1.6	14
52	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
53	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
54	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

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55	Optical properties and structure of Er:LaBGeO <sub>5</sub> laser-induced crystals-in-glass. <i>Optical Materials Express</i> , 2017, 7, 4095.	1.6	12
56	Molecular dynamics simulation of the effect of cooling rate on the structure and properties of lithium disilicate glass. <i>Journal of Non-Crystalline Solids</i> , 2021, 569, 120991.	1.5	11
57	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
58	Re-Excitation of Trivalent Europium Ions Doped into Gallium Nitride Revealed through Photoluminescence under Pulsed Laser Excitation. <i>ACS Photonics</i> , 2018, 5, 875-880.	3.2	10
59	Challenges of Laser-Induced Single-Crystal Growth in Glass: Incongruent Matrix Composition and Laser Scanning Rate. <i>Crystal Growth and Design</i> , 2019, 19, 4489-4497.	1.4	10
60	Evolution of glass structure during femtosecond laser assisted crystallization of LaBGeO <sub>5</sub> in glass. <i>Journal of Non-Crystalline Solids</i> , 2021, 551, 120396.	1.5	10
61	Spectral line broadening mechanism of Er <sup>3+</sup> transitions in Er:Ti:LiNbO <sub>3</sub> channel waveguides. <i>Applied Physics B: Lasers and Optics</i> , 2001, 73, 443-448.	1.1	9
62	Crystal-field analysis and Zeeman splittings of energy levels of Nd <sup>3+</sup> ( $4f^3$ ) in GaN. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	9
63	Defect roles in the excitation of Eu ions in Eu:GaN. <i>Optics Express</i> , 2013, 21, 30633.	1.7	9
64	Formation of Ferroelectric Phases in Sb-Si Glasses. <i>Journal of the American Ceramic Society</i> , 2014, 97, 3458-3462.	1.9	9
65	Ferroelectric domain engineering of lithium niobate single crystal confined in glass. <i>MRS Communications</i> , 2019, 9, 334-339.	0.8	9
66	Laser-induced growth of oriented Sb <sub>2</sub> S <sub>3</sub> single crystal dots on the surface of 82SbSi-18Sb <sub>2</sub> S <sub>3</sub> glasses. <i>Journal of Non-Crystalline Solids</i> , 2016, 431, 36-40.	1.5	8
67	Comparative Studies of Er <sup>3+</sup> Ions in LiNbO <sub>3</sub> Waveguides Produced by Different Methods. <i>Radiation Effects and Defects in Solids</i> , 2003, 158, 263-267.	0.4	7
68	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
69	Formation of laser-induced SbSi single crystal architecture in Sb-Si glasses. <i>Journal of Non-Crystalline Solids</i> , 2013, 377, 245-249.	1.5	7
70	Physics of Efficiency Droop in GaN:Eu Light-Emitting Diodes. <i>Scientific Reports</i> , 2017, 7, 16773.	1.6	7
71	Rearrangement of Rare Earth Defects Under Domain Inversion in LiNbO <sub>3</sub> . <i>Radiation Effects and Defects in Solids</i> , 2003, 158, 247-250.	0.4	6
72	Combined Excitation Emission Spectroscopy of Europium ions in GaN and AlGaIn Films. <i>Materials Research Society Symposia Proceedings</i> , 2005, 866, 84.	0.1	6

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73	Direct detection of rare earth ion distributions in gallium nitride and its influence on growth morphology. <i>Journal of Applied Physics</i> , 2020, 127, 013102.	1.1	6
74	Energy levels of Nd <sup>3+</sup> ions in GaN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, S671-S674.	0.8	5
75	The source of lattice rotation in rotating lattice single (RLS) crystals. <i>Scripta Materialia</i> , 2021, 193, 22-26.	2.6	5
76	Temporally modulated energy shuffling in highly interconnected nanosystems. <i>Nanophotonics</i> , 2020, 10, 851-876.	2.9	5
77	Determination of the structure of lithium niobosilicate glasses by molecular dynamics simulation with a new Nb-O potential. <i>Computational Materials Science</i> , 2022, 207, 111307.	1.4	5
78	Analytical form of frequency dependence of dgd in concatenated single-mode fiber systems. <i>Journal of Lightwave Technology</i> , 2003, 21, 2217-2223.	2.7	4
79	Identification of defect-trap-related europium sites in gallium nitride. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2007, 4, 834-837.	0.8	4
80	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
81	Fabrication of single crystal architecture in Sb-S-I glass: Transition from dot to line. <i>Journal of Non-Crystalline Solids</i> , 2018, 501, 43-48.	1.5	4
82	Influence of the Laser Scanning Rate on the Structure of Rotating Lattice Single Crystal Lines. <i>Crystal Growth and Design</i> , 2019, 19, 6324-6330.	1.4	4
83	Effects of Surface Orientation and Termination Plane on Glass-to-Crystal Transformation of Lithium Disilicate by Molecular Dynamics Simulations. <i>Physica Status Solidi (B): Basic Research</i> , 2021, 258, 2000427.	0.7	4
84	Curved lattices of crystals formed in glass. <i>International Journal of Applied Glass Science</i> , 0, , .	1.0	4
85	Multistep Resonant Excitation of Erbium Ions in Thin Silicon Oxide Layers. <i>Materials Research Society Symposia Proceedings</i> , 2005, 866, 41.	0.1	3
86	<i>Ferroelectric Materials</i> . , 2006, , 6-1-6-66.		3
87	Site Selective Magneto-Optical Studies of Eu ions in Gallium Nitride. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1342, 93.	0.1	3
88	Growth of Eu-doped GaN and its magneto-optical properties. , 2016, , 259-280.		3
89	Picosecond time-resolved dynamics of energy transfer between GaN and the various excited states of $E$ ions. <i>Physical Review B</i> , 2019, 100, ,	1.1	3
90	Polarization and Surface Effects on the Seed Orientation of Laser-Induced Sb <sub>2</sub> S <sub>3</sub> Crystals on Sb-S-I Glass. <i>Crystal Growth and Design</i> , 2021, 21, 4276-4284.	1.4	3

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91	GaN Doped with Neodymium by Plasma-Assisted Molecular Beam Epitaxy for Potential Lasing Applications. Materials Research Society Symposia Proceedings, 2008, 1111, 1.	0.1	2
92	Effect of Laser Beam Profile on Rotating Lattice Single Crystal Growth in Sb <sub>2</sub> S <sub>3</sub> Model Glass. Crystals, 2021, 11, 36.	1.0	2
93	Modeling defect mediated color-tunability in LEDs with Eu-doped GaN-based active layers. Journal of Applied Physics, 2022, 131, 045701.	1.1	2
94	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
95	Confocal Photoluminescence and Cathodoluminescence Studies of AlGaIn. Materials Research Society Symposia Proceedings, 2003, 798, 616.	0.1	1
96	Improved Photoluminescence of InGaIn Quantum Wells Grown on Nano-Patterned AGOG Sapphire Substrate by Metalorganic Vapor Phase Epitaxy. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
97	Fluorescence in planar and ridge waveguides fabricated in Erbium-Doped lithium-niobate-on-insulator (Er:LNOI)., 2013, , .		1
98	In situ study of rotating lattice single-crystal formation in Sb <sub>2</sub> S <sub>3</sub> glass by Laue $\frac{1}{4}$ XRD. Journal of the American Ceramic Society, 2020, 103, 3954-3961.	1.9	1
99	Study of poled lithium niobate waveguide devices by confocal defect spectroscopy. , 0, , .		0
100	In-situ confocal luminescence microscopy study of lithium niobate during domain inversion. , 0, , .		0
101	Combined excitation emission spectroscopy of Eu-doped GaN. , 0, , .		0
102	Real-time diagnostic of the defect-domain wall interaction in LiNbO <sub>3</sub> during domain inversion. , 2005, , .		0
103	Site selective spectroscopy of Eu-doped GaN. , 2005, , .		0
104	A Silicon-based Light Emitter. , 0, , .		0
105	Luminescence and Raman Based Real Time Imaging of Ferroelectric Domain Walls. Materials Research Society Symposia Proceedings, 2006, 966, 1.	0.1	0
106	The Site Selectivity of the E-beam Excitation of Eu ion in GaN. , 2007, , .		0
107	Physical and Optical Characterization of GaN Doped with Neodymium grown by Plasma-Assisted Molecular Beam Epitaxy. , 2007, , .		0
108	Near Field Optical Spectroscopy Studies of Carrier Localization in Al <sub>x</sub> Ga <sub>1-x</sub> N Alloys. , 2007, , .		0

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109	Near Field Optical Imaging of Carrier Localization in Al <sub>x</sub> Ga <sub>1-x</sub> N Alloys. , 2007, , .		0
110	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
111	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
112	Excitation Pathways of Rare Earth Ions by Energetic Electrons. Materials Research Society Symposia Proceedings, 2008, 1111, 1.	0.1	0
113	Spontaneous recombination rate and luminescence efficiency of staggered InGaN quantum wells light emitting diodes. , 2008, , .		0
114	Characteristics of staggered InGaN quantum wells light-emitting diodes emitting at 480&#x2013;525 nm. , 2009, , .		0
115	Site Selective Spectroscopy on Erbium Ions in Stoichiometric Lithium Tantalate. Journal of Physics: Conference Series, 2010, 249, 012011.	0.3	0
116	Optical and magneto-optical properties of neodymium and erbium doped gallium nitride epilayers. , 2011, , .		0
117	Domain walls in Lithium Niobate and Lithium Tantalate: Local structure and properties. , 2011, , .		0
118	Probing Laser Induced Space Charge Fields with Rare Earth Dopants. Materials Research Society Symposia Proceedings, 2013, 1592, 1.	0.1	0
119	Nonlinear-optical response and Raman signals of nanocrystalline lithium niobate. , 2013, , .		0
120	Light Aided Domain Patterning and Rare Earth Emission Based Imaging of Ferroelectric Domains. Springer Series in Materials Science, 2014, , 135-162.	0.4	0
121	Optical and magnetic characterization of III-N:Nd grown by molecular beam epitaxy. , 2016, , 281-312.		0
122	Engineering the internal quantum efficiency of GaN:Eu based red light emitting diodes. , 2017, , .		0
123	Single Crystal Growth via Solidâ€™â€™Solid Transformation of Glass. Transactions of the Indian Institute of Metals, 2019, 72, 1971-1979.	0.7	0
124	Light Aided Domain Patterning and Rare Earth Emission Based Imaging of Ferroelectric Domains. Springer Series in Materials Science, 2009, , 137-164.	0.4	0