Valentin Jmerik

List of Publications by Year
in descending order

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115	1,401	393982	395343
papers	citations	19 h-index	33 g-index

118	118	118	1211
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phonons in Short-Period GaN/AlN Superlattices: Group-Theoretical Analysis, Ab initio Calculations, and Raman Spectra. Nanomaterials, 2021, 11, 286.	1.9	14
2	Stress control in thick AlN/c-Al2O3 templates grown by plasma-assisted molecular beam epitaxy. Semiconductor Science and Technology, 2021, 36, 035007.	1.0	9
3	Two-Dimensional Excitons in Multiple GaN/AlN Monolayer Quantum Wells. JETP Letters, 2021, 113, 504-509.	0.4	0
4	Monolayerâ€Thick GaN/AlN Multilayer Heterostructures for Deepâ€Ultraviolet Optoelectronics. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100242.	1.2	14
5	Monolayer-Scale GaN/AlN Multiple Quantum Wells for High Power e-Beam Pumped UV-Emitters in the 240â€“270 nm Spectral Range. Nanomaterials, 2021, 11, 2553.	1.9	10
6	The Effect of Interface Diffusion on Raman Spectra of Wurtzite Short-Period GaN/AlN Superlattices. Nanomaterials, 2021, 11, 2396.	1.9	5
7	Analysis of the sharpness of interfaces in short-period GaN/AlN superlattices using Raman spectroscopy data. Journal of Physics: Conference Series, 2021, 2103, 012147.	0.3	1
8	Effect of stoichiometric conditions and growth mode on threading dislocations filtering in AlN/c-Al2O3 templates grown by PA MBE. Superlattices and Microstructures, 2020, 138, 106368.	1.4	19
9	Strongly Confined Excitons in GaN/AlN Nanostructures with Atomically Thin GaN Layers for Efficient Light Emission in Deep-Ultraviolet. Nano Letters, 2020, 20, 158-165.	4.5	22
10	Structural and Dynamical Properties of Short-Period GaN/AlN Superlattices: Experiment and Theory. Semiconductors, 2020, 54, 1706-1709.	0.2	0
11	An Increase of Threading Dislocations Filtering Efficiency in Al2O3 Templates with Faceted Surface Morphology During a Growth by Molecular Beam Epitaxy. Technical Physics Letters, 2020, 46, 543-547.	0.2	1
12	A Photomultiplier With an AlGaN Photocathode and Microchannel Plates for BaF2 Scintillator Detectors in Particle Physics. IEEE Transactions on Nuclear Science, 2020, 67, 1760-1764.	1.2	4
13	Near-infrared optical absorption in GaN/AlN quantum wells grown by molecular-beam epitaxy. Journal of Physics: Conference Series, 2020, 1482, 012021.	0.3	1
14	Stimulated emission, photoluminescence, and localisation of nonequilibrium charge carriers in ultrathin (monolayer) GaN/AlN quantum wells. Quantum Electronics, 2019, 49, 535-539.	0.3	4
15	Deep Ultraviolet Light Source from Ultrathin GaN/AlN MQW Structures with Output Power Over 2 Watt. Advanced Optical Materials, 2019, 7, 1801763.	3.6	43
16	Direct observation of spatial distribution of carrier localization sites in ultrathin GaN/AlN quantum wells by spreading resistance microscopy. Applied Physics Letters, 2019, 114, .	1.5	10
17	Suppression of Stark effect in ultra-thin stress-free GaN/AlN multiple quantum well structures grown by plasma-assisted molecular beam epitaxy. Journal of Physics: Conference Series, 2019, 1410, 012032.	0.3	1
18	Stress evolution during growth of AlN templates on c-Al2O3 substrates by plasma-assisted molecular beam epitaxy. Journal of Physics: Conference Series, 2019, 1400, 055010.	0.3	0

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19	Phonons in short-period (GaN)_m(AlN)_n superlattices: ab initio calculations and group-theoretical analysis of modes and their genesis. Journal of Physics: Conference Series, 2019, 1400, 066016.	0.3	3
20	A Scintillation Detector with a Barium Fluoride Crystal and a Photomultiplier with an AlGaN-based Photocathode and Microchannel Plates. , 2019, , .		0
21	Boson Peak Related to Ga Nanoclusters in AlGaN Layers Grown by Plasma-Assisted Molecular Beam Epitaxy at Ga-Rich Conditions. Semiconductors, 2019, 53, 1479-1488.	0.2	1
22	Electrical properties of surface and interface layers of the N- and In-polar undoped and Mg-doped InN layers grown by PA MBE. Applied Physics Letters, 2018, 112, 022104.	1.5	5
23	Kinetic limitations of stress relaxation and generation in GaN/AlN and AlGaN: Si/AlN heterostructures grown on c-sapphire by plasma-assisted molecular beam epitaxy. Journal of Physics: Conference Series, 2018, 1038, 012061.	0.3	3
24	Stress evolution in AlN layers grown on c-Al₂O₃ by plasma-assisted molecular beam epitaxy at metal-rich conditions. Journal of Physics: Conference Series, 2018, 1124, 022041.	0.3	1
25	Features of the Selective Growth of GaN Nanorods on Patterned c-Sapphire Substrates of Various Configurations. Semiconductors, 2018, 52, 1770-1774.	0.2	2
26	Ring resonator optical modes in InGaN/GaN structures grown on micro-cone-patterned sapphire substrates. Journal of Physics: Conference Series, 2018, 993, 012020.	0.3	0
27	Insight into the performance of multi-color InGaN/GaN nanorod light emitting diodes. Scientific Reports, 2018, 8, 7311.	1.6	51
28	Metal-Semiconductor Nanoheterostructures with an AlGaN Quantum Well and In Situ Formed Surface Al Nanoislands. Semiconductors, 2018, 52, 622-624.	0.2	0
29	Site-Controlled Growth of GaN Nanorods with Inserted InGaN Quantum Wells on Î¼-Cone Patterned Sapphire Substrates by Plasma-Assisted MBE. Semiconductors, 2018, 52, 667-670.	0.2	1
30	Spontaneous Formation of Indium Clusters in InN Epilayers Grown by Molecular-Beam Epitaxy. Technical Physics Letters, 2018, 44, 149-152.	0.2	1
31	Ultraviolet light-emitting diodes and photodiodes grown by plasma-assisted molecular beam epitaxy. Journal of Physics: Conference Series, 2018, 993, 012037.	0.3	1
32	Nanoscale visualization of electronic properties of AlxGa1-xN/AlyGa1-yN multiple quantum-well heterostructure by spreading resistance microscopy. Journal of Applied Physics, 2017, 121, 014305.	1.1	4
33	Model for the deep defectâ€related emission bands between 1.4 and 2.4â€‰eV in AlN. Physica Status Solidi (B): Basic Research, 2017, 254, 1600714.	0.7	15
34	Selective area growth of N-polar GaN nanorods by plasma-assisted MBE on micro-cone-patterned c-sapphire substrates. Journal of Crystal Growth, 2017, 477, 207-211.	0.7	6
35	Stress in (Al, Ga)N heterostructures grown on 6H-SiC and Si substrates byplasma-assisted molecular beam epitaxy. Journal of Physics: Conference Series, 2017, 917, 032018.	0.3	1
36	Site-controlled GaN nanocolumns with InGaN insertions grown by MBE. Journal of Physics: Conference Series, 2017, 917, 032032.	0.3	3

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37	Stress generation and relaxation in (Al,Ga)N/6H-SiC heterostructure grown by plasma-assisted molecular-beam epitaxy. Technical Physics Letters, 2017, 43, 443-446.	0.2	3
38	AlGaN Nanostructures with Extremely High Room-Temperature Internal Quantum Efficiency of Emission Below 300Ânm. Journal of Electronic Materials, 2017, 46, 3888-3893.	1.0	3
39	Coexistence of type-I and type-II band line-ups in 1-2 monolayer thick GaN/AlN single quantum wells. Journal of Physics: Conference Series, 2017, 917, 062050.	0.3	0
40	Mode adjustment in hexagonal microresonators with an active region. Journal of Physics: Conference Series, 2016, 741, 012126.	0.3	2
41	Exciton recombination in spontaneously formed and artificial quantum wells Al_xGa_{1â€x}N/Al_yGa_{1â€y}N (x<yâ¼0.8). Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 232-238.	0.8	1
42	X-ray diffractometry of AlN/c-sapphire templates obtained by plasma-activated molecular beam epitaxy. Technical Physics Letters, 2016, 42, 419-422.	0.2	2
43	III-nitride tunable cup-cavities supporting quasi whispering gallery modes from ultraviolet to infrared. Scientific Reports, 2016, 5, 17970.	1.6	13
44	Solar-blind Al x Ga1â€“x N (x > 0.45) pâ€“iâ€“n photodiodes with a polarization-p-doped emitter. Technical Physics Letters, 2016, 42, 635-638.	0.2	9
45	Specific features of the cathodoluminescence spectra of AlInGaN QWs, caused by the influence of phase separation and internal electric fields. Semiconductors, 2016, 50, 904-909.	0.2	1
46	Highâ€Outputâ€Power Ultraviolet Light Source from Quasiâ€2D GaN Quantum Structure. Advanced Materials, 2016, 28, 7978-7983.	11.1	72
47	AlGaN nanostructures with extremely high quantum yield at 300 K. Physics of the Solid State, 2016, 58, 2261-2266.	0.2	0
48	Enhanced photoluminescence efficiency in AlGaN quantum wells with gradient-composition AlGaN barriers. Journal of Physics: Conference Series, 2016, 741, 012118.	0.3	2
49	IIIâ€nitride microcrystal cavities with quasi whispering gallery modes grown by molecular beam epitaxy. Physica Status Solidi (B): Basic Research, 2016, 253, 845-852.	0.7	5
50	Structural and optical properties of PA MBE AlGaN quantum well heterostructures grown on c-Al2O3 by using flux- and temperature-modulated techniques. Journal of Materials Research, 2015, 30, 2871-2880.	1.2	17
51	Mode switching in InN microresonators. Journal of Physics: Conference Series, 2015, 643, 012061.	0.3	0
52	TEM Analysis of Defects in AlGaN Heterostructures Grown on C-Al2O3 by Plasma Assisted Molecular Beam Epitaxy. Microscopy and Microanalysis, 2015, 21, 1803-1804.	0.2	0
53	E-beam pumped mid-ultraviolet sources based on AlGaN multiple quantum wells grown by MBE. , 2015, , .		0
54	Pulsed growth techniques in plasma-assisted molecular beam epitaxy of Al Ga1â^'N layers with medium Al content (x=0.4â€“0.6). Journal of Crystal Growth, 2015, 425, 9-12.	0.7	14

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55	Temperature dependences of the contact resistivity in ohmic contacts to n +-InN. Semiconductors, 2015, 49, 461-471.	0.2	6
56	Eâ€beam pumped midâ€UV sources based on MBEâ€grown AlGaN MQW. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1011-1016.	0.8	29
57	Plasmon-induced enhancement of yellow-red luminescence in InGaN/Au nanocomposites. Semiconductors, 2015, 49, 247-253.	0.2	7
58	Temperature switching of cavity modes in InN microcrystals. Semiconductors, 2015, 49, 1435-1439.	0.2	0
59	Plasma-assisted molecular beam epitaxy of Al(Ga)N layers and quantum well structures for optically pumped mid-UV lasers on c-Al₂O₃. Semiconductor Science and Technology, 2014, 29, 084008.	1.0	39
60	Metastable nature of InN and In-rich InGaN alloys. Journal of Crystal Growth, 2014, 403, 83-89.	0.7	43
61	Fine Structural Studies of AlGaN Laser Heterostructures with Digitally Alloyed Quantum Wells Grown on c-Al2O3 by plasma-Assisted Molecular Beam Epitaxy. Microscopy and Microanalysis, 2014, 20, 80-81.	0.2	0
62	Drastic change in electronic structure of AlGaN under Ba adsorption. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 494-497.	0.8	4
63	Control of threading dislocation density at the initial growth stage of AlN on c-sapphire in plasma-assisted MBE. Journal of Crystal Growth, 2013, 378, 319-322.	0.7	54
64	Phase separation in In_xGa_{1â€x}N (0.10 < x < 0.40). Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 527-531.	0.8	15
65	Suppression of the quantum-confined Stark effect in AlxGa1â^'xN/AlyGa1â^'yN corrugated quantum wells. Journal of Applied Physics, 2013, 114, 124306.	1.1	10
66	Plasmaâ€assisted molecular beam epitaxy of AlGaN heterostructures for deepâ€ultraviolet optically pumped lasers. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 439-450.	0.8	47
67	The quantum-confined Stark effect and localization of charge carriers in AlxGa1-xN/AlyGa1-yN quantum wells with different morphologies. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 319-322.	0.8	0
68	Growth of thick AlN epilayers with droplet-free and atomically smooth surface by plasma-assisted molecular beam epitaxy using laser reflectometry monitoring. Journal of Crystal Growth, 2012, 354, 188-192.	0.7	47
69	Quantum-confined stark effect and localization of charge carriers in Al0.3Ga0.7N/Al0.4Ga0.6N quantum wells with different morphologies. Semiconductors, 2012, 46, 998-1002.	0.2	6
70	Solar-blind UV photocathodes based on AlGaN heterostructures with a 300- to 330-nm spectral sensitivity threshold. Technical Physics Letters, 2012, 38, 439-442.	0.2	33
71	RHEED monitoring of elastic stresses during MBE growth of group III nitride heterostructures. Technical Physics Letters, 2012, 38, 443-445.	0.2	4
72	Role of strain in growth kinetics of AlGaN layers during plasma-assisted molecular beam epitaxy. Journal of Crystal Growth, 2011, 323, 68-71.	0.7	8

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73	Identification of the main contributions to the conductivity of epitaxial InN. Physical Review B, 2011, 84, .	1.1	11
74	Detection of metallic In nanoparticles in InGaN alloys. Applied Physics Letters, 2011, 99, 072107.	1.5	3
75	Multifunction metal-semiconductor nanocomposites. Bulletin of the Russian Academy of Sciences: Physics, 2010, 74, 61-64.	0.1	2
76	Optically pumped lasing at 300.4â€‰nm in AlGaN MQW structures grown by plasmaâ€assisted molecular beam epitaxy on câ€Al₂O₃. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1313-1317.	0.8	11
77	Growth kinetics of AlxGa1-xN layers (0 < x < 1) in plasma-assisted molecular beam epitaxy. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2046-2048.	0.8	5
78	Low-threshold 303 nm lasing in AlGaN-based multiple-quantum well structures with an asymmetric waveguide grown by plasma-assisted molecular beam epitaxy on c-sapphire. Applied Physics Letters, 2010, 96, 141112.	1.5	55
79	Plasmon-induced Purcell effect in InN/In metal-semiconductor nanocomposites. Physical Review B, 2010, 82, .	1.1	21
80	Large magnetoresistance effect in InN epilayers. Physical Review B, 2010, 82, .	1.1	8
81	Terahertz electroluminescence of surface plasmons from nanostructured InN layers. Applied Physics Letters, 2010, 96, .	1.5	16
82	Inconsistency of basic optical processes in plasmonic nanocomposites. Physical Review B, 2009, 79, .	1.1	15
83	Abnormal magnetic-field dependence of Hall coefficient in InN epilayers. Applied Physics Letters, 2009, 95, .	1.5	11
84	Resonant coupling between a gold-nanosphere plasmon and localized excitons in InGaN. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S619-S622.	0.8	1
85	AlGaN quantum well structures for deep-UV LEDs grown by plasma-assisted MBE using sub-monolayer digital-alloying technique. Journal of Crystal Growth, 2009, 311, 2080-2083.	0.7	36
86	Electrical and optical properties of InN with periodic metallic in insertions. Semiconductors, 2009, 43, 285-288.	0.2	3
87			

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91	AlGaN-based quantum-well heterostructures for deep ultraviolet light-emitting diodes grown by submonolayer discrete plasma-assisted molecular-beam epitaxy. Semiconductors, 2008, 42, 1420-1426.	0.2	16
92	Growth Control of N-Polar GaN in Plasma-Assisted Molecular Beam Epitaxy. Acta Physica Polonica A, 2008, 114, 1253-1258.	0.2	0
93	High resolution transmission electron microscopy of InN. Applied Physics Letters, 2007, 91, .	1.5	24
94	Inhomogeneous InGaN and InN with In-enriched Nanostructures. AIP Conference Proceedings, 2007, , .	0.3	4
95	Localized plasmons at pores and clusters within inhomogeneous indium nitride films. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2445-2448.	0.8	3
96	Specific features of electrical properties of the InxGa1 â˜' x N alloy. Semiconductors, 2007, 41, 540-541.	0.2	0
97	Controlling active nitrogen flux in plasma-assisted molecular beam epitaxy of group III nitrides. Technical Physics Letters, 2007, 33, 333-336.	0.2	11
98	Plasmonic effects in InN-based structures with nano-clusters of metallic indium. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 13-24.	0.8	9
99	Optical properties of InN with stoichoimetry violation and indium clustering. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 377-382.	0.8	26
100	Optical properties of InN related to surface plasmons. Physica Status Solidi A, 2005, 202, 2633-2641.	1.7	7
101	Mie Resonant Absorption and Infrared Emission in InN Related to Metallic Indium Clusters. AIP Conference Proceedings, 2005, , .	0.3	1
102	Mie Resonances, Infrared Emission, and the Band Gap of InN. Physical Review Letters, 2004, 92, 117407.	2.9	191
103	Shubinaet al.Reply:. Physical Review Letters, 2004, 93, .	2.9	7
104	Plasma-assisted MBE growth and characterization of InN on sapphire. Journal of Crystal Growth, 2004, 269, 1-9.	0.7	53
105	Optical properties of GaN/AlGaN quantum wells with inversion domains. Physica Status Solidi A, 2003, 195, 537-542.	1.7	1
106	Polarized micro-photoluminescence spectroscopy of GaN nanocolumns. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2602-2605.	0.8	0
107	Growth of optically-active InN with AlInN buffer by plasma-assisted molecular beam epitaxy. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2846-2850.	0.8	3
108	Narrow-line excitonic luminescence in GaN/AlGaN nanostructures based on inversion domains. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2716-2720.	0.8	0

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109	Phonon-assisted exciton luminescence in GaN layers grown by MBE and chloride-hydride VPE. Semiconductors, 2003, 37, 532-536.	0.2	6
110	Intrinsic electric fields in N-polarityGaN/AlxGa1â^'xNquantum wells with inversion domains. Physical Review B, 2003, 67, .	1.1	9
111	Narrow-line excitonic photoluminescence inGaN/AlxGa1â^'xNquantum well structures with inversion domains. Physical Review B, 2003, 67, .	1.1	2
112	Nanometric-Scale Fluctuations of Intrinsic Electric Fields in GaN/AlGaN Quantum Wells with Inversion Domains. Physica Status Solidi (B): Basic Research, 2002, 234, 919-923.	0.7	6
113	Optical Control of Group-III and N Flux Intensities in Plasma-Assisted MBE with RF Capacitively-Coupled Magnetron Nitrogen Activator. Physica Status Solidi A, 2001, 188, 615-619.	1.7	3
114	Coaxial rf-magnetron nitrogen activator for GaN MBE growth. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1999, 59, 60-64.	1.7	4
115	Monolayerâ€Range Compositional Modulations in Al x Ga 1â^' x N (x â€‰=â€‰0.6â€“0.75) Layers Grown Using Plasmaâ€Assisted Molecular Beam Epitaxy under Meâ€Rich Conditions with an Offâ€Centered Spatial Distribution of Activated Nitrogen Flux. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100550.	0.8	1