Izabella Grzegory

List of Publications by Citations

418 papers	11,308 citations	50 h-index	91 g-index
443 ext. papers	12,036 ext. citations	2.3 avg, IF	5.41 L-index

#	Paper	IF	Citations
418	Elastic constants of gallium nitride. *Journal of Applied Physics*, **1996**, 79, 3343-3344	2.5	558
417	Raman scattering and x-ray-absorption spectroscopy in gallium nitride under high pressure. *Physical Review B*, **1992**, 45, 83-89	3.3	498
416	Observation of Native Ga Vacancies in GaN by Positron Annihilation. *Physical Review Letters*, **1997**, 79, 3030-3033	7.4	411
415	Lattice parameters of gallium nitride. *Applied Physics Letters*, **1996**, 69, 73-75	3.4	325
414	Towards the identification of the dominant donor in GaN. *Physical Review Letters*, **1995**, 75, 296-299	7.4	266
413	Photoluminescence and reflectance spectroscopy of excitonic transitions in high-quality homoepitaxial GaN films. *Physical Review B*, **1999**, 60, 1471-1473	3.3	204
412	Mechanism of yellow luminescence in GaN. *Applied Physics Letters*, **1995**, 67, 2188-2190	3.4	193
411	Investigation of longitudinal-optical phonon-plasmon coupled modes in highly conducting bulk GaN. *Applied Physics Letters*, **1995**, 67, 2524-2526	3.4	192
410	Thermal expansion of gallium nitride. *Journal of Applied Physics*, **1994**, 76, 4909-4911	2.5	179
409	Elastic and plastic properties of GaN determined by nano-indentation of bulk crystal. *Applied Physics Letters*, **1999**, 75, 2070-2072	3.4	161
408	Phonon dispersion curves in wurtzite-structure GaN determined by inelastic x-ray scattering. *Physical Review Letters*, **2001**, 86, 906-9	7.4	158
407	Thermodynamical properties of IIIV nitrides and crystal growth of GaN at high N2 pressure. *Journal of Crystal Growth*, **1997**, 178, 174-188	1.6	156
406	Temperature dependence of the energy gap in GaN bulk single crystals and epitaxial layer. *Journal of Applied Physics*, **1994**, 76, 2429-2434	2.5	155
405	Chemical polishing of bulk and epitaxial GaN. *Journal of Crystal Growth*, **1997**, 182, 17-22	1.6	153
404	Hardness and fracture toughness of bulk single crystal gallium nitride. *Applied Physics Letters*, **1996**, 69, 4044-4046	3.4	138
403	Pressure studies of gallium nitride: Crystal growth and fundamental electronic properties. *Physical Review B*, **1992**, 45, 13307-13313	3.3	138
402	Exciton region reflectance of homoepitaxial GaN layers. *Applied Physics Letters*, **1996**, 69, 788-790	3.4	129

401	Thermal conductivity of GaN crystals in 4.2300 K range. *Solid State Communications*, **2003**, 128, 69-73	1.6	127
400	Determination of the effective mass of GaN from infrared reflectivity and Hall effect. *Applied Physics Letters*, **1996**, 68, 1114-1116	3.4	124
399	Luminescence and reflectivity in the exciton region of homoepitaxial GaN layers grown on GaN substrates. *Solid State Communications*, **1996**, 97, 919-922	1.6	121
398	III-V Nitrides-thermodynamics and crystal growth at high N2 pressure. *Journal of Physics and Chemistry of Solids*, **1995**, 56, 639-647	3.9	118
397	Thermal stability of isolated and complexed Ga vacancies in GaN bulk crystals. *Physical Review B*, **2001**, 64,	3.3	117
396	Recent advances in defect-selective etching of GaN. *Journal of Crystal Growth*, **2000**, 210, 151-156	1.6	106
395	High electron mobility in AlGaN/GaN heterostructures grown on bulk GaN substrates. *Applied Physics Letters*, **2000**, 77, 2551-2553	3.4	103
394	Orthodox etching of HVPE-grown GaN. *Journal of Crystal Growth*, **2007**, 305, 384-392	1.6	102
393	Homoepitaxy of GaN on polished bulk single crystals by metalorganic chemical vapor deposition. *Applied Physics Letters*, **1996**, 68, 917-919	3.4	98
392	Thermal properties of indium nitride. *Journal of Physics and Chemistry of Solids*, **1998**, 59, 289-295	3.9	92
391	Influence of dopants and substrate material on the formation of Ga vacancies in epitaxial GaN layers. *Physical Review B*, **2001**, 63,	3.3	92
390	Negative differential resistance in dislocation-free GaN-AlGaN double-barrier diodes grown on bulk GaN. *Applied Physics Letters*, **2006**, 88, 172106	3.4	90
389	Defect-selective etching of GaN in a modified molten bases system. *Journal of Crystal Growth*, **2002**, 246, 21-24	1.6	85
388	Polariton effects in reflectance and emission spectra of homoepitaxial GaN. *Physical Review B*, **1997**, 56, 15151-15156	3.3	83
387	Effect of growth polarity on vacancy defect and impurity incorporation in dislocation-free GaN. *Applied Physics Letters*, **2005**, 86, 031915	3.4	80
386	GaN-AlGaN heterostructure field-effect transistors over bulk GaN substrates. *Applied Physics Letters*, **2000**, 76, 3807-3809	3.4	79
385	Mg-doped GaN: Similar defects in bulk crystals and layers grown on Al2O3 by metal-organic chemical-vapor deposition. *Applied Physics Letters*, **1999**, 75, 4159-4161	3.4	77
384	Morphological and structural characteristics of homoepitaxial GaN grown by metalorganic chemical vapour deposition (MOCVD). *Journal of Crystal Growth*, **1999**, 204, 419-428	1.6	77

383	Structural characterization of bulk GaN crystals grown under high hydrostatic pressure. *Journal of Electronic Materials*, **1996**, 25, 1545-1550	1.9	77
382	Optical and magnetic properties of Mn in bulk GaN. *Physical Review B*, **2004**, 69,	3.3	75
381	Carrier recombination at single dislocations in GaN measured by cathodoluminescence in a transmission electron microscope. *Journal of Applied Physics*, **2002**, 92, 2000-2005	2.5	75
380	Carrier localization of as-grown n-type gallium nitride under large hydrostatic pressure. *Physical Review B*, **1996**, 53, 1322-1326	3.3	71
379	High pressure growth of bulk GaN from solutions in gallium. *Journal of Physics Condensed Matter*, **2001**, 13, 6875-6892	1.8	70
378	The influence of Mg doping on the formation of Ga vacancies and negative ions in GaN bulk crystals. *Applied Physics Letters*, **1999**, 75, 2441-2443	3.4	69
377	Heat capacity of ⁶⁰GaN: Isotope effects. *Physical Review B*, **2005**, 72,	3.3	65
376	Degradation mechanisms in InGaN laser diodes grown on bulk GaN crystals. *Applied Physics Letters*, **2006**, 88, 201111	3.4	64
375	Nonradiative recombination at threading dislocations in n-type GaN: Studied by cathodoluminescence and defect selective etching. *Applied Physics Letters*, **2008**, 92, 231909	3.4	63
374	Deposition of thick GaN layers by HVPE on the pressure grown GaN substrates. *Journal of Crystal Growth*, **2005**, 281, 38-46	1.6	63
373	Structure and composition of GaN(0001) A and B surfaces. *Journal of Applied Physics*, **1999**, 85, 7697-7704	2.5	63
372	Blue-violet InGaN laser diodes grown on bulk GaN substrates by plasma-assisted molecular-beam epitaxy. *Applied Physics Letters*, **2005**, 86, 011114	3.4	62
371	Lattice constants, thermal expansion and compressibility of gallium nitride. *Journal Physics D: Applied Physics*, **1995**, 28, A149-A153	3	58
370	High pressure phase transition in aluminium nitride. *Solid State Communications*, **1991**, 79, 1033-1034	1.6	58
369	Homo-epitaxial GaN growth on exact and misoriented single crystals: suppression of hillock formation. *Journal of Crystal Growth*, **2000**, 210, 435-443	1.6	54
368	Mechanisms of crystallization of bulk GaN from the solution under high N2 pressure. *Journal of Crystal Growth*, **2002**, 246, 177-186	1.6	49
367	Spontaneous Ordering in Bulk GaN:Mg Samples. *Physical Review Letters*, **1999**, 83, 2370-2373	7.4	49
366	Neutral Mn acceptor in bulk GaN in high magnetic fields. *Physical Review B*, **2004**, 70,	3.3	48

365	Chemically ordered AlxGa1−xN alloys: Spontaneous formation of natural quantum wells. *Physical Review B*, **2005**, 71,	3.3	47
364	The microstructure of gallium nitride monocrystals grown at high pressure. *Journal of Crystal Growth*, **1996**, 169, 235-242	1.6	47
363	Raman and cathodoluminescence study of dislocations in GaN. *Journal of Applied Physics*, **2002**, 92, 6666-6670	2.5	46
362	Acoustic phonon scattering of two-dimensional electrons in GaN/AlGaN heterostructures. *Applied Physics Letters*, **2002**, 80, 1228-1230	3.4	46
361	60mW continuous-wave operation of InGaN laser diodes made by plasma-assisted molecular-beam epitaxy. *Applied Physics Letters*, **2006**, 88, 221108	3.4	45
360	High-Resolution Photoluminescence and Reflectance Spectra of Homoepitaxial GaN Layers. *Physica Status Solidi (B): Basic Research*, **1999**, 216, 5-9	1.3	45
359	High Quality Homoepitaxial GaN Grown by Molecular Beam Epitaxy with NH 3 on Surface Cracking. *Japanese Journal of Applied Physics*, **1997**, 36, L1634-L1636	1.4	44
358	Preparation of Free-Standing GaN Substrates from Thick GaN Layers Crystallized by Hydride Vapor Phase Epitaxy on Ammonothermally Grown GaN Seeds. *Applied Physics Express*, **2013**, 6, 075504	2.4	43
357	Nitride-based laser diodes by plasma-assisted MBE□from violet to green emission. *Journal of Crystal Growth*, **2009**, 311, 1632-1639	1.6	43
356	Temperature dependence of electrical properties of gallium-nitride bulk single crystals doped with Mg and their evolution with annealing. *Journal of Applied Physics*, **2001**, 89, 7960-7965	2.5	43
355	Decay of stimulated and spontaneous emission in highly excited homoepitaxial GaN. *Applied Physics Letters*, **2001**, 78, 3776-3778	3.4	41
354	GaN substrates for molecular beam epitaxy growth of homoepitaxial structures. *Thin Solid Films*, **2000**, 367, 281-289	2.2	41
353	Symmetry of excitons in GaN. *Physical Review B*, **1999**, 60, 4438-4441	3.3	41
352	Crystal growth of III-N compounds under high nitrogen pressure. *Physica B: Condensed Matter*, **1993** , 185, 99-102	2.8	40
351	Optical properties of GaN epilayers and GaN/AlGaN quantum wells grown by molecular beam epitaxy on GaN(0001) single crystal substrate. *Journal of Applied Physics*, **2000**, 88, 183-187	2.5	39
350	X-ray examination of GaN single crystals grown at high hydrostatic pressure. *Journal of Crystal Growth*, **1993**, 126, 601-604	1.6	39
349	X-ray absorption, glancing-angle reflectivity, and theoretical study of the N K- and Ga M2,3-edge spectra in GaN. *Physical Review B*, **1997**, 55, 2612-2622	3.3	38
348	HVPE-GaN grown on MOCVD-GaN/sapphire template and ammonothermal GaN seeds: Comparison of structural, optical, and electrical properties. *Journal of Crystal Growth*, **2014**, 394, 55-60	1.6	37

347	Fully-screened polarization-induced electric fields in blue□violet InGaN□GaN light-emitting devices grown on bulk GaN. *Applied Physics Letters*, **2005**, 87, 041109	3.4	37
346	Homoepitaxial growth of GaN by metalorganic vapor phase epitaxy: A benchmark for GaN technology. *Applied Physics Letters*, **1999**, 75, 1098-1100	3.4	37
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344	Surface reaction of nitrogen with liquid group III metals. *Journal of Chemical Physics*, **2001**, 114, 6353-6363	3.9	36
343	Correlation between luminescence and compositional striations in InGaN layers grown on miscut GaN substrates. *Applied Physics Letters*, **2007**, 91, 211904	3.4	35
342	Growth optimisation of the GaN layers and GaN/AlGaN heterojunctions on bulk GaN substrates using plasma-assisted molecular beam epitaxy. *Physica Status Solidi A*, **2004**, 201, 320-323		35
341	Ordering in bulk GaN : Mg samples: defects caused by Mg doping. *Physica B: Condensed Matter*, **1999**, 273-274, 124-129	2.8	35
340	The influence of lattice parameter variation on microstructure of GaN single crystals. *Journal of Alloys and Compounds*, **2005**, 401, 261-264	5.7	34
339	Crystal growth of aluminum nitride under high pressure of nitrogen. *Materials Science in Semiconductor Processing*, **2001**, 4, 543-548	4.3	34
338	Structural Defects in Heteroepitaxial and Homoepitaxial GaN. *Materials Research Society Symposia Proceedings*, **1995**, 395, 351		34
337	GaN/AlGaN quantum wells for UV emission: heteroepitaxy versus homoepitaxy. *Semiconductor Science and Technology*, **2001**, 16, 358-361	1.8	33
336	GaN homoepitaxial layers grown by metalorganic chemical vapor deposition. *Applied Physics Letters* , **1999**, 75, 1276-1278	3.4	33
335	Interaction of N2 molecule with liquid Ga surface □quantum mechanical calculations (DFT). *Journal of Crystal Growth*, **1998**, 189-190, 159-162	1.6	32
334	Growth of InGaN and InGaN/InGaN quantum wells by plasma-assisted molecular beam epitaxy. *Journal of Crystal Growth*, **2008**, 310, 3983-3986	1.6	32
333	Optically detected magnetic resonance of the red and near-infrared luminescence in Mg-doped GaN. *Physical Review B*, **2001**, 63,	3.3	32
332	GaN crystallization by the high-pressure solution growth method on HVPE bulk seed. *Journal of Crystal Growth*, **2008**, 310, 3924-3933	1.6	31
331	Different character of the donor-acceptor pair-related 3.27 eV band and blue photoluminescence in Mg-doped GaN. Hydrostatic pressure studies. *Physical Review B*, **2000**, 62, 10151-10157	3.3	31
330	Molecular doping of gallium nitride. *Applied Physics Letters*, **1999**, 74, 416-418	3.4	31

329	High power blue□violet InGaN laser diodes grown on bulk GaN substrates by plasma-assisted molecular beam epitaxy. *Semiconductor Science and Technology*, **2005**, 20, 809-813	1.8	30
328	Magnetic anisotropy of bulk GaN:Mn single crystals codoped with Mg acceptors. *Physical Review B*, **2005**, 71,	3.3	30
327	Homoepitaxial growth of GaN using molecular beam epitaxy. *Journal of Applied Physics*, **1996**, 80, 2195-2198	2.5	30
326	The challenge of decomposition and melting of gallium nitride under high pressure and high temperature. *Journal of Physics and Chemistry of Solids*, **2015**, 85, 138-143	3.9	29
325	InGaN light emitting diodes for 415 nm□520 nm spectral range by plasma assisted MBE. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2009**, 6, S917-S920		29
324	Homoepitaxial HVPE-GaN growth on non-polar and semi-polar seeds. *Journal of Crystal Growth*, **2014**, 403, 48-54	1.6	28
323	Evidence of free carrier concentration gradient along the c-axis for undoped GaN single crystals. *Journal of Crystal Growth*, **2001**, 230, 442-447	1.6	28
322	High Resistivity GaN Single Crystalline Substrates. *Acta Physica Polonica A*, **1997**, 92, 958-962	0.6	28
321	Effect of high-temperature annealing on the residual strain and bending of freestanding GaN films grown by hydride vapor phase epitaxy. *Applied Physics Letters*, **2006**, 88, 141909	3.4	27
320	A pressure-tuned blue-violet InGaN/GaN laser diode grown on bulk GaN crystal. *Applied Physics Letters*, **2004**, 84, 1236-1238	3.4	27
319	Directional crystallization of GaN on high-pressure solution grown substrates by growth from solution and HVPE. *Journal of Crystal Growth*, **2002**, 246, 194-206	1.6	27
318	Thermal conductivity of GaN crystals grown by high pressure method. *Physica Status Solidi (B): Basic Research*, **2003**, 240, 447-450	1.3	27
317	High-nitrogen-pressure growth of GaN single crystals: doping and physical properties. *Journal of Physics Condensed Matter*, **2001**, 13, 8881-8890	1.8	27
316	Examination of defects and the seed's critical thickness in HVPE-GaN growth on ammonothermal GaN seed. *Physica Status Solidi (B): Basic Research*, **2015**, 252, 1172-1179	1.3	26
315	Properties of metal-insulator transition and electron spin relaxation in GaN:Si. *Physical Review B*, **2011**, 83,	3.3	26
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313	Substrate misorientation induced strong increase in the hole concentration in Mg doped GaN grown by metalorganic vapor phase epitaxy. *Applied Physics Letters*, **2008**, 93, 172117	3.4	26
312	Crystallization of low dislocation density GaN by high-pressure solution and HVPE methods. *Journal of Crystal Growth*, **2007**, 300, 17-25	1.6	26

311	Characterization of GaN single crystals by defect-selective etching. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2003**, 821-826		26
310	Annealing of GaN under high pressure of nitrogen. *Journal of Physics Condensed Matter*, **2002**, 14, 11097-11110	1.8	26
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308	Application of a composite plasmonic substrate for the suppression of an electromagnetic mode leakage in InGaN laser diodes. *Applied Physics Letters*, **2009**, 95, 261108	3.4	24
307	Growth of thin AlInN/GaInN quantum wells for applications to high-speed intersubband devices at telecommunication wavelengths. *Journal of Vacuum Science & Technology B*, **2006**, 24, 1505		24
306	Vacancies as compensating centers in bulk GaN: doping effects. *Journal of Crystal Growth*, **2002**, 246, 281-286	1.6	24
305	Transverse effective charge and its pressure dependence in GaN single crystals. *Physical Review B*, **1999**, 60, 1480-1483	3.3	24
304	Selective excitation and thermal quenching of the yellow luminescence of GaN. *Applied Physics Letters*, **1999**, 75, 3273-3275	3.4	24
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302	Ga vacancies in electron irradiated GaN: introduction, stability and temperature dependence of positron trapping. *Physica B: Condensed Matter*, **2001**, 308-310, 77-80	2.8	23
301	High-pressure crystallization of GaN for electronic applications. *Journal of Physics Condensed Matter* , **2002**, 14, 11055-11067	1.8	23
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299	Revealing extended defects in HVPE-grown GaN. *Journal of Crystal Growth*, **2010**, 312, 2611-2615	1.6	22
298	GaN Crystals: Growth and Doping Under Pressure. *Materials Research Society Symposia Proceedings*, **1997**, 482, 115		22
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296	Defects in GaN single crystals and homoepitaxial structures. *Journal of Crystal Growth*, **2005**, 281, 135-141	1.8	22
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294	Structural and Optical Properties of Homoepitaxial GaN Layers. *Materials Research Society Symposia Proceedings*, **1996**, 449, 393		22

293	Photoluminescence study on GaN homoepitaxial layers grown by molecular beam epitaxy. *MRS Internet Journal of Nitride Semiconductor Research*, **1996**, 1, 1		22
292	Analysis of self-lift-off process during HVPE growth of GaN on MOCVD-GaN/sapphire substrates with photolitographically patterned Ti mask. *Journal of Crystal Growth*, **2013**, 380, 99-105	1.6	21
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289	The Application of High Pressure in Physics and Technology of III-V Nitrides. *Acta Physica Polonica A*, **2001**, 100, 57-109	0.6	21
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287	Growth mechanisms in semipolar and nonpolar m-plane AlGaN/GaN structures grown by PAMBE under N-rich conditions. *Journal of Crystal Growth*, **2013**, 377, 184-191	1.6	20
286	Polarity dependent properties of GaN layers grown by hydride vapor phase epitaxy on GaN bulk crystals. *Physica Status Solidi (B): Basic Research*, **2003**, 240, 289-292	1.3	20
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284	Efficient radiative recombination and potential profile fluctuations in low-dislocation InGaN□GaN multiple quantum wells on bulk GaN substrates. *Journal of Applied Physics*, **2005**, 97, 103507	2.5	20
283	Observation of Ga vacancies and negative ions in undoped and Mg-doped GaN bulk crystals. *Physica B: Condensed Matter*, **1999**, 273-274, 33-38	2.8	20
282	GaN Crystals Grown in the Increased Volume High-Pressure Reactors. *Materials Research Society Symposia Proceedings*, **1996**, 449, 35		20
281	Preparation of free-standing GaN substrates from GaN layers crystallized by hydride vapor phase epitaxy on ammonothermal GaN seeds. *Japanese Journal of Applied Physics*, **2014**, 53, 05FA04	1.4	19
280	Different pressure behavior of GaN/AlGaN quantum structures grown along polar and nonpolar crystallographic directions. *Journal of Applied Physics*, **2009**, 105, 063104	2.5	19
279	Anomalous temperature characteristics of single wide quantum well InGaN laser diode. *Applied Physics Letters*, **2006**, 88, 071121	3.4	19
278	CFD and reaction computational analysis of the growth of GaN by HVPE method. *Journal of Crystal Growth*, **2006**, 296, 31-42	1.6	19
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276	Spin and interaction effects in Shubnikov□de Haas oscillations and the quantum Hall effect in GaN/AlGaN heterostructures. *Journal of Physics Condensed Matter*, **2004**, 16, 3421-3432	1.8	19

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272	Role of dislocation-free GaN substrates in the growth of indium containing optoelectronic structures by plasma-assisted MBE. *Journal of Crystal Growth*, **2007**, 305, 346-354	1.6	18
271	Stimulated emission due to spatially separated electron-hole plasma and exciton system in homoepitaxial GaN. *Physical Review B*, **2004**, 69,	3.3	18
270	Gallium nitride growth on sapphire/GaN templates at high pressure and high temperatures. *Journal of Crystal Growth*, **2005**, 274, 55-64	1.6	18
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265	Effects of defect scattering on the photoluminescence of exciton-polaritons in n-GaN. *Solid State Communications*, **1998**, 105, 497-501	1.6	17
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254	Blue Laser on High N2Pressure-Grown Bulk GaN. *Acta Physica Polonica A*, **2001**, 100, 229-232	0.6	16
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252	. *Proceedings of the IEEE*, **2010**, 98, 1214-1219	14.3	15
251	Selective etching of dislocations in violet-laser diode structures. *Journal of Crystal Growth*, **2006**, 293, 18-21	1.6	15
250	High pressure fabrication and processing of GaN:Mg. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **1999**, 59, 1-5	3.1	15
249	Thermal Expansion of GaN Bulk Crystals and Homoepitaxial Layers. *Acta Physica Polonica A*, **1996**, 90, 887-890	0.6	15
248	Hole carrier concentration and photoluminescence in magnesium doped InGaN and GaN grown on sapphire and GaN misoriented substrates. *Journal of Applied Physics*, **2010**, 108, 023516	2.5	14
247	Blue light-emitting diodes on GaN substrates, growth and characterization. *Journal of Crystal Growth*, **1998**, 189-190, 167-171	1.6	14
246	Optically pumped GaN/AlGaN separate-confinement heterostructure laser grown along the (112□0) nonpolar direction. *Applied Physics Letters*, **2007**, 90, 081104	3.4	14
245	Etching, Raman and PL study of thick HVPE-grown GaN. *Materials Science in Semiconductor Processing*, **2006**, 9, 175-179	4.3	14
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