Dagmar Gregusova

List of Publications by Year
in descending order

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134 papers	1,622 citations	304602 22 h-index	360920 35 g-index
135 all docs	135 docs citations	135 times ranked	1378 citing authors

#	Article	IF	Citations
1	Conditioning nano-LEDs in arrays by laser-micro-annealing: The key to their performance improvement. Applied Physics Letters, 2021, 118, .	1.5	16
2	Controlling surface/interface states in GaN-based transistors: Surface model, insulated gate, and surface passivation. Journal of Applied Physics, 2021, 129, .	1.1	58
3	GaAs Nanomembranes in the High Electron Mobility Transistor Technology. Materials, 2021, 14, 3461.	1.3	0
4	Local increase in compressive strain (GaN) in gate recessed AlGaN/GaN MISHFET structures induced by an amorphous AlN dielectric layer. Semiconductor Science and Technology, 2021, 36, 095040.	1.0	4
5	Invited: Polarization engineering in GaN-based normally-off transistors. , 2021, , .		0
6	InN: Breaking the limits of solid-state electronics. AIP Advances, 2021, 11, .	0.6	7
7	Investigation of interfaces and threshold voltage instabilities in normally-off MOS-gated InGaN/AlGaN/GaN HEMTs. Applied Surface Science, 2020, 528, 146824.	3.1	3
8	Device and Circuit Models of Monolithic InAlN/GaN NAND and NOR Logic Cells Comprising D- and E-Mode HEMTs. Journal of Circuits, Systems and Computers, 2019, 28, 1940009.	1.0	1
9	InGaN/(GaN)/AlGaN/GaN normally-off metal-oxide-semiconductor high-electron mobility transistors with etched access region. Japanese Journal of Applied Physics, 2019, 58, SCCD21.	0.8	3
10	Impact of oxide/barrier charge on threshold voltage instabilities in AlGaN/GaN metal-oxide-semiconductor heterostructures. Materials Science in Semiconductor Processing, 2019, 91, 356-361.	1.9	4
11	Effect of porous silicon substrate on structural, mechanical and optical properties of MOCVD and ALD ruthenium oxide nanolayers. Applied Surface Science, 2019, 471, 686-693.	3.1	15
12	Characterization of Monolithic InAlN/GaN NAND Logic Cell Supported by Circuit and Device Simulations. IEEE Transactions on Electron Devices, 2018, 65, 2666-2669.	1.6	7
13	Determination of Secondary-Ions Yield in SIMS Depth Profiling of Si, Mg, and C Ions Implanted Gan Epitaxial Layers. , 2018, , .		2
14	Simulation Analysis of InAlN/GaN Monolithic NAND Logic Cell. , 2018, , .		1
15	Characterization of interface states in AlGaN/GaN metal-oxide-semiconductor heterostructure field-effect transistors with HfO2 gate dielectric grown by atomic layer deposition. Applied Surface Science, 2018, 461, 255-259.	3.1	11
16	Device and circuit models of InAlN/GaN D- and dual-gate E-mode HEMTs for design and characterisation of monolithic NAND logic cell. , 2018, , .		3
17	Technology and application of in-situ AlOx layers on III-V semiconductors. Applied Surface Science, 2018, 461, 33-38.	3.1	1
18	Technology and performance of E/D-mode InAlN/GaN HEMTs for mixed-signal electronics. , 2018, , .		0

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19	Properties of InGaAs/GaAs metal-oxide-semiconductor heterostructure field-effect transistors modified by surface treatment. Applied Surface Science, 2017, 395, 140-144.	3.1	10
20	Optimization of UV-assisted wet oxidation of GaAs. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	0.6	0
21	Influence of oxygen-plasma treatment on AlGaN/GaN metal-oxide-semiconductor heterostructure field-effect transistors with HfO₂by atomic layer deposition: leakage current and density of states reduction. Semiconductor Science and Technology, 2017, 32, 045018.	1.0	18
22	Low-temperature atomic layer deposition-grown Al2O3 gate dielectric for GaN/AlGaN/GaN MOS HEMTs: Impact of deposition conditions on interface state density. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	0.6	21
23	Polarizationâ€Engineered n⁺GaN/InGaN/AlGaN/GaN Normallyâ€Off MOS HEMTs. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700407.	0.8	6
24	Annealing, temperature, and bias-induced threshold voltage instabilities in integrated E/D-mode InAlN/GaN MOS HEMTs. Applied Physics Letters, 2017, 111, .	1.5	10
25	Investigation of â€˜surface donorsâ€™ in Al2O3/AlGaN/GaN metal-oxide-semiconductor heterostructures: Correlation of electrical, structural, and chemical properties. Applied Surface Science, 2017, 426, 656-661.	3.1	27
26	High resolution physical analysis of ohmic contact formation at GaN-HEMT devices. Microelectronics Reliability, 2017, 76-77, 338-343.	0.9	6
27	Current conduction mechanism and electrical break-down in InN grown on GaN. Applied Physics Letters, 2017, 110, .	1.5	8
28	Performance analysis of monolithically integrated depletion-/enhancement-mode InAlN/GaN heterostructure HEMT transistors. , 2017, , .		0
29	Threshold voltage instabilities in AlGaN/GaN MOS-HEMTs with ALD-grown Al<inf>2</inf>O<inf>3</inf> gate dielectrics: Relation to distribution of oxide/semiconductor interface state density. , 2016, , .		0
30	Direct electro-optical pumping for hybrid CdSe nanocrystal/III-nitride based nano-light-emitting diodes. Applied Physics Letters, 2016, 108, 061107.	1.5	38
31	Post-deposition annealing and thermal stability of integrated self-aligned E/D-mode n⁺⁺GaN/InAlN/AlN/GaN MOS HEMTs. , 2016, , .		2
32	Trap analysis of GaN-based heterostructures using current transients mesurements. , 2016, , .		0
33	Temperature-dependent of sub-threshold slope of AlGaN/GaN MOSHFETs with HfO<inf>2</inf> gate oxide prepared by ALD. , 2016, , .		0
34	Effect of HCl pretreatment on the oxide/semiconductor interface state density in AlGaN/GaN MOS-HEMT structures with MOCVD grown A1₂O₃ gate dielectric. , 2016, , .		0
35	DC and pulsed IV characterisation of AlGaN/GaN MOS-HEMT structures with Al<inf>2</inf>O<inf>3</inf> gate dielectric prepared by various techniques. , 2016, , .		0
36	Technology of integrated self-aligned E/D-mode n⁺⁺GaN/InAlN/AlN/GaN MOS HEMTs for mixed-signal electronics. Semiconductor Science and Technology, 2016, 31, 065011.	1.0	12

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37	Resistive switching in nonplanar HfO2-based structures with variable series resistance. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, 01A108.	0.6	6
38	III-As heterostructure field-effect transistors with recessed ex-situ gate oxide by O2 plasma-oxidized GaAs cap. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, 01A111.	0.6	3
39	Selfâ€aligned normallyâ€off metalâ€“oxideâ€“semiconductor n⁺⁺GaN/InAlN/GaN high electron mobility transistors. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1086-1090.	0.8	23
40	Gate leakage reduction of AlGaN/GaN MOS-HFETs with HfO<inf>2</inf> prepared by ALD. , 2014, , .		0
41	Vortex Dynamics in Ferromagnetic Nanoelements Observed by Micro-Hall Probes. Acta Physica Polonica A, 2014, 126, 390-391.	0.2	0
42	Reduction of skin effect losses in double-level-T-gate structure. Applied Physics Letters, 2014, 105, 232102.	1.5	4
43	Novel double-level-T-gate technology. , 2014, , .		0
44	InGaAs/GaAs metal-oxide-semiconductor heterostructure field-effect transistors with oxygen-plasma oxide and Al₂O₃ double-layer insulator. Applied Physics Letters, 2014, 105, 183504.	1.5	10
45	Adjustment of threshold voltage in AlN/AlGaN/GaN high-electron mobility transistors by plasma oxidation and Al2O3 atomic layer deposition overgrowth. Applied Physics Letters, 2014, 104, .	1.5	31
46	Trapped charge effects in AlGaN/GaN metal-oxide-semiconductor structures with Al₂O₃and ZrO₂gate insulator. Semiconductor Science and Technology, 2014, 29, 045003.	1.0	14
47	Impact of thermal annealing on nonequilibrium carrier dynamics in single-crystal, freestanding GaAs mesostructures. Semiconductor Science and Technology, 2014, 29, 045022.	1.0	8
48	Impact of GaN cap on charges in Al2O3/(GaN/)AlGaN/GaN metal-oxide-semiconductor heterostructures analyzed by means of capacitance measurements and simulations. Journal of Applied Physics, 2014, 116, .	1.1	43
49	Degradation of AlGaN/GaN high-electron mobility transistors in the current-controlled off-state breakdown. Journal of Applied Physics, 2014, 115, 164504.	1.1	0
50	Hot-Electron-Related Degradation in InAlN/GaN High-Electron-Mobility Transistors. IEEE Transactions on Electron Devices, 2014, 61, 2793-2801.	1.6	37
51	Ni/Auâ€“Al2O3 gate stack prepared by low-temperature ALD and lift-off for MOS HEMTs. Microelectronic Engineering, 2013, 112, 204-207.	1.1	10
52	Schottky-barrier normally off GaN/InAlN/AlN/GaN HEMT with selectively etched access region. IEEE Electron Device Letters, 2013, 34, 432-434.	2.2	33
53	ZrO2/InAlN/GaN Metalâ€“Oxideâ€“Semiconductor Heterostructure Field-Effect Transistors with InAlN Barrier of Different Compositions. Japanese Journal of Applied Physics, 2013, 52, 08JN07.	0.8	5
54	Bulk and interface trapping in the gate dielectric of GaN based metal-oxide-semiconductor high-electron-mobility transistors. Applied Physics Letters, 2013, 102, .	1.5	51

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55	Defect states characterization of non-annealed and annealed ZrO2/InAlN/GaN structures by capacitance measurements. Applied Physics Letters, 2013, 102, .	1.5	8
56	GaAs-based metal-oxide-semiconductor field-effect transistor with aluminum oxide gate insulator preparedin situby MOCVD. Semiconductor Science and Technology, 2012, 27, 115002.	1.0	3
57	Current instabilities and other reliability aspects in AlGaN/GaN MOS-HFETs with atomic layer deposited Al<inf>2</inf>O<inf>3</inf> as gate oxide. , 2012, , .		0
58	Nucleation and annihilation of magnetic vortices in Pacman-like nanodots observed by micro-Hall probes. , 2012, , .		0
59	Non-uniform distribution of induced strain in a gate-recessed AlGaN/GaN structure evaluated by micro-PL measurements. Semiconductor Science and Technology, 2012, 27, 105008.	1.0	14
60	Detection elements for on-cantilever laboratory. , 2012, , .		0
61	Towards future III-nitride based THz OEICs in the UV range. , 2012, , .		0
62	Devices with Te-doped InGaP layers. , 2012, , .		0
63	The influence of an AlO<inf>x</inf> film in-situ deposited on the GaAs-based HFETs properties. , 2012, , .		0
64	Early stage degradation of InAlN/GaN HEMTs during electrical stress. , 2012, , .		1
65	Aluminum oxide as passivation and gate insulator in GaAs-based field-effect transistors prepared in situ by metal-organic vapor deposition. Applied Physics Letters, 2012, 100, 142113.	1.5	18
66	Influence of processing and annealing steps on electrical properties of InAlN/GaN high electron mobility transistor with Al2O3 gate insulation and passivation. Solid-State Electronics, 2012, 67, 74-78.	0.8	17
67	Monolithic Integration of Ultrafast Photodetector and MESFET in the GaN Material System. IEEE Photonics Technology Letters, 2011, 23, 1189-1191.	1.3	14
68	Electrical properties of InAlN/GaN high electron mobility transistor with Al2O3, ZrO2, and GdScO3 gate dielectrics. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	0.6	30
69	Performance of AlGaN/GaN metal-insulator-semiconductor heterostructure field-effect transistors with AlN gate insulator prepared by reactive magnetron sputtering. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 01A809.	0.6	11
70	Switching Magnetization Magnetic Force Microscopy â€" An Alternative to Conventional Lift-Mode MFM. Journal of Electrical Engineering, 2011, 62, 37-43.	0.4	10
71	Novel Magnetic Tips Developed for the Switching Magnetization Magnetic Force Microscopy. Journal of Nanoscience and Nanotechnology, 2010, 10, 4477-4481.	0.9	7
72	50-nm Local Anodic Oxidation Technology of Semiconductor Heterostructures. Journal of Nanoscience and Nanotechnology, 2010, 10, 4448-4453.	0.9	0

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73	Trap states in AlGaN/GaN metal-oxide-semiconductor structures with Al2O3 prepared by atomic layer deposition. Journal of Applied Physics, 2010, 107, .	1.1	51
74	Magnetic elements for switching magnetization magnetic force microscopy tips. Journal of Magnetism and Magnetic Materials, 2010, 322, 2715-2721.	1.0	15
75	Optimization of the ohmic contact processing in InAlN//GaN high electron mobility transistors for lower temperature of annealing. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 108-111.	0.8	6
76	InAlN/GaN/Si heterostructures and field-effect transistors with lattice matched and tensely or compressively strained InAlN. Applied Physics Letters, 2010, 97, 173505.	1.5	19
77	RF Performance of InAlN/GaN HFETs and MOSHFETs With <formula formulatype="inline"><tex Notation="TeX"> $f_{T} imes L_{G}$</tex></formula> up to 21 <formula formulatype="inline"><tex Notation="TeX">$hbox{GHz}cdot muhbox{m}$</tex> </formula>. IEEE Electron Device Letters, 2010, 31, 180-182.	2.2	34
78	GaAs/AlAs/InGaP heterostructure: a versatile material basis for cantilever designs. Journal of Micromechanics and Microengineering, 2010, 20, 097001.	1.5	0
79	Oxidized Al Film as an Insulation Layer in AlGaN/GaN Metalâ€“Oxideâ€“Semiconductor Heterostructure Field Effect Transistors. Japanese Journal of Applied Physics, 2010, 49, 046504.	0.8	5
80	Trapping effects in Al2O3/AlGaN/GaN metal-oxide-semiconductor heterostructure field-effect transistor investigated by temperature dependent conductance measurements. Applied Physics Letters, 2010, 96, .	1.5	39
81	Preparation and properties of AlGaN/GaN MOS-HFETs with atomic layer deposited Al<inf>2</inf>O<inf>3</inf> as gate oxide. , 2010, , .		0
82	Characterization of AlGaN/GaN metal-oxide-semiconductor field-effect transistors by frequency dependent conductance analysis. Applied Physics Letters, 2009, 94, 223512.	1.5	70
83	Characterization of AlGaN/GaN MISHFETs on a Si substrate by static and high-frequency measurements. Semiconductor Science and Technology, 2009, 24, 075014.	1.0	10
84	On-tip sub-micrometer Hall probes for magnetic microscopy prepared by AFM lithography. Ultramicroscopy, 2009, 109, 1080-1084.	0.8	4
85	New approach to local anodic oxidation of semiconductor heterostructures. Ultramicroscopy, 2008, 108, 1086-1089.	0.8	7
86	Enhancement of effective carrier velocity in AlGaN/GaN MOSHFETs with Al2O3 gate oxide. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1935-1937.	0.8	4
87	High-temperature performance of AlGaN/GaN HFETs and MOSHFETs. Microelectronics Reliability, 2008, 48, 1669-1672.	0.9	23
88	Transport properties of AlGaN/GaN metalâ€“oxideâ€“semiconductor heterostructure field-effect transistors with Al2O3 of different thickness. Solid-State Electronics, 2008, 52, 973-979.	0.8	52
89	Local anodic oxidation by AFM tip developed for novel semiconductor nanodevices. Ultramicroscopy, 2008, 108, 1021-1024.	0.8	7
90	Investigation of trapping effects in AlGaN/GaN/Si field-effect transistors by frequency dependent capacitance and conductance analysis. Applied Physics Letters, 2008, 93, 124103.	1.5	95

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91	InAlN/GaN MOSHEMT with Al<inf>2</inf>O<inf>3</inf> insulating film. , 2008, , .		0
92	Influence of annealing on electrical properties of AlGaN/GaN HFETs and MOSHFETs using A1<inf>2</inf>O<inf>3</inf>. , 2008, , .		0
93	Sub-micrometer Hall probes prepared by tip-inducted local anodic oxidation. , 2008, , .		0
94	Investigation of trap effects in AlGaNâˆ•GaN field-effect transistors by temperature dependent threshold voltage analysis. Applied Physics Letters, 2008, 92, .	1.5	45
95	Improved transport properties of Al2O3âˆ•AlGaNâˆ•GaN metal-oxide-semiconductor heterostructure field-effect transistor. Applied Physics Letters, 2007, 90, 123513.	1.5	75
96	Artificial magnetic granularity effects on patterned epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Y</mml:mi><mml:msub><mml:mi mathvariant="normal">Ba</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">Cu</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>7</mml:mn><mml:mo>âˆ’</mml:mo><mml:mi>x</mml:mi></mml:mrow></	1.1	8
97	AlGaN/GaN metalâ€“oxideâ€“semiconductor heterostructure field-effect transistors with 4 nm thick Al2O3 gate oxide. Semiconductor Science and Technology, 2007, 22, 947-951.	1.0	63
98	AFM nanooxidation process â€“ Technology perspective for mesoscopic structures. Surface Science, 2007, 601, 2717-2723.	0.8	14
99	Optimization and performance of Al2O3/GaN metalâ€“oxideâ€“semiconductor structures. Microelectronics Reliability, 2007, 47, 790-793.	0.9	15
100	Impact of growth conditions on the spatial non-uniformities of composition in InGaP epitaxial layers. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1419-1422.	0.8	3
101	Characterization of AlGaN/GaN MOSHFETs with Al2O3 as gate oxide. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2720-2723.	0.8	11
102	Novel Hall sensors developed for magnetic field imaging systems. Journal of Magnetism and Magnetic Materials, 2007, 316, 232-235.	1.0	3
103	2D electron transport through potential barrier prepared by LAO on shallow GaAs/AlxGa1-xAs/InGaP heterostructure. , 2006, , .		0
104	Formation of sharp-apex pyramids for active tips used in scanning probe microscopy. , 2006, , .		0
105	Rapid thermal annealing and performance of Al2O3/GaN metal-oxide-semiconductor structures. , 2006, , .		0
106	Preparation and properties of AlGaN/GaN MOSHFETs with MOCVD Al2O3 as gate oxide. , 2006, , .		0
107	Deposition of AZ5214-E Layers on Non-planar Substrates with a "Draping" Technique. , 2006, , .		1
108	Impact of surface treatment under the gate on the current collapse of unpassivated AlGaN/GaN heterostructure field-effect transistors. Semiconductor Science and Technology, 2006, 21, 67-71.	1.0	5

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109	Comparative study on unpassivated and passivated AlGaN/GaN HFETs and MOSHFETs. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1876-1881.	0.8	11
110	Technology and properties of a vector hall sensor. Microelectronics Journal, 2006, 37, 1543-1546.	1.1	6
111	The effect of passivation on the performance of AlGaN/GaN heterostructure field-effect transistors. Semiconductor Science and Technology, 2006, 21, 1592-1596.	1.0	20
112	Conformal AZ5214-E resist deposition on patterned (1â€‰0â€‰0) InP substrates. Journal of Micromechanics and Microengineering, 2006, 16, 191-197.	1.5	38
113	Switching of magnetic domains in Permalloy microstructures using two-dimensional electron gas. Applied Physics Letters, 2006, 89, 182513.	1.5	1
114	Influence of passivation induced stress on the performance of AlGaN/GaN HEMTs. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2619-2622.	0.8	24
115	SiO2âˆ•AlGaNâˆ•GaN MOSHFET with 0.7â€…[micro sign]m gate-length and fmaxâˆ•fT of 40âˆ•24â€…GHz. Electronics Letters, 2005, 41, 667.	0.5	14
116	Large-scale high-resolution scanning Hall probe microscope used for MgB2filament characterization. Superconductor Science and Technology, 2005, 18, 417-421.	1.8	16
117	Scanning vector Hall probe microscopy. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 2141-2143.	1.0	3
118	Investigation of the GaAs-pyramids overgrowth using MOCVD. Journal of Crystal Growth, 2003, 248, 417-420.	0.7	5
119	Formation of GaAs three-dimensional objects using AlAs â€œfacet-formingâ€•sacrificial layer and H3PO4, H2O2, H2O based solution. Journal of Applied Physics, 2003, 94, 4643-4648.	1.1	22
120	Fabrication of a vector Hall sensor for magnetic microscopy. Applied Physics Letters, 2003, 82, 3704-3706.	1.5	15
121	Scanning vector Hall probe microscope. Review of Scientific Instruments, 2003, 74, 5105-5110.	0.6	6
122	Fabrication of GaAs symmetric pyramidal mesas prepared by wet-chemical etching using AlAs interlayer. Journal of Applied Physics, 2002, 91, 878-880.	1.1	13
123	Characterisation of InGaAs/InP microscopic Hall probe arrays with a 2DEG active layer. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1998, 51, 188-191.	1.7	2
124	Testing Superconducting Tapes by a 2DEG Hall Probe Array. , 1998, , 277-280.		0
125	Preparation of Microscopic Hall Probes and Arrays. , 1998, , 273-276.		0
126	Wet chemical MESA etching of InGaP and GaAs with solutions based on HCl, CH3COOH, and H2O2. Physica Status Solidi A, 1995, 151, 113-118.	1.7	11

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127	Highâ€temperature stable Irâ€Al/nâ€GaAs Schottky diodes. Applied Physics Letters, 1994, 64, 1818-1820.	1.5	4
128	Electrical properties of molecular beam epitaxial GaAs layers grown at low temperature. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1994, 28, 147-150.	1.7	18
129	Characterization of WNx metallization prepared by ion implantation of nitrogen. Thin Solid Films, 1994, 249, 250-253.	0.8	1
130	The effect of oxygen in WN x films on thermal stability of WN x /GaAs interfaces. Journal of Materials Science: Materials in Electronics, 1993, 4, 197-199.	1.1	0
131	Properties of WN x /GaAs Schottky contacts prepared by ion implantation of nitrogen. Journal of Materials Science: Materials in Electronics, 1992, 3, 157-161.	1.1	3
132	Characterisation of 2DEG Hall probes in high magnetic field at 4.2 K. , 0, , .		0
133	MOVPE growth of 1220 nm (In,Ga)(As,P)/InP LED structures. , 0, , .		0
134	Smooth GaN recess wet photoelectrochemical etching. , 0, , .		0