Mark A Wistey

List of Publications by Year
in descending order

109 papers	2,739 citations	136740 32 h-index	197535 49 g-index
109 all docs	109 docs citations	109 times ranked	1813 citing authors

#	Article	IF	Citations
1	Dilute nitride GaInNAs and GaInNAsSb solar cells by molecular beam epitaxy. Journal of Applied Physics, 2007, 101, 114916.	1.1	192
2	AlGaSb/InAs Tunnel Field-Effect Transistor With On-Current of 78 $muhbox{A}/muhbox{m}$ at 0.5 V. IEEE Electron Device Letters, 2012, 33, 363-365.	2.2	129
3	MBE-Regrown Ohmics in InAlN HEMTs With a Regrowth Interface Resistance of 0.05 $Omegacdothbox{mm}$. IEEE Electron Device Letters, 2012, 33, 525-527.	2.2	118
4	Performance of AlGaSb/InAs TFETs With Gate Electric Field and Tunneling Direction Aligned. IEEE Electron Device Letters, 2012, 33, 655-657.	2.2	103
5	Low-threshold continuous-wave 1.5-/spl mu/m GaInNAsSb lasers grown on GaAs. IEEE Journal of Quantum Electronics, 2004, 40, 656-664.	1.0	83
6	Recent Progress on 1.55-$mu{hbox {m}}$ Dilute-Nitride Lasers. IEEE Journal of Quantum Electronics, 2007, 43, 773-785.	1.0	83
7	$hbox{In}_{0.53}hbox{Ga}_{0.47}hbox{As}$ Channel MOSFETs With Self-Aligned InAs Source/Drain Formed by MEE Regrowth. IEEE Electron Device Letters, 2009, 30, 1128-1130.	2.2	81
8	InGaAs/InP Tunnel FETs With a Subthreshold Swing of 93 mV/dec and $I_{m ON}/I_{m OFF}$ Ratio Near $hbox{10}^{6}$. IEEE Electron Device Letters, 2012, 33, 782-784.	2.2	81
9	Multiple-quantum-well GaInNAs-GaNAs ridge-waveguide laser diodes operating out to 1.4 /spl mu/m. IEEE Photonics Technology Letters, 2002, 14, 591-593.	1.3	71
10	GaInNAsSb for 1.3-1.6-Î¼m-long wavelength lasers grown by molecular beam epitaxy. IEEE Journal of Selected Topics in Quantum Electronics, 2002, 8, 795-800.	1.9	69
11	The role of Sb in the MBE growth of (GaIn)(NAsSb). Journal of Crystal Growth, 2003, 251, 360-366.	0.7	69
12	Long-wavelength GaInNAs(Sb) lasers on GaAs. IEEE Journal of Quantum Electronics, 2002, 38, 1260-1267.	1.0	65
13	Room-temperature continuous-wave 1.55â€…[micro sign]m GaInNAsSb laser on GaAs. Electronics Letters, 2006, 42, 156.	0.5	62
14	Development of GaInNAsSb alloys: Growth, band structure, optical properties and applications. Physica Status Solidi (B): Basic Research, 2007, 244, 2707-2729.	0.7	57
15	Vertical InGaAs/InP Tunnel FETs With Tunneling Normal to the Gate. IEEE Electron Device Letters, 2011, 32, 1516-1518.	2.2	57
16	Ultralow resistance in situ Ohmic contacts to InGaAs/InP. Applied Physics Letters, 2008, 93, 183502.	1.5	55
17	Low-threshold CW GaInNAsSbâˆ•GaAs laser at 1.49â€…[micro sign]m. Electronics Letters, 2003, 39, 1445.	0.5	54
18	Nitrogen plasma optimization for high-quality dilute nitrides. Journal of Crystal Growth, 2005, 278, 229-233.	0.7	49

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19	Ultralow resistance, nonalloyed Ohmic contacts to n-InGaAs. Journal of Vacuum Science & Technology B, 2009, 27, 2036.	1.3	47
20	Interband transitions inGaN0.02As0.98â^'xSbxâ^•GaAs(0<xâ©½0.11)single quantum wells studied by contactless electroreflectance spectroscopy. Physical Review B, 2006, 73, .	1.1	46
21	Chemical routes to Geâ^•Si(100) structures for low temperature Si-based semiconductor applications. Applied Physics Letters, 2007, 90, 082108.	1.5	45
22	On the temperature sensitivity of 1.5-/spl mu/m GaInNAsSb lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2005, 11, 1089-1098.	1.9	44
23	Ultra-low resistance ohmic contacts to GaN with high Si doping concentrations grown by molecular beam epitaxy. Applied Physics Letters, 2012, 101, .	1.5	42
24	Comparison of GaNAsSb and GaNAs as quantum-well barriers for GaInNAsSb optoelectronic devices operating at 1.3â€“1.55Î¼m. Journal of Applied Physics, 2004, 96, 6375-6381.	1.1	41
25	The role of antimony on properties of widely varying GaInNAsSb compositions. Journal of Applied Physics, 2006, 99, 093504.	1.1	41
26	InAs/AlGaSb heterojunction tunnel fieldâ€effect transistor with tunnelling inâ€line with the gate field. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 389-392.	0.8	39
27	Monolithic, GaInNAsSb VCSELs at 1.46â€…[micro sign]m on GaAs by MBE. Electronics Letters, 2003, 39, 1822.	0.5	36
28	Interference effects in electromodulation spectroscopy applied to GaAs-based structures: A comparison of photoreflectance and contactless electroreflectance. Applied Physics Letters, 2005, 86, 091115.	1.5	35
29	Recombination, gain, band structure, efficiency, and reliability of 1.5-Î¼m GaInNAsSb/GaAs lasers. Journal of Applied Physics, 2005, 97, 083101.	1.1	35
30	Improved optical quality of GaNAsSb in the dilute Sb limit. Journal of Applied Physics, 2005, 97, 113510.	1.1	33
31	Nearest-neighbor distributions inGa1â^'xInxNyAs1â^'yandGa1â^'xInxNyAs1â^'yâ^'zSbzthin films upon annealing. Physical Review B, 2005, 71, .	1.1	33
32	InGaAs channel MOSFET with self-aligned source/drain MBE regrowth technology. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1394-1398.	0.8	33
33	Long wavelength GaInNAsSbâ^•GaNAsSb multiple quantum well lasers. Electronics Letters, 2002, 38, 277.	0.5	32
34	GaInNAsSbâ^•GaAs vertical cavity surface emitting lasers at 1534â€…nm. Electronics Letters, 2006, 42, 282.	0.5	31
35	Metalâ€face InAlN/AlN/GaN high electron mobility transistors with regrown ohmic contacts by molecular beam epitaxy. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1617-1619.	0.8	25
36	Band structure of germanium carbides for direct bandgap silicon photonics. Journal of Applied Physics, 2016, 120, .	1.1	25

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37	Ex situ Ohmic contacts to n-InGaAs. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C5I7-C5I9.	0.6	23
38	Band gap discontinuity in Ga0.9In0.1N0.027As0.973â^'xSbxâ^•GaAs single quantum wells with 0â©½x<0.06 studied by contactless electroreflectance spectroscopy. Applied Physics Letters, 2006, 88, 221113.	1.5	22
39	1.5Î¼m GaInNAs(Sb) lasers grown on GaAs by MBE. Journal of Crystal Growth, 2003, 251, 367-371.	0.7	21
40	Effects of growth temperature on the structural and optical properties of 1.55Î¼m GaInNAsSb quantum wells grown on GaAs. Applied Physics Letters, 2005, 87, 021908.	1.5	21
41	Band-gap discontinuity in GaN0.02As0.87Sb0.11â^•GaAs single-quantum wells investigated by photoreflectance spectroscopy. Applied Physics Letters, 2005, 86, 141908.	1.5	21
42	High-performance 1.5â€…[micro sign]m GaInNAsSb lasers grown on GaAs. Electronics Letters, 2004, 40, 1186.	0.5	20
43	Contactless electroreflectance approach to study the Fermi level position in GaInNAs/GaAs quantum wells. Journal of Applied Physics, 2007, 102, 113501.	1.1	19
44	Atomic arrangement and emission properties of GaAs(In, Sb)N quantum wells. Semiconductor Science and Technology, 2009, 24, 075013.	1.0	18
45	Overannealing effects in GaInNAs(Sb) alloys and their importance to laser applications. Applied Physics Letters, 2006, 88, 221115.	1.5	17
46	Molecular-beam epitaxy growth of device-compatible GaAs on silicon substrates with thin (â^¼80â€‚nm) Si[sub 1â^'x]Ge[sub x] step-graded buffer layers for high-Î² III-V metal-oxide-semiconductor field effect transistor applications. Journal of Vacuum Science & Technology B, 2007, 25, 1098.	1.3	17
47	Structural changes on annealing of MBE grown (Ga, In)(N, As) as measured by X-ray absorption fine structure. Journal of Crystal Growth, 2003, 251, 408-411.	0.7	15
48	Investigation of nitrogen flow variation into a radio frequency plasma cell on plasma properties and GaInNAs grown by molecular beam epitaxy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1328.	1.6	15
49	Effects of different plasma species (atomic N, metastable N2*, and ions) on the optical properties of dilute nitride materials grown by plasma-assisted molecular-beam epitaxy. Applied Physics Letters, 2007, 91, .	1.5	14
50	Frequency Limits of InP-based Integrated Circuits. , 2007, , .		14
51	High doping effects on in-situ Ohmic contacts to n-InAs. , 2010, , .		14
52	Molecular-beam epitaxy growth of low-threshold cw GaInNAsSb lasers at 1.5â€‚Î¼m. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1337.	1.6	13
53	Effects of strain on the optimal annealing temperature of GaInNAsSb quantum wells. Applied Physics Letters, 2006, 88, 221913.	1.5	13
54	Enhanced luminescence in GaInNAsSb quantum wells through variation of the arsenic and antimony fluxes. Applied Physics Letters, 2006, 88, 241923.	1.5	13

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55	Height-selective etching for regrowth of self-aligned contacts using MBE. Journal of Crystal Growth, 2009, 311, 1984-1987.	0.7	12
56	<title>Integrated semiconductor fluorescent detection system for biochip and biomedical applications</title>. , 2002, 4626, 289.		11
57	Thick lattice-matched GaInNAs films in photodetector applications. , 2005, 5726, 27.		11
58	Contactless electroreflectance of GaInNAsSbâˆ•GaAs single quantum wells with indium content of 8%â€“32%. Journal of Applied Physics, 2007, 101, 013504.	1.1	11
59	Fermi level shift in GaInNAsSbâˆ•GaAs quantum wells upon annealing studied by contactless electroreflectance. Applied Physics Letters, 2007, 90, 061902.	1.5	11
60	Effects of antimony and ion damage on carrier localization in molecular-beam-epitaxy-grown GaInNAs. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1320.	1.6	10
61	On the Feasibility of few-THz Bipolar Transistors. Bipolar/BiCMOS Circuits and Technology Meeting, IEEE Proceedings of the, 2007, , .	0.0	10
62	Temperature dependencies of annealing behaviors of GaInNAsSbâˆ•GaNAs quantum wells for long wavelength dilute-nitride lasers. Applied Physics Letters, 2007, 90, 231119.	1.5	10
63	ErAs epitaxial Ohmic contacts to InGaAs/InP. Applied Physics Letters, 2009, 94, .	1.5	10
64	Electronic structure of BxGa1âˆ’xAs alloys using hybrid functionals. Journal of Applied Physics, 2019, 126, .	1.1	10
65	Ion damage effects from negative deflector plate voltages during the plasma-assisted molecular-beam epitaxy growth of dilute nitrides. Applied Physics Letters, 2005, 86, 221902.	1.5	9
66	THz Bipolar Transistor Circuits: Technical Feasibility, Technology Development, Integrated Circuit Results. Compound Semiconductor Integrated Circuit Symposium (CSICS), IEEE, 2008, , .	0.0	9
67	On the Fermi level pinning in as-grown GaInNAs(Sb)/GaAs quantum wells with indium content of 8%â€“32%. Journal of Applied Physics, 2008, 104, 033526.	1.1	9
68	Metal-oxide-semiconductor capacitors with erbium oxide dielectrics on In0.53Ga0.47As channels. Applied Physics Letters, 2009, 94, 122907.	1.5	9
69	Band Anticrossing in Dilute Germanium Carbides Using Hybrid Density Functionals. Journal of Electronic Materials, 2016, 45, 2121-2126.	1.0	9
70	Calcium impurities in enhanced-depletion-width GaInNAs grown by molecular-beam epitaxy. Journal of Vacuum Science & Technology B, 2006, 24, 1540.	1.3	8
71	Photoreflectance spectroscopy of a Ga0.62In0.38N0.026As0.954Sb0.02/GaAs single quantum well tailored at 1.5Î¼m. Solid State Communications, 2006, 137, 138-141.	0.9	8
72	Technology development & design for 22 nm InGaAs/InP-channel MOSFETs. , 2008, , .		8

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73	Contactless electroreflectance of GaInNAsSb/GaNAs/GaAs quantum wells emitting at 1.5â€“1.65â€‚¼m: Broadening of the fundamental transition. Applied Physics Letters, 2009, 94, .	1.5	7
74	III-V/Ge Channel Engineering for Future CMOS. ECS Transactions, 2009, 19, 361-372.	0.3	7
75	Continuous-wave operation of GaInNAsSb distributed feedback lasers at 1.5â€…[micro sign]m. Electronics Letters, 2004, 40, 1487.	0.5	6
76	High-performance GaInNAsSb/GaAs lasers at 1.5 um. , 2005, , .		6
77	III-V MOSFETs: Scaling laws, scaling limits, fabrication processes. , 2010, , .		6
78	Gas Source Techniques for Molecular Beam Epitaxy of Highly Mismatched Ge Alloys. Crystals, 2016, 6, 159.	1.0	6
79	The carbon state in dilute germanium carbides. Journal of Applied Physics, 2021, 129, 055701.	1.1	6
80	Contactless electroreflectance spectroscopy of Ga(In)NAs/GaAs quantum well structures containing Sb atoms. Applied Surface Science, 2006, 253, 152-157.	3.1	5
81	Conduction band offset for Ga0.62In0.38NxAs0.991âˆ’xSb0.009âˆ•GaNyAs1âˆ’yâˆ•GaAs systems with the ground state transition at 1.5â€“1.65Î¼m. Applied Physics Letters, 2007, 90, 131905.	1.5	5
82	Electromodulation spectroscopy of interband transitions in GaInNAsSb/GaAs quantum wells with high indium content. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 364-372.	0.8	5
83	Effect of surface preparations on contact resistivity of TiW to highly doped n-InGaAs. , 2009, , .		5
84	Ge quantum dots encapsulated by AlAs grown by molecular beam epitaxy on GaAs without extended defects. Applied Physics Letters, 2014, 104, .	1.5	5
85	Extended Defect Propagation in Highly Tensile-Strained Ge Waveguides. Crystals, 2017, 7, 157.	1.0	5
86	Use of transmission electron microscopy in the characterization of GaInNAs(Sb) quantum well structures grown by molecular beam epitaxy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 1588.	1.6	4
87	Solid-source molecular-beam epitaxy growth of GaInNAsSb/InGaAs single quantum well on InP with photoluminescence peak wavelength at 2.04â€‚¼m. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 1463.	1.6	4
88	The Fermi level position in asâ€grown GaInNAs(Sb) quantum wells and layers studied by contactless electroreflectance. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 473-477.	0.8	4
89	Monolithic 1.55â€…[micro sign]m GaInNAsSb quantum well passively modelocked lasers. Electronics Letters, 2008, 44, 581.	0.5	4
90	Enhancement mode In0.53Ga0.47As MOSFET with self-aligned epitaxial source/drain regrowth. , 2009, , .		4

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91	Control of InGaAs and InAs facets using metal modulation epitaxy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, 011208.	0.6	4
92	(Invited) III-V Tunnel Field-Effect Transistors. ECS Transactions, 2011, 41, 227-229.	0.3	3
93	High-efficiency multiple-quantum-well GaInNAs/GaNAs ridge-waveguide diode lasers. , 2002, , .		2
94	Stability of Tensile-Strained Ge Studied by Transmission Electron Microscopy. , 2012, , .		2
95	Self-assembled Ge QDs Formed by High-Temperature Annealing on Al(Ga)As (001). Journal of Electronic Materials, 2015, 44, 1338-1343.	1.0	2
96	GaInNAs Material Properties for Long Wavelength Opto-Electronic Devices. Materials Research Society Symposia Proceedings, 2001, 692, 1.	0.1	1
97	1.3-Î¼m optoelectronic devices on GaAs using group III-nitride-arsenides. , 2001, , .		1
98	GaInNAsSb Solar Cells Grown by Molecular Beam Epitaxy. , 2006, , .		1
99	The influence of antimony on the optical quality of highly strained GaInNAs/GaAs QWs investigated by contactless electroreflectance. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 543-546.	0.8	1
100	Tunnel FETs with tunneling normal to the gate. , 2013, , .		1
101	Analysis and design of core-shell upconverting nanostructures. , 2014, , .		1
102	Structural Characterization of Molecular Beam Epitaxy Grown GaInNAs and GaInNAsSb Quantum Wells by Transmission Electron Microscopy. Materials Research Society Symposia Proceedings, 2004, 817, 189.	0.1	0
103	Side-coupled in-line fiber-semiconductor laser. , 2004, , .		0
104	Monolithic GaInNAsSb vertical cavity surface emitting lasers at 1534nm. , 2006, , .		0
105	Evanescent-coupled GaInNAsSb in-line fibre photodetectors. IET Optoelectronics, 2007, 1, 175-177.	1.8	0
106	0.37 mS/Î¼m In_{0.53}Ga_{0.47}As MOSFET with 5 nm channel and self-aligned epitaxial raised source/drain. , 2009, , .		0
107	Optimal Oxide Passivation of Ge for Optoelectronics. ECS Journal of Solid State Science and Technology, 2014, 3, P273-P276.	0.9	0
108	Band structure and characterization of dilute Ge:C alloys. , 2015, , .		0

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109	Band structure of germanium carbides for direct bandgap photonics. , 2016, , .		0