J-B Rodriguez

List of Publications by Year
in descending order

148 papers	2,950 citations	117453 34 h-index	197535 49 g-index
150 all docs	150 docs citations	150 times ranked	2008 citing authors

#	Article	IF	Citations
1	n B n structure based on InAsâˆ•GaSb type-II strained layer superlattices. Applied Physics Letters, 2007, 91, .	1.5	217
2	Silicon-Based Photonic Integration Beyond the Telecommunication Wavelength Range. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 394-404.	1.9	106
3	MBE growth and characterization of type-II InAs/GaSb superlattices for mid-infrared detection. Journal of Crystal Growth, 2005, 274, 6-13.	0.7	91
4	Silicon-on-insulator spectrometers with integrated GaInAsSb photodiodes for wide-band spectroscopy from 1510 to 2300 nm. Optics Express, 2013, 21, 6101.	1.7	82
5	Mid-IR focal plane array based on type-II InAsâˆ•GaSb strain layer superlattice detector with nBn design. Applied Physics Letters, 2008, 92, .	1.5	78
6	Continuous-wave operation above room temperature of GaSb-based laser diodes grown on Si. Applied Physics Letters, 2011, 99, .	1.5	78
7	Bias dependent dual band response from InAsâˆ•Ga(In)Sb type II strain layer superlattice detectors. Applied Physics Letters, 2007, 91, .	1.5	72
8	GaSb-Based Laser, Monolithically Grown on Silicon Substrate, Emitting at 1.55 mum at Room Temperature. IEEE Photonics Technology Letters, 2010, 22, 553-555.	1.3	67
9	Silicon-based heterogeneous photonic integrated circuits for the mid-infrared. Optical Materials Express, 2013, 3, 1523.	1.6	65
10	Wet etching and chemical polishing of InAs/GaSb superlattice photodiodes. Semiconductor Science and Technology, 2009, 24, 065010.	1.0	61
11	Modeling of electrical characteristics of midwave type II InAsâˆ•GaSb strain layer superlattice diodes. Journal of Applied Physics, 2008, 104, .	1.1	60
12	Localized surface plasmon resonances in highly doped semiconductors nanostructures. Applied Physics Letters, 2012, 101, .	1.5	58
13	Mid-infrared InAs/GaSb strained layer superlattice detectors with nBn design grown on a GaAs substrate. Semiconductor Science and Technology, 2010, 25, 085010.	1.0	56
14	Quantum cascade lasers grown on silicon. Scientific Reports, 2018, 8, 7206.	1.6	56
15	Study of evanescently-coupled and grating-assisted GaInAsSb photodiodes integrated on a silicon photonic chip. Optics Express, 2012, 20, 11665.	1.7	51
16	Unambiguous determination of carrier concentration and mobility for InAs/GaSb superlattice photodiode optimization. Journal of Applied Physics, 2009, 106, 033709.	1.1	50
17	Interface analysis of InAs/GaSb superlattice grown by MBE. Journal of Crystal Growth, 2007, 301-302, 889-892.	0.7	47
18	Metamorphic IIIâ€“V semiconductor lasers grown on silicon. MRS Bulletin, 2016, 41, 218-223.	1.7	47

#	Article	IF	Citations
19	Type II InAsâˆ•GaSb strain layer superlattice detectors with p-on-n polarity. Applied Physics Letters, 2007, 91, 133512.	1.5	46
20	GaSbBi/GaSb quantum well laser diodes. Applied Physics Letters, 2017, 110, .	1.5	45
21	Interfacial intermixing in InAs/GaSb short-period-superlattices grown by molecular beam epitaxy. Applied Physics Letters, 2010, 96, .	1.5	44
22	Universal description of III-V/Si epitaxial growth processes. Physical Review Materials, 2018, 2, .	0.9	43
23	Mid-infrared laser diodes epitaxially grown on on-axis (001) silicon. Optica, 2020, 7, 263.	4.8	42
24	GaSb-based, 2.2â€‚Î¼m type-I laser fabricated on GaAs substrate operating continuous wave at room temperature. Applied Physics Letters, 2009, 94, 023506.	1.5	40
25	Electrochemical sulphur passivation of InAs/GaSb strain layer superlattice detectors. Electronics Letters, 2006, 42, 1248.	0.5	39
26	Influence of the period thickness and composition on the electro-optical properties of type-II InAs/GaSb midwave infrared superlattice photodetectors. Journal Physics D: Applied Physics, 2014, 47, 015101.	1.3	39
27	Molecular beam epitaxy and characterization of high Bi content GaSbBi alloys. Journal of Crystal Growth, 2017, 477, 144-148.	0.7	39
28	Ultralow noise midwave infrared InAsâ€“GaSb strain layer superlattice avalanche photodiode. Applied Physics Letters, 2007, 91, 241111.	1.5	37
29	Room-temperature operation of a 2.25â€‚Î¼m electrically pumped laser fabricated on a silicon substrate. Applied Physics Letters, 2009, 94, .	1.5	37
30	Characterization of midwave infrared InAs/GaSb superlattice photodiode. Journal of Applied Physics, 2009, 106, .	1.1	37
31	Dark Current and Noise Measurements of an InAs/GaSb Superlattice Photodiode Operating in the Midwave Infrared Domain. Journal of Electronic Materials, 2012, 41, 2714-2718.	1.0	36
32	III-V-on-silicon integrated micro - spectrometer for the 3 Î¼m wavelength range. Optics Express, 2016, 24, 9465.	1.7	36
33	Room-temperature continuous-wave operation in the telecom wavelength range of GaSb-based lasers monolithically grown on Si. APL Photonics, 2017, 2, .	3.0	36
34	Optical characterization of symmetric InAs/GaSb superlattices for detection in the 3â€“5Î¼m spectral region. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 28, 128-133.	1.3	35
35	nBn detectors based on InAsâˆ•GaSb type-II strain layer superlattice. Journal of Vacuum Science & Technology B, 2008, 26, 1145-1148.	1.3	34
36	Heterogeneous Integration of GaInAsSb p-i-n Photodiodes on a Silicon-on-Insulator Waveguide Circuit. IEEE Photonics Technology Letters, 2011, 23, 1760-1762.	1.3	34

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37	A type-II superlattice period with a modified InAs to GaSb thickness ratio for midwavelength infrared photodiode performance improvement. Applied Physics Letters, 2010, 97, 251113.	1.5	33
38	X-ray diffraction study of GaSb grown by molecular beam epitaxy on silicon substrates. Journal of Crystal Growth, 2016, 439, 33-39.	0.7	32
39	Midwave infrared barrier detector based on Ga-free InAs/InAsSb type-II superlattice grown by molecular beam epitaxy on Si substrate. Infrared Physics and Technology, 2019, 96, 39-43.	1.3	29
40	Quantum efficiency investigations of type-II InAs/GaSb midwave infrared superlattice photodetectors. Journal of Applied Physics, 2014, 116, .	1.1	28
41	Electrical modeling of InAs/GaSb superlattice mid-wavelength infrared pin photodiode to analyze experimental dark current characteristics. Journal of Applied Physics, 2014, 116, 113101.	1.1	27
42	Silicon surface preparation for III-V molecular beam epitaxy. Journal of Crystal Growth, 2015, 413, 17-24.	0.7	27
43	Silicon-on-insulator shortwave infrared wavelength meter with integrated photodiodes for on-chip laser monitoring. Optics Express, 2014, 22, 27300.	1.7	26
44	Interface properties of (Ga,In)(N,As) and (Ga,In)(As,Sb) materials systems grown by molecular beam epitaxy. Journal of Crystal Growth, 2009, 311, 1739-1744.	0.7	23
45	Localized surface plasmon resonance frequency tuning in highly doped InAsSb/GaSb one-dimensional nanostructures. Nanotechnology, 2016, 27, 425201.	1.3	23
46	Design of InAs/GaSb superlattice infrared barrier detectors. Superlattices and Microstructures, 2017, 104, 402-414.	1.4	23
47	Zinc-blende group III-V/group IV epitaxy: Importance of the miscut. Physical Review Materials, 2020, 4, .	0.9	23
48	A Stressâ€Free and Textured GaP Template on Silicon for Solar Water Splitting. Advanced Functional Materials, 2018, 28, 1801585.	7.8	22
49	InAs-based quantum cascade lasers grown on on-axis (001) silicon substrate. APL Photonics, 2020, 5, .	3.0	22
50	Background carrier concentration in midwave and longwave InAs/GaSb type II superlattices on GaAs substrate. Applied Physics Letters, 2010, 97, 051109.	1.5	21
51	Midwavelength Infrared Avalanche Photodiode Using InAsâ€“GaSb Strain Layer Superlattice. IEEE Photonics Technology Letters, 2007, 19, 1843-1845.	1.3	20
52	Mid-infrared IIIâ€“V semiconductor lasers epitaxially grown on Si substrates. Light: Science and Applications, 2022, 11, .	7.7	20
53	Temperature dependence performances of InAs/GaSb superlattice photodiode. Infrared Physics and Technology, 2011, 54, 258-262.	1.3	18
54	Anti phase boundary free GaSb layer grown on 300 mm (001)-Si substrate by metal organic chemical vapor deposition. Thin Solid Films, 2018, 645, 5-9.	0.8	18

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55	Characterization of an InAs/GaSb type-II superlattice barrier photodetector operating in the LWIR domain. AIP Advances, 2019, 9, .	0.6	18
56	Crystal Phase Control during Epitaxial Hybridization of IIIâ€V Semiconductors with Silicon. Advanced Electronic Materials, 2022, 8, 2100777.	2.6	18
57	Uncooled InAsâ•GaSb superlattice photovoltaic detector operating in the mid-wavelength infrared range. Electronics Letters, 2005, 41, 362.	0.5	17
58	Characterization of carriers in GaSbâ•InAs superlattice grown on conductive GaSb substrate. Applied Physics Letters, 2008, 92, 012121.	1.5	16
59	Type I GaSb1-xBix/GaSb quantum wells dedicated for mid infrared laser applications: Photoreflectance studies of bandgap alignment. Journal of Applied Physics, 2019, 125, .	1.1	16
60	Optimization of InAsSb photodetector for non-cryogenic operation in the mid-infrared range. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 647-651.	0.8	15
61	Optical index measurement of InAs/GaSb type-II superlattice for mid-infrared photodetection at cryogenic temperatures. Applied Physics Letters, 2014, 105, 141103.	1.5	15
62	Characterization of antimonide based material grown by molecular epitaxy on vicinal silicon substrates via a low temperature AlSb nucleation layer. Journal of Crystal Growth, 2017, 477, 65-71.	0.7	15
63	Electrical properties of short period InAs/GaSb superlattice. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1494-1498.	0.8	14
64	Microstructure and interface analysis of emerging Ga(Sb,Bi) epilayers and Ga(Sb,Bi)/GaSb quantum wells for optoelectronic applications. Applied Physics Letters, 2018, 112, .	1.5	14
65	Interface energy analysis of IIIâ€“V islands on Si (001) in the Volmer-Weber growth mode. Applied Physics Letters, 2018, 113, .	1.5	14
66	Quantum well interband semiconductor lasers highly tolerant to dislocations. Optica, 2021, 8, 1397.	4.8	14
67	Noise Characterization of Midwave Infrared InAs/GaSb Superlattice pin Photodiode. IEEE Photonics Technology Letters, 2011, 23, 242-244.	1.3	13
68	Low-Noise Mid-Wavelength Infrared Avalanche Photodiodes. Journal of Electronic Materials, 2008, 37, 1764-1769.	1.0	12
69	GaSb-based composite quantum wells for laser diodes operating in the telecom wavelength range near 1.55-Î¼m. Applied Physics Letters, 2015, 106, .	1.5	12
70	On the origin of threading dislocations during epitaxial growth of III-Sb on Si(001): A comprehensive transmission electron tomography and microscopy study. Acta Materialia, 2018, 143, 121-129.	3.8	12
71	Design of mid-infrared InAs/GaSb superlattice detectors for room temperature operation. Finite Elements in Analysis and Design, 2008, 44, 611-616.	1.7	11
72	Electronic properties of InAs/GaSb superlattice detectors to evaluate high-temperature operation. Proceedings of SPIE, 2010, , .	0.8	10

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73	Fano-like resonances sustained by Si doped InAsSb plasmonic resonators integrated in GaSb matrix. Optics Express, 2015, 23, 29423.	1.7	10
74	Electronic structure of InAs/GaSb superlattice for the modelling of MWIR pin photodiode. Infrared Physics and Technology, 2015, 70, 81-86.	1.3	9
75	Electron tomography on III-Sb heterostructures on vicinal Si(001) substrates: Anti-phase boundaries as a sink for threading dislocations. Scripta Materialia, 2017, 132, 5-8.	2.6	9
76	GaSb-based laser diodes grown on MOCVD GaAs-on-Si templates. Optics Express, 2021, 29, 11268.	1.7	9
77	Etched-cavity GaSb laser diodes on a MOVPE GaSb-on-Si template. Optics Express, 2020, 28, 20785.	1.7	9
78	Quantitative mobility spectrum analysis of carriers in GaSb/InAs/GaSb superlattice. Journal of Vacuum Science & Technology B, 2008, 26, 1081.	1.3	8
79	IIIâ€“V/Silicon Photonics for Short-Wave Infrared Spectroscopy. IEEE Journal of Quantum Electronics, 2012, 48, 292-298.	1.0	8
80	InAs/InAsSb superlattice structure tailored for detection of the full midwave infrared spectral domain. Proceedings of SPIE, 2017, , .	0.8	8
81	Temporal stability and correctability of a MWIR T2SL focal plane array. Infrared Physics and Technology, 2019, 96, 145-150.	1.3	8
82	nBn based infrared detectors using type-II InAs/(In,Ga)Sb superlattices. Proceedings of SPIE, 2008, , .	0.8	7
83	In situ determination of the growth conditions of GaSbBi alloys. Journal of Crystal Growth, 2018, 495, 9-13.	0.7	7
84	Effect of pressure on electrical properties of short period InAs/GaSb superlattice. Physica Status Solidi (B): Basic Research, 2009, 246, 643-647.	0.7	6
85	GaSb-based integrated lasers and photodetectors on a Silicon-On-Insulator waveguide circuit for sensing applications in the shortwave infrared. , 2012, , .		6
86	Radiometric and noise characteristics of InAs-rich T2SL MWIR pin photodiodes. Journal of the European Optical Society-Rapid Publications, 0, 9, .	0.9	6
87	Influence of shallow versus deep etching on dark current and quantum efficiency in InAs/GaSb superlattice photodetectors and focal plane arrays for long wavelength infrared detection. Infrared Physics and Technology, 2018, 95, 158-163.	1.3	6
88	Molecular-beam epitaxy of GaInSbBi alloys. Journal of Applied Physics, 2019, 126, .	1.1	6
89	Molecular-beam epitaxy of GaSb on 6Â°-offcut (0â€¯0â€¯1) Si using a GaAs nucleation layer. Journal of Crystal Growth, 2020, 529, 125299.	0.7	6
90	Integrated thin-film GaSb-based Fabry-Perot lasers: towards a fully integrated spectrometer on a SOI waveguide circuit. , 2013, , .		5

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91	Influence of the p-type doping on the radiometric performances of MWIR InAs/GaSb superlattice photodiodes. Infrared Physics and Technology, 2015, 70, 103-106.	1.3	5
92	Identification of a limiting mechanism in GaSb-rich superlattice midwave infrared detector. Journal of Applied Physics, 2016, 119, 174503.	1.1	5
93	Electrical transport in InAs/GaSb superlattice: role of surface states and interface roughness. Semiconductor Science and Technology, 2012, 27, 105025.	1.0	4
94	Transmission electron microscopy of Ga(Sb, Bi)/GaSb quantum wells with varying Bi content and quantum well thickness. Semiconductor Science and Technology, 2018, 33, 094006.	1.0	4
95	Thermal performance of GaInSb quantum well lasers for silicon photonics applications. Applied Physics Letters, 2021, 118, .	1.5	4
96	Type-II InAs/GaSb strain layer superlattice detectors for higher operating temperatures. , 2007, , .		3
97	Single Carrier Initiated Low Excess Noise Mid-Wavelength Infrared Avalanche Photodiode using InAs-GaSb Strained Layer Superlattice. Materials Research Society Symposia Proceedings, 2008, 1076, 1.	0.1	3
98	Transport measurements on InAs/GaSb superlattice structures for mid-infrared photodiode. Journal of Physics: Conference Series, 2009, 193, 012030.	0.3	3
99	Heterogeneous GaSb/SOI mid-infrared photonic integrated circuits for spectroscopic applications. , 2011, , .		3
100	Noise measurements for the performance analysis of infrared photodetectors. , 2013, , .		3
101	Electrical characterizations of asymmetric InAs/GaSb superlattice MWIR photodiodes. Infrared Physics and Technology, 2013, 59, 32-35.	1.3	3
102	All-semiconductor plasmonics for mid-IR applications. , 2013, , .		3
103	GaSb-based all-semiconductor mid-IR plasmonics. , 2013, , .		3
104	Midwave infrared InAs/GaSb superlattice photodiode with a dopant-free pâ€“n junction. Infrared Physics and Technology, 2015, 70, 76-80.	1.3	3
105	Development of Electron Beam Induced Current for diffusion length determination of VLWIR HgCdTe and MWIR T2SL based photodetectors. Infrared Physics and Technology, 2018, 95, 170-176.	1.3	3
106	The Interaction of Extended Defects as the Origin of Step Bunching in Epitaxial IIIâ€“V Layers on Vicinal Si(001) Substrates. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900290.	1.2	3
107	Optical properties and dynamics of excitons in Ga(Sb, Bi)/GaSb quantum wells: evidence for a regular alloy behavior. Semiconductor Science and Technology, 2020, 35, 025024.	1.0	3
108	Magneto-spectroscopy investigation of InAs/InAsSb superlattices for midwave infrared detection. Journal of Applied Physics, 2021, 130, .	1.1	3

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109	<title>A survey of new laser and detector structures for 3-5 Î¼m midinfrared spectral range</title>. , 2004, , .		2
110	N-type ohmic contact on type-II InAs/GaSb strained layer superlattices. Electronics Letters, 2008, 44, 881.	0.5	2
111	Comparison of the electro-optical performances of symmetrical and asymmetrical MWIR InAs/GaSb superlattice pin photodiodes. Proceedings of SPIE, 2012, , .	0.8	2
112	Analysis of electrical and electro-optical characteristics of midwave infrared InAs/GaSb SL pin photodiodes. Proceedings of SPIE, 2013, , .	0.8	2
113	Mid-IR heterogeneous silicon photonics. Proceedings of SPIE, 2013, , .	0.8	2
114	MTF and FPN measurements to evaluate midwave infrared T2SL focal plane arrays. , 2017, , .		2
115	Epitaxial Integration of Antimonide-Based Semiconductor Lasers on Si. Semiconductors and Semimetals, 2018, , 1-25.	0.4	2
116	GaSb Lasers Grown on Silicon Substrate for Telecom Applications. , 2018, , 625-635.		2
117	Dark current and noise measurements in InAs/GaSb superlattice detectors. Proceedings of SPIE, 2010, , .	0.8	1
118	Asymmetric InAs/GaSb superlattice pin photodiode to improve temperature operation. Proceedings of SPIE, 2011, , .	0.8	1
119	Decreasing dark current in long wavelength InAs/GaSb thermophotovoltaics via bandgap engineering. , 2014, , .		1
120	Capacitance voltage profiling to determine doping in InAs/GaSb LWIR SL photodetector structures. , 2017, , .		1
121	GaSbBi Alloys and Heterostructures: Fabrication and Properties. Springer Series in Materials Science, 2019, , 125-161.	0.4	1
122	Study of the MTF of a MWIR T2SL focal plane array in IDDCA configuration. Infrared Physics and Technology, 2019, 96, 192-198.	1.3	1
123	Radiometric characterization of type-II InAs/GaSb superlattice (t2sl) midwave infrared photodetectors and focal plane arrays. , 2017, , .		1
124	New laser and detector structures for mid-infrared. , 0, , .		0
125	Suppressed Surface Leakage Current Using nBn Infrared Detector Based on Type II InAs/GaSb Strain Layer Superlattices. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
126	Type II Strain Layer Superlattices (SLS's) grown on GaAs Substrates. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0

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127	Infrared photodiodes based on Type-II strained layer superlattices. , 2008, , .		0
128	Sb-based laser sources grown by molecular beam epitaxy on silicon substrates. Proceedings of SPIE, 2010, , .	0.8	0
129	High detectivity MWIR Type-II superlattice grown on a GaAs substrate. , 2011, , .		0
130	Noise performance analysis of MWIR InAs/GaSb superlattice pin photodiodes. Proceedings of SPIE, 2011, , .	0.8	0
131	Performances analysis of symmetrical and asymmetrical InAs/GaSb superlattice pin photodiode. Proceedings of SPIE, 2011, , .	0.8	0
132	GaSb-based laser monolithically grown on Si substrate by molecular beam epitaxy. , 2012, , .		0
133	Optimization of InAs/GaSb superlattice pin photodiode design for the high temperature operation in the midwave infrared range. , 2012, , .		0
134	InAs/GaSb superlattice pin photodiode: choice of the SL period to enhance the temperature operation in the MWIR domain. , 2013, , .		0
135	Extending the operational wavelength of thermophotovoltaic devices via superlattice and barrier engineering. , 2014, , .		0
136	Comparison of the electro-optical performances of MWIR InAs/GaSb superlattice pin photodiode and FPA with asymmetrical designs. Proceedings of SPIE, 2014, , .	0.8	0
137	Long-wavelength silicon photonic integrated circuits. , 2014, , .		0
138	Terahertz studies of 2D and 3D topological transitions. Journal of Physics: Conference Series, 2015, 647, 012037.	0.3	0
139	Observation of Fano resonances in highly doped semiconductors plasmonic resonators (Presentation) Tj ETQq1 1 0.784314 rgBT /Ov	0.8	0
140	Flexibility properties of type-II InAs/GaSb SL to design MWIR pin photodiodes. Proceedings of SPIE, 2015, , .	0.8	0
141	GaSb lasers grown on Silicon substrate emitting in the telecom wavelength range. , 2016, , .		0
142	Carrier recombination and temperature-dependence of GaInSb quantum well lasers for silicon photonics applications. , 2021, , .		0
143	Room temperature, continuous wave operation of an Sb-based laser grown on GaAs substrate. , 2009, , .		0
144	Demonstration of laser operation at room-temperature of an Sb-based mid-infrared multi-quantum-well structure monolithically grown on a Silicon substrate. , 2009, , .		0

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145	Progress on type-II InAs/GaSb superlattice (T2SL) infrared photodetector : from MWIR to VLWIR spectral domains. , 2017, , .		0
146	Very long wavelength type-II InAs/GaSb superlattice infrared detectors. , 2018, , .		0
147	InAs/GaSb Type-II superlattice (T2SL) photodetector operating in the very-long wavelength infrared (VLWIR) spectral domain. , 2019, , .		0
148	Carrier Recombination Processes in 2.3-Âµm Epitaxially Grown Mid-Infrared Laser Diodes on Si(001). , 2021, , .		0