Zoran Ikonic

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Enhanced GeSn Microdisk Lasers Directly Released on Si. Advanced Optical Materials, 2022, 10, 2101213.	7.3	22
2	Prospects of temperature performance enhancement through higher resonant phonon transition designs in GaAs-based terahertz quantum-cascade lasers. New Journal of Physics, 2022, 24, 033047.	2.9	7
3	The effect of interface roughness on spectral efficiency of thermophotovoltaics with multi-layer filters. Optik, 2022, 257, 168663.	2.9	0
4	Design optimization of tensile-strained SiGeSn/GeSn quantum wells at room temperature. Journal of Applied Physics, 2021, 129, 123102.	2.5	5
5	Thermoelectric Efficiency of Epitaxial GeSn Alloys for Integrated Si-Based Applications: Assessing the Lattice Thermal Conductivity by Raman Thermometry. ACS Applied Energy Materials, 2021, 4, 7385-7392.	5.1	13
6	Design considerations of intra-step SiGeSn/GeSn quantum well electroabsorption modulators. Journal of Applied Physics, 2021, 130, 153103.	2.5	2
7	Ultra-low-threshold continuous-wave and pulsed lasing in tensile-strained GeSn alloys. Nature Photonics, 2020, 14, 375-382.	31.4	145
8	Dual resonance phonon–photon–phonon terahertz quantum-cascade laser: physics of the electron transport and temperature performance optimization. Optics Express, 2020, 28, 38788.	3.4	13
9	Femtosecond pulsed laser deposited Er3+-doped zinc-sodium tellurite glass on Si: Thin-film structural and photoluminescence properties. AIP Advances, 2019, 9, .	1.3	2
10	Impact of tensile strain on low Sn content GeSn lasing. Scientific Reports, 2019, 9, 259.	3.3	49
11	Density matrix superoperator for periodic quantum systems and its application to quantum cascade laser structures. AIP Advances, 2019, 9, .	1.3	9
12	Ultra-Low Threshold cw Lasing in Tensile Strained GeSn Microdisk Cavities. , 2019, , .		0
13	Frequency Tuning Range Control in Pulsed Terahertz Quantum-Cascade Lasers: Applications in Interferometry. IEEE Journal of Quantum Electronics, 2018, 54, 1-8.	1.9	9
14	Investigation of carrier confinement in direct bandgap GeSn/SiGeSn 2D and 0D heterostructures. Scientific Reports, 2018, 8, 15557.	3.3	36
15	GeSn/SiGeSn Heterostructure and Multi Quantum Well Lasers. ACS Photonics, 2018, 5, 4628-4636.	6.6	84
16	Correlation of Bandgap Reduction with Inversion Response in (Si)GeSn/High-k/Metal Stacks. ACS Applied Materials & Interfaces, 2017, 9, 9102-9109.	8.0	7
17	SiGeSn Ternaries for Efficient Group IV Heterostructure Light Emitters. Small, 2017, 13, 1603321.	10.0	40
18	Infinite-Period Density-Matrix Model for Terahertz-Frequency Quantum Cascade Lasers. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 368-377.	3.1	16

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19	Design of a high-speed germanium-tin absorption modulator at mid-infrared wavelengths. , 2017, , .		6
20	Short-wave infrared LEDs from GeSn/SiGeSn multiple quantum wells. Optica, 2017, 4, 185.	9.3	90
21	Origin of terminal voltage variations due to self-mixing in terahertz frequency quantum cascade lasers. Optics Express, 2016, 24, 21948.	3.4	10
22	Process modules for GeSn nanoelectronics with high Sn-contents. , 2016, , .		0
23	Low Temperature Deposition of High-k/Metal Gate Stacks on High-Sn Content (Si)GeSn-Alloys. ACS Applied Materials & Interfaces, 2016, 8, 13133-13139.	8.0	18
24	Terahertz frequency quantum cascade lasers: Optical feedback effects and applications. , 2016, , .		1
25	Electronic structure of (Si)GeSn and its tuning via incorporation of carbon. , 2016, , .		Ο
26	Design considerations for GaN/AlN based unipolar (opto-)electronic devices, and interface quality aspects. , 2016, , .		0
27	Magnetic field effects on THz quantum cascade laser: A comparative analysis of three and four quantum well based active region design. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 81, 275-280.	2.7	5
28	Terahertz quantum cascade laser bandwidth prediction. , 2015, , .		0
29	Lasing in direct-bandgap GeSn alloy grown on Si. Nature Photonics, 2015, 9, 88-92.	31.4	1,016
30	Direct Bandgap Group IV Epitaxy on Si for Laser Applications. Chemistry of Materials, 2015, 27, 4693-4702.	6.7	122
31	GeSn for nanoelectronic and optical applications. , 2015, , .		3
32	A QCL model with integrated thermal and stark rollover mechanisms. , 2014, , .		0
33	Epitaxy and photoluminescence studies of high quality GeSn heterostructures with Sn concentrations up to 13 at.%. , 2014, , .		1
34	Si-Ge-Sn heterostructures: Growth and applications. , 2014, , .		0
35	Strain engineering for direct bandgap GeSn alloys. , 2014, , .		1
36	Genetic algorithm applied to the optimization of quantum cascade lasers with second harmonic generation. Journal of Applied Physics, 2014, 115, 053712.	2.5	4

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37	Importance of Polaronic Effects for Charge Transport in CdSe Quantum Dot Solids. Journal of Physical Chemistry Letters, 2014, 5, 1335-1340.	4.6	21
38	Optimizing optical nonlinearities in GalnAs/AlInAs quantum cascade lasers. Nuclear Technology and Radiation Protection, 2014, 29, 10-16.	0.8	5
39	Tensely strained GeSn alloys as optical gain media. Applied Physics Letters, 2013, 103, .	3.3	63
40	Design and performance of a prototype mesa-geometry Ge-on-Si single-photon avalanche diode detector at 1310 nm and 1550 nm wavelengths. , 2013, , .		0
41	Surface acoustic wave modulation of quantum cascade lasers. , 2013, , .		1
42	Comparative study of intersubband absorption in AlGaN/GaN and AlInN/GaN superlattices: Impact of material inhomogeneities. Physical Review B, 2013, 88, .	3.2	28
43	Simulated effect of epitaxial growth variations on THz emission of SiGe/Ge quantum cascade structures. , 2013, , .		0
44	Plasmonic Modulators for Near-Infrared Photonics on a Silicon-on-Insulator Platform. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 4601708-4601708.	2.9	7
45	Band engineering and growth of tensile strained Ge/(Si)GeSn heterostructures for tunnel field effect transistors. Applied Physics Letters, 2013, 102, .	3.3	131
46	Strong heavy-to-light hole intersubband absorption in the valence band of carbon-doped GaAs/AlAs superlattices. Journal of Applied Physics, 2013, 113, 053103.	2.5	2
47	Self-mixing effect in THz quantum cascade lasers: Applications in sensing and imaging. , 2013, , .		1
48	Swept-frequency feedback interferometry using terahertz frequency QCLs: a method for imaging and materials analysis. Optics Express, 2013, 21, 22194.	3.4	91
49	Ge-on-Si Single-Photon Avalanche Diode Detectors: Design, Modeling, Fabrication, and Characterization at Wavelengths 1310 and 1550 nm. IEEE Transactions on Electron Devices, 2013, 60, 3807-3813.	3.0	116
50	Heavy-to-light hole intersubband absorption in the valence band of GaAs/AlAs heterostructures. Materials Research Society Symposia Proceedings, 2013, 1509, 1.	0.1	0
51	Influence of absorber layer dopants on performance of Ge/Si single photon avalanche diodes. Journal of Applied Physics, 2013, 113, 144508.	2.5	0
52	Optimum strain configurations for carrier injection in near infrared Ge lasers. Journal of Applied Physics, 2012, 111, .	2.5	39
53	Designing short tapered waveguide adapters for Ge lasers and Ge/SiGe modulators integrated with SOI waveguides. , 2012, , .		0

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55	Development of quantum cascade laser simulation software. , 2012, , .		1
56	The direct and indirect bandgaps of unstrained SixGe1â^'xâ^'ySny and their photonic device applications. Journal of Applied Physics, 2012, 112, .	2.5	162
57	Electronic states and intraband terahertz optical transitions in InGaAs quantum rods. Journal of Applied Physics, 2012, 111, 073110.	2.5	5
58	Extended density-matrix model applied to silicon-based terahertz quantum cascade lasers. Physical Review B, 2012, 85, .	3.2	38
59	The role of temperature in quantum-cascade laser waveguides. Journal of Computational Electronics, 2012, 11, 137-143.	2.5	8
60	The effects of tensile-strain conditions on doping density requirements for Ge-based injection lasers. , 2011, , .		0
61	Silicon optical modulators for high data rate applications. , 2011, , .		0
62	Design of Ge/SiGe quantum cascade lasers using the density matrix model. , 2011, , .		0
63	Strain engineering of the electroabsorption response in Ge/SiGe multiple quantum well heterostructures. , 2011, , .		0
64	Terahertz sensing and imaging using a quantum cascade laser. , 2011, , .		0
65	Coherent transport description of the dual-wavelength ambipolar terahertz quantum cascade laser. Journal of Applied Physics, 2011, 109, 013111.	2.5	13
66	Magnetotunneling in resonant tunneling structures with spin â^' orbit interaction. Journal of Applied Physics, 2011, 110, 064507.	2.5	1
67	Plasmonic enhanced electro-optic stub modulator on a SOI platform. Photonics and Nanostructures - Fundamentals and Applications, 2011, 9, 101-107.	2.0	9
68	Demonstration of a self-mixing displacement sensor based on terahertz quantum cascade lasers. Applied Physics Letters, 2011, 99, .	3.3	63
69	Charge Carrier Transport in Quantum Cascade Lasers in Strong Magnetic Field. Acta Physica Polonica A, 2011, 119, 99-102.	0.5	1
70	Inter-Landau Level Scattering Processes in Magnetic Field Assisted THz Quantum Cascade Laser. Acta Physica Polonica A, 2011, 120, 227-230.	0.5	0
71	Dependence of Threshold Current Density on the Waveguide Ridge Width in Quantum-Cascade Lasers. IEEE Journal of Quantum Electronics, 2010, 46, 1320-1326.	1.9	1
72	Phase-breaking effects in double-barrier resonant tunneling diodes with spin-orbit interaction. Journal of Applied Physics, 2010, 108, .	2.5	14

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73	Undertaking research in the field of silicon optical modulators in the framework of the Helios and UK silicon photonics projects. , 2010, , .		0
74	Interdiffusion effects and line broadening of hole intersubband absorption in complex GaAs/AlGaAs quantum well structures. Journal of Applied Physics, 2010, 107, .	2.5	4
75	Design of Ge–SiGe Quantum-Confined Stark Effect Electroabsorption Heterostructures for CMOS Compatible Photonics. Journal of Lightwave Technology, 2010, , .	4.6	17
76	Finite difference method for solving the Schrödinger equation with band nonparabolicity in mid-infrared quantum cascade lasers. Journal of Applied Physics, 2010, 108, .	2.5	59
77	Si/SiGe quantum cascade superlattice designs for terahertz emission. Journal of Applied Physics, 2010, 107, 053109.	2.5	21
78	Ultra-low threshold glass thin film random lasers. , 2010, , .		0
79	Quantum Cascade Laser Design for Tunable Output at Characteristic Wavelengths in the Mid-Infrared Spectral Range. Acta Physica Polonica A, 2010, 117, 772-776.	0.5	1
80	Comparison of SiO2, Si3N4, As2S3, and Ge0.25Se0.75 dielectric layers for InP- and GaAs-based material systems for midinfrared quantum cascade laser waveguides. Journal of Applied Physics, 2009, 106, 053104.	2.5	5
81	The importance of electron temperature in silicon-based terahertz quantum cascade lasers. Applied Physics Letters, 2009, 95, .	3.3	12
82	Theoretical Modeling of a \$sim {2}~mu{m m}~{m Tm}^{3+}\$-Doped Tellurite Fiber Laser: The Influence of Cross Relaxation. Journal of Lightwave Technology, 2009, 27, 4026-4032.	4.6	20
83	Numerical Rate Equation Modeling of a \${sim {hbox {2.1}}-}mu{hbox {m}}-{m Tm}^{3+}/{m Ho}^{3+}\$ Co-Doped Tellurite Fiber Laser. Journal of Lightwave Technology, 2009, 27, 4280-4288.	4.6	36
84	Quantum-confined Stark effect electro-absorption modulators for CMOS compatible photonics. , 2009, , .		0
85	Quantum Dots as Sources and Detectors οf Mid- and Far-Infrared Radiation: Theoretical Models. Acta Physica Polonica A, 2009, 116, 464-467.	0.5	9
86	Spin Precession of Quasi-Bound States in Heterostructures with Spin-Orbit Interaction. Acta Physica Polonica A, 2009, 116, 513-515.	0.5	0
87	Electron Transport and Terahertz Gain in Quantum-Dot Cascades. IEEE Photonics Technology Letters, 2008, 20, 129-131.	2.5	18
88	Thermal Modeling of Terahertz Quantum-Cascade Lasers: Comparison of Optical Waveguides. IEEE Journal of Quantum Electronics, 2008, 44, 680-685.	1.9	38
89	SiGe/Si quantum cascade structures deposited by low-energy plasma-enhanced CVD. , 2008, , .		2
90	Mid-infrared quantum cascade laser waveguide losses: An anisotropic complex permittivity model. , 2008, , .		0

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91	Substrate orientation and alloy composition effects in n-type SiGe quantum cascade structures. , 2008, , .		0
92	Electronic structure and optical properties of Sn and SnGe quantum dots. Journal of Applied Physics, 2008, 103, .	2.5	28
93	Time delay in thin slabs with self-focusing Kerr-type nonlinearity. Physical Review A, 2008, 77, .	2.5	16
94	Saturation of intersubband transitions in p-doped GaAsâ^•AlGaAs quantum wells. Applied Physics Letters, 2008, 92, .	3.3	10
95	Wide wavelength tuning of GaAsâ^•AlxGa1â^'xAs bound-to-continuum quantum cascade lasers by aluminum content control. Applied Physics Letters, 2008, 92, .	3.3	5
96	Simulated [111] Si–SiGe terahertz quantum cascade laser. Applied Physics Letters, 2008, 92, .	3.3	22
97	Spin-dependent dwell times of electron tunneling through double- and triple-barrier structures. Journal of Applied Physics, 2008, 103, 083701.	2.5	7
98	Intervalley Scattering and the Role of Indirect Band Gap AlAs Barriers: Application to GaAs/AlGaAs Quantum Cascade Lasers. Acta Physica Polonica A, 2008, 113, 891-902.	0.5	3
99	Band structure calculations of Si–Ge–Sn alloys: achieving direct band gap materials. Semiconductor Science and Technology, 2007, 22, 742-748.	2.0	187
100	Interwell relaxation times inpâ^'Siâ^•SiGeasymmetric quantum well structures: Role of interface roughness. Physical Review B, 2007, 75, .	3.2	32
101	Polyharmonic surface acoustic wave control of single-electron transport in semimetallic carbon nanotubes. Physical Review B, 2007, 76, .	3.2	0
102	Thermal modelling of Antimonide-based quantum cascade lasers. AIP Conference Proceedings, 2007, , .	0.4	0
103	Time Delay in Thin Slabs with Kerr-Type Nonlinearity. Acta Physica Polonica A, 2007, 112, 987-992.	0.5	0
104	A microscopic model of electron transport in quantum dot infrared photodetectors. Journal of Applied Physics, 2006, 100, 074502.	2.5	23
105	Toward Silicon-Based Lasers for Terahertz Sources. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1570-1578.	2.9	30
106	On the incoherence of quantum transport in semiconductor heterostructure optoelectronic devices. International Biennial Baltic Electronics Conference, 2006, , .	0.0	0
107	Influence of doping density on electron dynamics in GaAsâ^•AlGaAs quantum cascade lasers. Journal of Applied Physics, 2006, 99, 103106.	2.5	47
108	Investigation of Thermal Effects in Quantum-Cascade Lasers. IEEE Journal of Quantum Electronics, 2006, 42, 857-865.	1.9	52

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109	Influence of injector doping density and electron confinement on the properties of GaAs/Al0.45Ga0.55As quantum cascade lasers. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 411-414.	0.8	4
110	Symmetry based calculation of electronic structure and intraband absorption in GaN/AlN hexagonal quantum dot superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3939-3942.	0.8	0
111	Theoretical modelling of electron transport in InAs/GaAs quantum dot superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3770-3773.	0.8	0
112	Lasing in spin-polarized terahertz quantum cascade structures. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 4401-4404.	0.8	0
113	Electric field domains in p-Si/SiGe quantum cascade structures. IEEE Transactions on Electron Devices, 2006, 53, 189-195.	3.0	4
114	Origin of detection wavelength tuning in quantum dots-in-a-well infrared photodetectors. Applied Physics Letters, 2006, 88, 251107.	3.3	20
115	Simulation of a tunable optically pumped terahertz intersubband laser with diluted magnetic semiconductors. Journal of Applied Physics, 2006, 100, 073709.	2.5	13
116	Optically pumped intersublevel MidInfrared lasers based on InAs-GaAs quantum dots. IEEE Journal of Quantum Electronics, 2005, 41, 1361-1368.	1.9	19
117	Optical cavities for Si/SiGe tetrahertz quantum cascade emitters. Optical Materials, 2005, 27, 851-854.	3.6	4
118	On the Formation of Periodic Electric Field Domains in p-Si/SiGe Quantum Cascade Structures. Journal of Computational Electronics, 2005, 4, 11-14.	2.5	0
119	SUSY transformation of guided modes in semiconductor waveguides. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3552-3555.	0.8	4
120	A physical model of quantum cascade lasers: Application to GaAs, GaN and SiGe devices. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 980-986.	1.8	14
121	Quantum cascade lasers in magnetic field: An active region model. Physica Status Solidi (B): Basic Research, 2005, 242, 1812-1816.	1.5	2
122	GaAs/Al0.45Ga0.55As Double Phonon Resonance Quantum Cascade Laser. AIP Conference Proceedings, 2005, , .	0.4	3
123	Temperature dependence of terahertz optical transitions from boron and phosphorus dopant impurities in silicon. Applied Physics Letters, 2005, 87, 101114.	3.3	27
124	Towards automated design of quantum cascade lasers. Journal of Applied Physics, 2005, 97, 084506.	2.5	36
125	Design and simulation of InGaAsâ^•AlAsSb quantum-cascade lasers for short wavelength emission. Applied Physics Letters, 2005, 87, 141109.	3.3	6
126	Magnetic-field tunable terahertz quantum well infrared photodetector. Journal of Applied Physics, 2005, 98, 084509.	2.5	15

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127	Silicon quantum cascade lasers for THz sources. , 2005, , .		1
128	Intersubband lifetimes inpâ^'Siâ^•SiGeterahertz quantum cascade heterostructures. Physical Review B, 2005, 71, .	3.2	26
129	Carrier Dynamics in Quantum Cascade Lasers. Acta Physica Polonica A, 2005, 107, 75-81.	0.5	0
130	Physical model of quantum-well infrared photodetectors. Journal of Applied Physics, 2004, 96, 269-272.	2.5	31
131	Towards a Si/SiGe Quantum Cascade Laser for Terahertz Applications. Materials Research Society Symposia Proceedings, 2004, 832, 12.	0.1	2
132	Simulation and design of GaN/AlGaN far-infrared (λâ^¼34â€,μm) quantum-cascade laser. Applied Physics Letters 2004, 84, 2995-2997.	s, _{3.3}	83
133	Dilute magnetic semiconductor quantum-well structures for magnetic field tunable far-infrared/terahertz absorption. IEEE Journal of Quantum Electronics, 2004, 40, 1614-1621.	1.9	9
134	Simulation of Carrier Transport in p-Si/SiGe Quantum Cascade Emitters. Journal of Computational Electronics, 2003, 2, 353-356.	2.5	4
135	THz intersubband dynamics in p-Si/SiGe quantum well emitter structures. Physica Status Solidi (B): Basic Research, 2003, 237, 381-385.	1.5	0
136	Mechanisms of temperature performance degradation in terahertz quantum-cascade lasers. Applied Physics Letters, 2003, 82, 1347-1349.	3.3	68
137	Self-consistent scattering model of carrier dynamics in GaAs-AlGaAs terahertz quantum-cascade lasers. IEEE Photonics Technology Letters, 2003, 15, 15-17.	2.5	27
138	Optimal design of gan-algan bragg-confined structures for intersubband absorption in the near-infrared spectral range. IEEE Journal of Quantum Electronics, 2003, 39, 1297-1304.	1.9	13
139	Surface plasmon waveguides with gradually doped or NiAl intermetallic compound buried contact for terahertz quantum cascade lasers. Journal of Applied Physics, 2003, 94, 3249-3252.	2.5	8
140	Intersubband absorption at λâ^¼1.3 μm in optimized GaN/AlGaN Bragg-confined structures. Journal of App Physics, 2002, 92, 7672-7674.	lied 2.5	7
141	Single-band envelope-function model in the full Brillouin zone for electronic structure calculation in semiconductor nanostructures. Journal of Applied Physics, 2002, 92, 515-522.	2.5	2
142	Self-consistent scattering theory of transport and output characteristics of quantum cascade lasers. Journal of Applied Physics, 2002, 91, 9019-9026.	2.5	129
143	On the interdiffusion-based quantum cascade laser. IEEE Photonics Technology Letters, 2002, 14, 1067-1069.	2.5	0
144	Influence of leakage current on temperature performance of GaAs/AlGaAs quantum cascade lasers. Applied Physics Letters, 2002, 81, 400-402.	3.3	47

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145	Monte Carlo Simulations of Hole Dynamics in Si/SiGe Quantum Cascade Structures. Journal of Computational Electronics, 2002, 1, 191-194.	2.5	5
146	Second harmonic generation at the quantum-interference induced transparency in semiconductor quantum wells: the influence of permanent dipole moments. IEEE Journal of Quantum Electronics, 2001, 37, 873-876.	1.9	6
147	Gain optimization in optically pumped AlGaAs unipolar quantum-well lasers. IEEE Journal of Quantum Electronics, 2001, 37, 1337-1344.	1.9	7
148	Optimization of nonlinear optical rectification in semiconductor quantum wells using the inverse spectral theory. Solid State Communications, 1997, 104, 445-450.	1.9	18
149	Self-consistent rate equation modelling of a Terahertz GaAs/AlGaAs quantum-cascade laser. , 0, , .		0
150	Si /SiGe terahertz quantum cascade emitters. , 0, , .		0
151	In search of a Si/SiGe THz quantum cascade laser. , 0, , .		1
152	Physical Model and Scattering Dynamics Engineering for Intersubband Lasers and Photodetectors. , 0, , \cdot		0
153	Design and optimization of GaN/AlGaN quantum wells and Bragg confined structures for short wavelength (1.31¼m>1»>21¼m) intersubband absorption. , 0, , .		0
154	LO phonon scattering as a depopulation mechanism in Si/SiGe quantum cascades. , 0, , .		0
155	Terahertz emission and absorption characteristics of silicon containing boron and phosphorous impurity dopants and the effect of temperature. , 0, , .		Ο