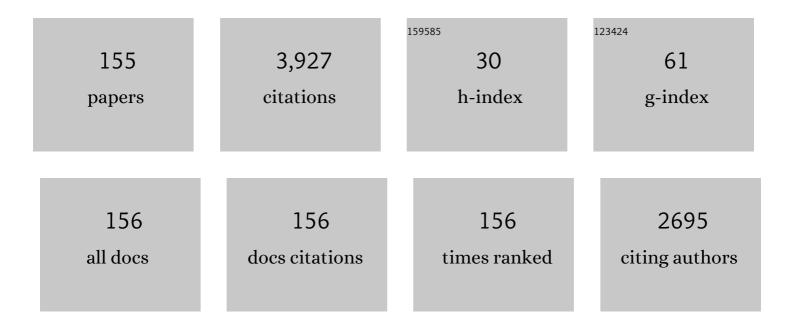
Zoran Ikonic

List of Publications by Year in descending order

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ZODAN KONIC

#	Article	IF	CITATIONS
1	Lasing in direct-bandgap GeSn alloy grown on Si. Nature Photonics, 2015, 9, 88-92.	31.4	1,016
2	Band structure calculations of Si–Ge–Sn alloys: achieving direct band gap materials. Semiconductor Science and Technology, 2007, 22, 742-748.	2.0	187
3	The direct and indirect bandgaps of unstrained SixGe1â^'xâ^'ySny and their photonic device applications. Journal of Applied Physics, 2012, 112, .	2.5	162
4	Ultra-low-threshold continuous-wave and pulsed lasing in tensile-strained GeSn alloys. Nature Photonics, 2020, 14, 375-382.	31.4	145
5	Band engineering and growth of tensile strained Ge/(Si)GeSn heterostructures for tunnel field effect transistors. Applied Physics Letters, 2013, 102, .	3.3	131
6	Self-consistent scattering theory of transport and output characteristics of quantum cascade lasers. Journal of Applied Physics, 2002, 91, 9019-9026.	2.5	129
7	Direct Bandgap Group IV Epitaxy on Si for Laser Applications. Chemistry of Materials, 2015, 27, 4693-4702.	6.7	122
8	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
9	Swept-frequency feedback interferometry using terahertz frequency QCLs: a method for imaging and materials analysis. Optics Express, 2013, 21, 22194.	3.4	91
10	Short-wave infrared LEDs from GeSn/SiGeSn multiple quantum wells. Optica, 2017, 4, 185.	9.3	90
11	GeSn/SiGeSn Heterostructure and Multi Quantum Well Lasers. ACS Photonics, 2018, 5, 4628-4636.	6.6	84
12	Simulation and design of GaN/AlGaN far-infrared (λâ^¼34â€,μm) quantum-cascade laser. Applied Physics Letter 2004, 84, 2995-2997.	rs, _{3.3}	83
13	Mechanisms of temperature performance degradation in terahertz quantum-cascade lasers. Applied Physics Letters, 2003, 82, 1347-1349.	3.3	68
14	Demonstration of a self-mixing displacement sensor based on terahertz quantum cascade lasers. Applied Physics Letters, 2011, 99, .	3.3	63
15	Tensely strained GeSn alloys as optical gain media. Applied Physics Letters, 2013, 103, .	3.3	63
16	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
17	Investigation of Thermal Effects in Quantum-Cascade Lasers. IEEE Journal of Quantum Electronics, 2006, 42, 857-865.	1.9	52
18	Impact of tensile strain on low Sn content GeSn lasing. Scientific Reports, 2019, 9, 259.	3.3	49

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19	Influence of leakage current on temperature performance of GaAs/AlGaAs quantum cascade lasers. Applied Physics Letters, 2002, 81, 400-402.	3.3	47
20	Influence of doping density on electron dynamics in GaAsâ^•AlGaAs quantum cascade lasers. Journal of Applied Physics, 2006, 99, 103106.	2.5	47
21	SiGeSn Ternaries for Efficient Group IV Heterostructure Light Emitters. Small, 2017, 13, 1603321.	10.0	40
22	Optimum strain configurations for carrier injection in near infrared Ge lasers. Journal of Applied Physics, 2012, 111, .	2.5	39
23	Thermal Modeling of Terahertz Quantum-Cascade Lasers: Comparison of Optical Waveguides. IEEE Journal of Quantum Electronics, 2008, 44, 680-685.	1.9	38
24	Extended density-matrix model applied to silicon-based terahertz quantum cascade lasers. Physical Review B, 2012, 85, .	3.2	38
25	Towards automated design of quantum cascade lasers. Journal of Applied Physics, 2005, 97, 084506.	2.5	36
26	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
27	Investigation of carrier confinement in direct bandgap GeSn/SiGeSn 2D and 0D heterostructures. Scientific Reports, 2018, 8, 15557.	3.3	36
28	Interwell relaxation times inpâ^'Siâ^•SiGeasymmetric quantum well structures: Role of interface roughness. Physical Review B, 2007, 75, .	3.2	32
29	Physical model of quantum-well infrared photodetectors. Journal of Applied Physics, 2004, 96, 269-272.	2.5	31
30	Toward Silicon-Based Lasers for Terahertz Sources. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1570-1578.	2.9	30
31	Electronic structure and optical properties of Sn and SnGe quantum dots. Journal of Applied Physics, 2008, 103, .	2.5	28
32	Comparative study of intersubband absorption in AlGaN/GaN and AlInN/GaN superlattices: Impact of material inhomogeneities. Physical Review B, 2013, 88, .	3.2	28
33	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
34	Temperature dependence of terahertz optical transitions from boron and phosphorus dopant impurities in silicon. Applied Physics Letters, 2005, 87, 101114.	3.3	27
35	Intersubband lifetimes inpâ^'Siâ^•SiGeterahertz quantum cascade heterostructures. Physical Review B, 2005, 71, .	3.2	26
36	A microscopic model of electron transport in quantum dot infrared photodetectors. Journal of Applied Physics, 2006, 100, 074502.	2.5	23

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37	Simulated [111] Siâ \in "SiGe terahertz quantum cascade laser. Applied Physics Letters, 2008, 92, .	3.3	22
38	Enhanced GeSn Microdisk Lasers Directly Released on Si. Advanced Optical Materials, 2022, 10, 2101213.	7.3	22
39	Si/SiGe quantum cascade superlattice designs for terahertz emission. Journal of Applied Physics, 2010, 107, 053109.	2.5	21
40	Importance of Polaronic Effects for Charge Transport in CdSe Quantum Dot Solids. Journal of Physical Chemistry Letters, 2014, 5, 1335-1340.	4.6	21
41	Origin of detection wavelength tuning in quantum dots-in-a-well infrared photodetectors. Applied Physics Letters, 2006, 88, 251107.	3.3	20
42	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
43	Optically pumped intersublevel MidInfrared lasers based on InAs-GaAs quantum dots. IEEE Journal of Quantum Electronics, 2005, 41, 1361-1368.	1.9	19
44	Optimization of nonlinear optical rectification in semiconductor quantum wells using the inverse spectral theory. Solid State Communications, 1997, 104, 445-450.	1.9	18
45	Electron Transport and Terahertz Gain in Quantum-Dot Cascades. IEEE Photonics Technology Letters, 2008, 20, 129-131.	2.5	18
46	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
47	Design of Ge–SiGe Quantum-Confined Stark Effect Electroabsorption Heterostructures for CMOS Compatible Photonics. Journal of Lightwave Technology, 2010, , .	4.6	17
48	Time delay in thin slabs with self-focusing Kerr-type nonlinearity. Physical Review A, 2008, 77, .	2.5	16
49	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
50	Magnetic-field tunable terahertz quantum well infrared photodetector. Journal of Applied Physics, 2005, 98, 084509.	2.5	15
51	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
52	Phase-breaking effects in double-barrier resonant tunneling diodes with spin-orbit interaction. Journal of Applied Physics, 2010, 108, .	2.5	14
53	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
54	Simulation of a tunable optically pumped terahertz intersubband laser with diluted magnetic semiconductors. Journal of Applied Physics, 2006, 100, 073709.	2.5	13

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55	Coherent transport description of the dual-wavelength ambipolar terahertz quantum cascade laser. Journal of Applied Physics, 2011, 109, 013111.	2.5	13
56	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
57	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
58	The importance of electron temperature in silicon-based terahertz quantum cascade lasers. Applied Physics Letters, 2009, 95, .	3.3	12
59	Saturation of intersubband transitions in p-doped GaAsâ^•AlGaAs quantum wells. Applied Physics Letters, 2008, 92, .	3.3	10
60	Origin of terminal voltage variations due to self-mixing in terahertz frequency quantum cascade lasers. Optics Express, 2016, 24, 21948.	3.4	10
61	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
62	Plasmonic enhanced electro-optic stub modulator on a SOI platform. Photonics and Nanostructures - Fundamentals and Applications, 2011, 9, 101-107.	2.0	9
63	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
64	Density matrix superoperator for periodic quantum systems and its application to quantum cascade laser structures. AIP Advances, 2019, 9, .	1.3	9
65	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
66	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
67	The role of temperature in quantum-cascade laser waveguides. Journal of Computational Electronics, 2012, 11, 137-143.	2.5	8
68	Gain optimization in optically pumped AlGaAs unipolar quantum-well lasers. IEEE Journal of Quantum Electronics, 2001, 37, 1337-1344.	1.9	7
69	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
70	Spin-dependent dwell times of electron tunneling through double- and triple-barrier structures. Journal of Applied Physics, 2008, 103, 083701.	2.5	7
71	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
72	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

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73	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
74	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
75	Design and simulation of InGaAsâ^•AlAsSb quantum-cascade lasers for short wavelength emission. Applied Physics Letters, 2005, 87, 141109.	3.3	6
76	Design of a high-speed germanium-tin absorption modulator at mid-infrared wavelengths. , 2017, , .		6
77	Monte Carlo Simulations of Hole Dynamics in Si/SiGe Quantum Cascade Structures. Journal of Computational Electronics, 2002, 1, 191-194.	2.5	5
78	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
79	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
80	Electronic states and intraband terahertz optical transitions in InGaAs quantum rods. Journal of Applied Physics, 2012, 111, 073110.	2.5	5
81	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
82	Design optimization of tensile-strained SiGeSn/GeSn quantum wells at room temperature. Journal of Applied Physics, 2021, 129, 123102.	2.5	5
83	Optimizing optical nonlinearities in GalnAs/AllnAs quantum cascade lasers. Nuclear Technology and Radiation Protection, 2014, 29, 10-16.	0.8	5
84	Simulation of Carrier Transport in p-Si/SiGe Quantum Cascade Emitters. Journal of Computational Electronics, 2003, 2, 353-356.	2.5	4
85	Optical cavities for Si/SiGe tetrahertz quantum cascade emitters. Optical Materials, 2005, 27, 851-854.	3.6	4
86	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
87	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
88	Electric field domains in p-Si/SiGe quantum cascade structures. IEEE Transactions on Electron Devices, 2006, 53, 189-195.	3.0	4
89	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
90	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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91	GaAs/Al0.45Ga0.55As Double Phonon Resonance Quantum Cascade Laser. AIP Conference Proceedings, 2005, , .	0.4	3
92	GeSn for nanoelectronic and optical applications. , 2015, , .		3
93	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
94	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
95	Towards a Si/SiGe Quantum Cascade Laser for Terahertz Applications. Materials Research Society Symposia Proceedings, 2004, 832, 12.	0.1	2
96	Quantum cascade lasers in magnetic field: An active region model. Physica Status Solidi (B): Basic Research, 2005, 242, 1812-1816.	1.5	2
97	SiGe/Si quantum cascade structures deposited by low-energy plasma-enhanced CVD. , 2008, , .		2
98	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
99	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
100	Design considerations of intra-step SiGeSn/GeSn quantum well electroabsorption modulators. Journal of Applied Physics, 2021, 130, 153103.	2.5	2
101	In search of a Si/SiGe THz quantum cascade laser. , 0, , .		1
102	Silicon quantum cascade lasers for THz sources. , 2005, , .		1
103	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
104	Magnetotunneling in resonant tunneling structures with spin â^' orbit interaction. Journal of Applied Physics, 2011, 110, 064507.	2.5	1
105	Development of quantum cascade laser simulation software. , 2012, , .		1
106	Surface acoustic wave modulation of quantum cascade lasers. , 2013, , .		1
107	Self-mixing effect in THz quantum cascade lasers: Applications in sensing and imaging. , 2013, , .		1
108	Epitaxy and photoluminescence studies of high quality GeSn heterostructures with Sn concentrations up to 13 at.%. , 2014, , .		1

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109	Strain engineering for direct bandgap GeSn alloys. , 2014, , .		1
110	Terahertz frequency quantum cascade lasers: Optical feedback effects and applications. , 2016, , .		1
111	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
112	Charge Carrier Transport in Quantum Cascade Lasers in Strong Magnetic Field. Acta Physica Polonica A, 2011, 119, 99-102.	0.5	1
113	Self-consistent rate equation modelling of a Terahertz GaAs/AlGaAs quantum-cascade laser. , 0, , .		0
114	On the interdiffusion-based quantum cascade laser. IEEE Photonics Technology Letters, 2002, 14, 1067-1069.	2.5	0
115	THz intersubband dynamics in p-Si/SiGe quantum well emitter structures. Physica Status Solidi (B): Basic Research, 2003, 237, 381-385.	1.5	Ο
116	Si /SiGe terahertz quantum cascade emitters. , 0, , .		0
117	Physical Model and Scattering Dynamics Engineering for Intersubband Lasers and Photodetectors. , 0, , \cdot		Ο
118	Design and optimization of GaN/AlGaN quantum wells and Bragg confined structures for short wavelength (1.31¼m>1»>21¼m) intersubband absorption. , 0, , .		0
119	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
120	LO phonon scattering as a depopulation mechanism in Si/SiGe quantum cascades. , 0, , .		0
121	Terahertz emission and absorption characteristics of silicon containing boron and phosphorous impurity dopants and the effect of temperature. , 0, , .		0
122	On the incoherence of quantum transport in semiconductor heterostructure optoelectronic devices. International Biennial Baltic Electronics Conference, 2006, , .	0.0	0
123	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
124	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
125	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
126	Polyharmonic surface acoustic wave control of single-electron transport in semimetallic carbon nanotubes. Physical Review B, 2007, 76, .	3.2	0

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127	Thermal modelling of Antimonide-based quantum cascade lasers. AIP Conference Proceedings, 2007, , .	0.4	Ο
128	Mid-infrared quantum cascade laser waveguide losses: An anisotropic complex permittivity model. , 2008, , .		0
129	Substrate orientation and alloy composition effects in n-type SiGe quantum cascade structures. , 2008, , .		Ο
130	Quantum-confined Stark effect electro-absorption modulators for CMOS compatible photonics. , 2009, , .		0
131	Undertaking research in the field of silicon optical modulators in the framework of the Helios and UK silicon photonics projects. , 2010, , .		Ο
132	Ultra-low threshold glass thin film random lasers. , 2010, , .		0
133	The effects of tensile-strain conditions on doping density requirements for Ge-based injection lasers. , 2011, , .		Ο
134	Silicon optical modulators for high data rate applications. , 2011, , .		0
135	Design of Ge/SiGe quantum cascade lasers using the density matrix model. , 2011, , .		Ο
136	Strain engineering of the electroabsorption response in Ge/SiGe multiple quantum well heterostructures. , 2011, , .		0
137	Terahertz sensing and imaging using a quantum cascade laser. , 2011, , .		0
138	Designing short tapered waveguide adapters for Ge lasers and Ge/SiGe modulators integrated with SOI waveguides. , 2012, , .		0
139	A CMOS compatible metallised nanofocusing coupler. , 2012, , .		0
140	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
141	Simulated effect of epitaxial growth variations on THz emission of SiGe/Ge quantum cascade structures. , 2013, , .		0
142	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
143	Influence of absorber layer dopants on performance of Ge/Si single photon avalanche diodes. Journal of Applied Physics, 2013, 113, 144508.	2.5	0
144	A QCL model with integrated thermal and stark rollover mechanisms. , 2014, , .		0

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145	Si-Ge-Sn heterostructures: Growth and applications. , 2014, , .		0
146	Terahertz quantum cascade laser bandwidth prediction. , 2015, , .		0
147	Process modules for GeSn nanoelectronics with high Sn-contents. , 2016, , .		0
148	Electronic structure of (Si)GeSn and its tuning via incorporation of carbon. , 2016, , .		0
149	Design considerations for GaN/AlN based unipolar (opto-)electronic devices, and interface quality aspects. , 2016, , .		0
150	Ultra-Low Threshold cw Lasing in Tensile Strained GeSn Microdisk Cavities. , 2019, , .		0
151	Carrier Dynamics in Quantum Cascade Lasers. Acta Physica Polonica A, 2005, 107, 75-81.	0.5	0
152	Time Delay in Thin Slabs with Kerr-Type Nonlinearity. Acta Physica Polonica A, 2007, 112, 987-992.	0.5	0
153	Spin Precession of Quasi-Bound States in Heterostructures with Spin-Orbit Interaction. Acta Physica Polonica A, 2009, 116, 513-515.	0.5	0
154	Inter-Landau Level Scattering Processes in Magnetic Field Assisted THz Quantum Cascade Laser. Acta Physica Polonica A, 2011, 120, 227-230.	0.5	0
155	The effect of interface roughness on spectral efficiency of thermophotovoltaics with multi-layer filters. Ontik, 2022, 257, 168663.	2.9	0