Leonid Karachinsky

List of Publications by Year
in descending order

123	1,040	430874 18	552781 26
papers	citations	h-index	g-index

124	124	124	433
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	High Power Single Mode 1300-nm Superlattice Based VCSEL: Impact of the Buried Tunnel Junction Diameter on Performance. IEEE Journal of Quantum Electronics, 2022, 58, 1-15.	1.9	15
2	Waferâ€fused 1300Ânm VCSELs with an active region based on superlattice. Electronics Letters, 2021, 57, 697-698.	1.0	15
3	Influence of the doping type on the temperature dependencies of the photoluminescence efficiency of InGaAlAs/InGaAs/InP heterostructures. Journal of Luminescence, 2021, 239, 118393.	3.1	1
4	Spectral Dynamics of Quantum Cascade Lasers Generating Frequency Combs in the Long-Wavelength Infrared Range. Technical Physics, 2020, 65, 1281-1284.	0.7	2
5	Study of the Spectra of Arched-Cavity Quantum-Cascade Lasers. Optics and Spectroscopy (English) Tj ETQq1 1 0.784314 rgBT /Overlo	0.6	1
6	Spectral Characteristics of Half-Ring Quantum-Cascade Lasers. Optics and Spectroscopy (English) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.6	6
7	Quantum-Cascade Lasers with a Distributed Bragg Reflector Formed by Ion-Beam Etching. Technical Physics Letters, 2020, 46, 312-315.	0.7	8
8	Heterostructures of Quantum-Cascade Laser for the Spectral Range of 4.6 Î¼m for Obtaining a Continuous-Wave Lasing Mode. Technical Physics Letters, 2020, 46, 442-445.	0.7	8
9	High-power (>1 W) room-temperature quantum-cascade lasers for the long-wavelength IR region. Quantum Electronics, 2020, 50, 141-142.	1.0	20
10	Analysis of the Internal Optical Losses of the Vertical-Cavity Surface-Emitting Laser of the Spectral Range of 1.55 Âµm Formed by a Plate Sintering Technique. Optics and Spectroscopy (English Translation) Tj ETQq0 0 0 rgBT /Overlock 1		
11	Temperature Dependence of the Parameters of 1.55-Î¼m Semiconductor Lasers with Thin Quantum Wells Based on Phosphorus-Free Heterostructures. Technical Physics Letters, 2019, 45, 549-552.	0.7	1
12	Vertical-cavity surface-emitting lasers with intracavity contacts and a rhomboidal current aperture for compact atomic clocks. Quantum Electronics, 2019, 49, 187-190.	1.0	6
13	Quantum-Cascade Lasers with U-Shaped Resonator: Single Frequency Generation at Room Temperature. , 2019, , .		2
14	Generation of Frequency Combs by Quantum Cascade Lasers Emitting in the 8-Î¼m Wavelength Range. Technical Physics Letters, 2019, 45, 1027-1030.	0.7	2
15	Influence of Output Optical Losses on the Dynamic Characteristics of 1.55-Î¼m Wafer-Fused Vertical-Cavity Surface-Emitting Lasers. Semiconductors, 2019, 53, 1104-1109.	0.5	6
16	High-Power Quantum-Cascade Lasers Emitting in the 8-Î¼m Wavelength Range. Technical Physics Letters, 2019, 45, 735-738.	0.7	16
17	Lasing of a Quantum-Cascade Laser with a Thin Upper Cladding. Optics and Spectroscopy (English) Tj ETQq1 1 0.784314 rgBT /Overlo	0.6	4
18	Room Temperature Lasing of Single-Mode Arched-Cavity Quantum-Cascade Lasers. Technical Physics Letters, 2019, 45, 398-400.	0.7	17

#	Article	IF	Citations
19	Spontaneous Emission and Lasing of a Two-Wavelength Quantum-Cascade Laser. Semiconductors, 2019, 53, 345-349.	0.5	1
20	Room temperature yellow InGaAlP quantum dot laser. Solid-State Electronics, 2019, 155, 129-138.	1.4	1
21	High-power Î» = 8 Âµm quantum-cascade lasers at room temperature. Journal of Physics: Conference Series, 2019, 1400, 066048.	0.4	1
22	Optical Gain in Laser Heterostructures with an Active Area Based on an InGaAs/InGaAlAs Superlattice. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2019, 127, 1053-1056.	0.6	12
23	Temperature performance of InGaAs/InGaAlAsTemperature performance of InGaAs/InGaAlAs laser diodes with Î´-doping active region. Journal of Physics: Conference Series, 2019, 1410, 012104.	0.4	0
24	Spectral Shift of Quantum-Cascade Laser Emission under the Action of Control Voltage. Technical Physics Letters, 2019, 45, 1136-1139.	0.7	3
25	The Influence of Cavity Design on the Linewidth of Near-IR Single-Mode Vertical-Cavity Surface-Emitting Lasers. Technical Physics Letters, 2018, 44, 28-31.	0.7	2
26	Emission-Line Width and Î±-Factor of 850-nm Single-Mode Vertical-Cavity Surface-Emitting Lasers Based on InGaAs/AlGaAs Quantum Wells. Semiconductors, 2018, 52, 93-99.	0.5	1
27	Dual-band generation around 8 Î¼m by quantum cascade lasers in wide temperature range. Journal of Physics: Conference Series, 2018, 1135, 012073.	0.4	1
28	Quantum-cascade lasers of mid-IR spectral range: epitaxy, diagnostics and device characteristics. EPJ Web of Conferences, 2018, 195, 04001.	0.3	1
29	Growth and optical characterization of 7.5 Î¼m quantum-cascade laser heterostructures grown by MBE. Journal of Physics: Conference Series, 2018, 1124, 041029.	0.4	4
30	Turn-on Dynamics of Quantum Cascade Lasers with a Wavelength of 8100 nm at Room Temperature. Technical Physics, 2018, 63, 1656-1658.	0.7	11
31	High Temperature Laser Generation of Quantum-Cascade Lasers in the Spectral Region of 8 Î¼m. Physics of the Solid State, 2018, 60, 2291-2294.	0.6	6
32	On the Impact of Barrier-Layer Doping on the Photoluminescence Efficiency of InGaAlAs/InGaAs/InP Strained-Layer Heterostructures. Semiconductors, 2018, 52, 1156-1159.	0.5	4
33	Quantum-cascade lasers in the 7-8 Î¼m spectral range with full top metallization. Journal of Physics: Conference Series, 2018, 993, 012031.	0.4	1
34	Lasing in 9.6-Î¼m Quantum Cascade Lasers. Technical Physics, 2018, 63, 1511-1515.	0.7	14
35	Quantum-cascade lasers of 8-9 Î¼m spectral range. , 2018, , .		0
36	Effect of barrier doping on photoluminescence of 1550 nm range multi quantum well heterostructures.. , 2018, , .		0

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37	Heterostructures of Single-Wavelength and Dual-Wavelength Quantum-Cascade Lasers. Semiconductors, 2018, 52, 745-749.	0.5	16
38	Room Temperature Lasing of Multi-Stage Quantum-Cascade Lasers at 8 Î¼m Wavelength. Semiconductors, 2018, 52, 1082-1085.	0.5	18
39	Mode-Locked Lasers with â€œThinâ€•Quantum Wells in 1.55 Î¼m Spectral Range. Technical Physics Letters, 2018, 44, 174-177.	0.7	1
40	Lasing of metamorphic hybrid 1300nm spectral band VCSEL under optical pumping up to 120 Â°C. , 2017, , .		2
41	Continuous wave and modulation performance of 1550nm band wafer-fused VCSELs with MBE-grown InP-based active region and GaAs-based DBRs. Proceedings of SPIE, 2017, , .	0.8	6
42	Optical properties of metamorphic hybrid heterostuctures for vertical-cavity surface-emitting lasers operating in the 1300-nm spectral range. Semiconductors, 2017, 51, 1127-1132.	0.5	2
43	Heterostructures for quantum-cascade lasers of the wavelength range of 7â€“8 Î¼m. Technical Physics Letters, 2017, 43, 666-669.	0.7	31
44	6-mW Single-Mode High-Speed 1550-nm Wafer-Fused VCSELs for DWDM Application. IEEE Journal of Quantum Electronics, 2017, 53, 1-8.	1.9	33
45	1550â€...nm mode-locked semiconductor lasers for all-optical analog-to-digital conversion. AIP Conference Proceedings, 2017, , .	0.4	0
46	The concept for realization of quantum-cascade lasers emitting at 7.5 Î¼m wavelength. Journal of Physics: Conference Series, 2017, 929, 012082.	0.4	0
47	Semiconductor light sources for near- and mid-infrared spectral ranges. Journal of Physics: Conference Series, 2017, 917, 022003.	0.4	0
48	MBE growth and characterization of InAlAs/InGaAs 9 Î¼m range quantum cascade laser. Journal of Physics: Conference Series, 2017, 917, 052016.	0.4	1
49	Optical characterization of mid-infrared range quantum-cascade laser structures grown by MBE. Journal of Physics: Conference Series, 2017, 917, 052019.	0.4	3
50	Phosphorus-free mode-locked semiconductor laser with emission wavelength 1550 nm. Journal of Physics: Conference Series, 2017, 917, 052021.	0.4	1
51	High-speed 1.3 -1.55 um InGaAs/InP PIN photodetector for microwave photonics. Journal of Physics: Conference Series, 2017, 917, 052029.	0.4	4
52	Molecular-beam epitaxy of 7-8 Î¼m range quantum-cascade laser heterostructures. Journal of Physics: Conference Series, 2017, 929, 012081.	0.4	0
53	Optical properties of InGaAs/InGaAlAs quantum wells for the 1520â€“1580 nm spectral range. Semiconductors, 2016, 50, 1186-1190.	0.5	7
54	Optical properties of metamorphic GaAs/InAlGaAs/InGaAs heterostructures with InAs/InGaAs quantum wells, emitting light in the 1250â€“1400-nm spectral range. Semiconductors, 2016, 50, 612-615.	0.5	2

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55	On the gain properties of â€œthinâ€•elastically strained InGaAs/InGaAlAs quantum wells emitting in the near-infrared spectral region near 1550 nm. Semiconductors, 2016, 50, 1412-1415.	0.5	9
56	Room-temperature operation of quantum cascade lasers at a wavelength of 5.8 Î¼m. Semiconductors, 2016, 50, 1299-1303.	0.5	22
57	Evidence of negative electrorefraction in type-II GaAs/GaAlAs short-period superlattice. Semiconductor Science and Technology, 2015, 30, 115013.	2.0	0
58	Lasing of multiperiod quantum-cascade lasers in the spectral range of (5.6â€“5.8)-Î¼m under current pumping. Semiconductors, 2015, 49, 1527-1530.	0.5	17
59	Metamorphic distributed Bragg reflectors for the 1440â€“1600 nm spectral range: Epitaxy, formation, and regrowth of mesa structures. Semiconductors, 2015, 49, 1388-1392.	0.5	3
60	Design concepts of monolithic metamorphic vertical-cavity surface-emitting lasers for the 1300â€“1550 nm spectral range. Semiconductors, 2015, 49, 1522-1526.	0.5	2
61	Digital data transmission using electro-optically modulated vertical-cavity surface-emitting laser with saturable absorber. Applied Physics Letters, 2014, 104, .	3.3	8
62	Degradation-robust 850-nm vertical-cavity surface-emitting lasers for 25Gb/s optical data transmission. Semiconductors, 2014, 48, 77-82.	0.5	4
63	Influence of optical losses on the dynamic characteristics of linear arrays of near-infrared vertical-cavity surface-emitting lasers. Semiconductors, 2013, 47, 844-848.	0.5	4
64	Optical anisotropy of InGaAs quantum dots. Semiconductors, 2013, 47, 85-89.	0.5	1
65	Efficient electro-optic semiconductor medium based on type-II heterostructures. Semiconductors, 2013, 47, 1528-1538.	0.5	1
66	Reliability performance of 25 Gbit s^{â^'1} 850 nm vertical-cavity surface-emitting lasers. Semiconductor Science and Technology, 2013, 28, 065010.	2.0	22
67	Progress on single mode VCSELs for data- and tele-communications. Proceedings of SPIE, 2012, , .	0.8	21
68	High-speed single-mode quantum dot and quantum well VCSELs. Proceedings of SPIE, 2011, , .	0.8	5
69	Tilted Wave Lasers: A Way to High Brightness Sources of Light. IEEE Journal of Quantum Electronics, 2011, 47, 1014-1027.	1.9	22
70	850 nm optical components for 25 Gb/s optical fiber data communication links over 100 m at 85Â°C. , 2011, , .		4
71	850nm Optical Components for 25 Gb/s Optical Fiber Data Communication Links over 100 m at 85Â°C. , 2011, , .		1
72	Modeling of photonic-crystal-based high-power high-brightness semiconductor lasers. , 2010, , .		3

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73	Optical components for very short reach applications at 40 Gb/s and beyond. Proceedings of SPIE, 2010, , .	0.8	5
74	Optical anisotropy of InAs quantum dots. Technical Physics Letters, 2010, 36, 1079-1081.	0.7	3
75	Monolithic electroâ€optically modulated vertical cavity surface emitting laser with 10 Gb/s openâ€eye operation. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2552-2554.	0.8	15
76	High-power high-brightness semiconductor lasers based on novel waveguide concepts. Proceedings of SPIE, 2010, , .	0.8	16
77	Quantum dot insertions in VCSELs from 840 to 1300 nm: growth, characterization, and device performance. Proceedings of SPIE, 2009, , .	0.8	7
78	High-Brightness and Ultranarrow-Beam 850-nm GaAs/AlGaAs Photonic Band Crystal Lasers and Single-Mode Arrays. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 901-908.	2.9	21
79	Quantum dot semiconductor lasers of the 1.3 Î¼m wavelength range with high temperature stability of the lasing wavelength (0.2 nm/K). Semiconductors, 2009, 43, 680-684.	0.5	0
80	High-Power Low-Beam Divergence Edge-Emitting Semiconductor Lasers with 1- and 2-D Photonic Bandgap Crystal Waveguide. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 1113-1122.	2.9	27
81	The role of transport processes of nonequilibrium charge carriers in radiative properties of arrays of InAs/GaAs quantum dots. Semiconductors, 2008, 42, 291-297.	0.5	1
82	Generation of superradiation in quantum dot nanoheterostructures. Semiconductors, 2008, 42, 714-719.	0.5	1
83	Ultra high-speed electro-optically modulated VCSELs: modeling and experimental results. Proceedings of SPIE, 2008, , .	0.8	25
84	Single-Lobe Single-Wavelength Lasing in Ultrabroad-Area Vertical-Cavity Surface-Emitting Lasers Based on the Integrated Filter Concept. IEEE Journal of Quantum Electronics, 2008, 44, 724-731.	1.9	2
85	High-power one-, two-, and three-dimensional photonic crystal edge-emitting laser diodes for ultra-high brightness applications. Proceedings of SPIE, 2008, , .	0.8	12
86	Tilted cavity concept for the high-power wavelength stabilized diode lasers. , 2008, , .		0
87	A high-power 975 nm tilted cavity laser with a 0.13 nm K^{â^'1}thermal shift of the lasing wavelength. Semiconductor Science and Technology, 2007, 22, 1061-1065.	2.0	13
88	High-power wavelength stabilized 970nm tilted cavity laser with a 41.3dB side mode suppression ratio. Applied Physics Letters, 2007, 91, 241112.	3.3	7
89	Bipolar charging in quantum dots array. AIP Conference Proceedings, 2007, , .	0.4	3
90	Competition Of Different Recombination Channels In Metamorphic 1.5 Î¼m Range Quantum Dot Lasers On GaAs Substrate. AIP Conference Proceedings, 2007, , .	0.4	0

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91	MBE-grown metamorphic lasers for applications at telecom wavelengths. Journal of Crystal Growth, 2007, 301-302, 914-922.	1.5	51
92	MBE-grown ultra-large aperture single-mode vertical-cavity surface-emitting laser with all-epitaxial filter section. Journal of Crystal Growth, 2007, 301-302, 945-950.	1.5	2
93	Longitudinal photonic bandgap crystal laser diodes with ultra-narrow vertical beam divergence. , 2006, , .		9
94	1.3-1.5 Î¼m quantum dot lasers on foreign substrates: growth using defect reduction technique, high-power CW operation, and degradation resistance. , 2006, , .		2
95	Metamorphic 1.5 Âµm-range quantum dot lasers on a GaAs substrate. Semiconductor Science and Technology, 2006, 21, 691-696.	2.0	31
96	Engineering of the radiative recombination rate in quantum dots coupled to the tilted cavity waveguide mode. Semiconductor Science and Technology, 2006, 21, 162-166.	2.0	0
97	Single transverse mode 850â€...nm GaAs/AlGaAs lasers with narrow beam divergence. Electronics Letters, 2006, 42, 1157.	1.0	8
98	High brilliance photonic band crystal lasers. , 2006, 6350, 22.		5
99	Single mode cw operation of 658nm AlGaInP lasers based on longitudinal photonic band gap crystal. Applied Physics Letters, 2006, 88, 231108.	3.3	24
100	High power GaAsâ•AlGaAs lasers (Î»â¼850nm) with ultranarrow vertical beam divergence. Applied Physics Letters, 2006, 89, 231114.	3.3	13
101	Degradation-robust single mode continuous wave operation of 1.46Î¼m metamorphic quantum dot lasers on GaAs substrate. Applied Physics Letters, 2006, 89, 041113.	3.3	28
102	Edge and surface-emitting tilted cavity lasers (Invited Paper). , 2005, , .		3
103	QD lasers: physics and applications. , 2005, , .		16
104	Continuous-wave Lasing of Single-Mode Metamorphic Quantum Dot Lasers for the 1.5-Î¼m Spectral Region. Semiconductors, 2005, 39, 1415.	0.5	10
105	Low divergence edge-emitting laser with asymmetric waveguide based on one-dimensional photonic crystal. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 919-922.	0.8	12
106	High-power singlemode CW operation of 1.5â€...[micro sign]m-range quantum dot GaAs-based laser. Electronics Letters, 2005, 41, 478.	1.0	30
107	High power GaInPâ•AlGaInP visible lasers (=646â€...nm) with narrow circular shaped far-field pattern. Electronics Letters, 2005, 41, 741.	1.0	13
108	Observation of the biexponential ground-state decay time behavior in InAs self-assembled quantum dots grown on misoriented substrates. Applied Physics Letters, 2005, 86, 211112.	3.3	11

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109	High-performance 640-nm-range GaInP-AlGaInP lasers based on the longitudinal photonic bandgap crystal with narrow vertical beam divergence. IEEE Journal of Quantum Electronics, 2005, 41, 1341-1348.	1.9	35
110	Time-resolved photoluminescence measurements of InAs self-assembled quantum dots (Invited Paper). , 2005, , .		3
111	Time-resolved photoluminescence measurements of InAs self-assembled quantum dots grown on misorientated substrates. Applied Physics Letters, 2004, 84, 7-9.	3.3	41
112	Electroluminescent studies of emission characteristics of InGaAsN/GaAs injection lasers in a wide temperature range. Semiconductors, 2004, 38, 727-731.	0.5	0
113	Mechanism of dicke superradiance in semiconductor heterostructures. Semiconductors, 2004, 38, 837-841.	0.5	3
114	Wavelength-stabilized tilted cavity quantum dot laser. Semiconductor Science and Technology, 2004, 19, 1183-1188.	2.0	28
115	Tilted cavity laser (Critical Review Lecture). , 2004, 5509, 61.		7
116	Electroluminescence of injection lasers based on vertically coupled quantum dots near the lasing threshold. Semiconductors, 2003, 37, 112-114.	0.5	0
117	Two-photon absorption in InGaAsP waveguides. , 2003, , .		0
118	Peculiarities of electroluminescence of quantum dot laser heterostructures. , 2003, 5036, 67.		0
119	Superradiance as a transition phase from spontaneous to stimulated emission in low-dimensional semiconductor heterostructures. , 2003, , .		0
120	Waveguide InGaAsP/InP photodetectors for low-power autocorrelation measurements at 1.55 Âμm. Semiconductors, 2002, 36, 714-716.	0.5	0
121	Collective resonance and form factor of homogeneous broadening in semiconductors. Applied Physics Letters, 2000, 76, 2514-2516.	3.3	11
122	Collective Resonance and Form-Factor of Homogeneous Broadening in Semiconductors. Japanese Journal of Applied Physics, 1999, 38, 4772-4774.	1.5	3
123	Superradiance in semiconductors. Semiconductors, 1999, 33, 1309-1314.	0.5	5