Stephan Koch

List of Publications by Year in descending order

249 papers	11,585 citations	44069 48 h-index	39675 94 g-index
255 all docs	255 docs citations	255 times ranked	6628 citing authors

#	Article	IF	Citations
1	Sub-cycle control of terahertz high-harmonic generation by dynamical Bloch oscillations. Nature Photonics, 2014, 8, 119-123.	31.4	808
2	Effective Bloch equations for semiconductors. Physical Review B, 1988, 38, 3342-3350.	3.2	594
3	Nonlinear optics of normal-mode-coupling semiconductor microcavities. Reviews of Modern Physics, 1999, 71, 1591-1639.	45.6	532
4	Real-time observation of interfering crystal electrons in high-harmonic generation. Nature, 2015, 523, 572-575.	27.8	480
5	Semiconductor-Laser Fundamentals. , 1999, , .		349
6	Semiconductor-Laser Physics. , 1994, , .		336
7	High harmonics generated in semiconductor nanostructures by the coupled dynamics of optical inter- and intraband excitations. Physical Review B, 2008, 77, .	3.2	285
8	Semiconductor excitons in new light. Nature Materials, 2006, 5, 523-531.	27.5	272
9	Room-Temperature Optical Nonlinearities in GaAs. Physical Review Letters, 1986, 57, 2446-2449.	7.8	247
10	On the importance of radiative and Auger losses in GaN-based quantum wells. Applied Physics Letters, 2008, 92, .	3.3	220
11	Lightwave-driven quasiparticle collisions on a subcycle timescale. Nature, 2016, 533, 225-229.	27.8	216
12	Density-activated defect recombination as a possible explanation for the efficiency droop in GaN-based diodes. Applied Physics Letters, 2010, 96, .	3.3	202
13	Lightwave valleytronics in a monolayer of tungsten diselenide. Nature, 2018, 557, 76-80.	27.8	201
14	Excitonic Nonlinearities of Semiconductor Microcavities in the Nonperturbative Regime. Physical Review Letters, 1996, 77, 5257-5260.	7.8	167
15	Classical theory for second-harmonic generation from metallic nanoparticles. Physical Review B, 2009, 79, .	3.2	155
16	Microscopic Theory of Excitonic Signatures in Semiconductor Photoluminescence. Physical Review Letters, 1998, 81, 3263-3266.	7.8	149
17	Quantum Theory of Nonlinear Semiconductor Microcavity Luminescence Explaining â€œBoserâ€• Experiments. Physical Review Letters, 1997, 79, 5170-5173.	7.8	147
18	Excitonâ€“polariton lightâ€“semiconductor coupling effects. Nature Photonics, 2011, 5, 273-273.	31.4	144

#	Article	IF	Citations
19	Coherent Electric-Field Effects in Semiconductors. Physical Review Letters, 1994, 73, 902-905.	7.8	142
20	Symmetry-controlled temporal structure of high-harmonic carrier fields from a bulk crystal. Nature Photonics, 2017, 11, 227-231.	31.4	128
21	Excitonic Photoluminescence in Semiconductor Quantum Wells: Plasma versus Excitons. Physical Review Letters, 2004, 92, 067402.	7.8	118
22	Interaction of Strong Single-Cycle Terahertz Pulses with Semiconductor Quantum Wells. Physical Review Letters, 2007, 99, 237401.	7.8	113
23	Temperature-dependence of the internal efficiency droop in GaN-based diodes. Applied Physics Letters, 2011, 99, .	3.3	113
24	On the origin of IQEâ€â€˜droopâ€™ in InGaN LEDs. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S913.	0.8	109
25	Terahertz Coherent Control of Optically Dark Paraexcitons in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Cu</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="bold">O</mml:mi></mml:math>. Physical Review Letters, 2008, 101, 246401.	7.8	103
26	Quantum droplets of electrons and holes. Nature, 2014, 506, 471-475.	27.8	101
27	Quantum spectroscopy with SchrÃ¶dinger-cat states. Nature Physics, 2011, 7, 799-804.	16.7	99
28	Exciton Formation in Semiconductors and the Influence of a Photonic Environment. Physical Review Letters, 2001, 87, 176401.	7.8	96
29	Quantum-optical spectroscopy of semiconductors. Physical Review A, 2006, 73, .	2.5	93
30	Theory of laser gain in groupâ€III nitrides. Applied Physics Letters, 1995, 67, 754-756.	3.3	88
31	Quantum Theory of Secondary Emission in Optically Excited Semiconductor Quantum Wells. Physical Review Letters, 1999, 82, 3544-3547.	7.8	78
32	5-W Yellow Laser by Intracavity Frequency Doubling of High-Power Vertical-External-Cavity Surface-Emitting Laser. IEEE Photonics Technology Letters, 2008, 20, 1700-1702.	2.5	77
33	Quantum theory of phonon-assisted exciton formation and luminescence in semiconductor quantum wells. Physical Review B, 2000, 62, 2706-2720.	3.2	75
34	Influence of Coulomb and phonon interaction on the exciton formation dynamics in semiconductor heterostructures. Physical Review B, 2003, 67, .	3.2	75
35	Multi-Band Bloch Equations and Gain Spectra of Highly Excited II-VI Semiconductor Quantum Wells. Physica Status Solidi (B): Basic Research, 1997, 202, 725-739.	1.5	73
36	Ultrafast nonlinear optical response of photoexcited Ge/SiGe quantum wells: Evidence for a femtosecond transient population inversion. Physical Review B, 2009, 79, .	3.2	73

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37	Cluster-expansion representation in quantum optics. Physical Review A, 2008, 78, .	2.5	66
38	Supression of carrier recombination in semiconductor lasers by phase-space filling. Applied Physics Letters, 2005, 87, 201112.	3.3	64
39	Tunable high-power high-brightness linearly polarized vertical-external-cavity surface-emitting lasers. Applied Physics Letters, 2006, 88, 021105.	3.3	63
40	Comparison of experimental and theoretical GaInP quantum well gain spectra. Applied Physics Letters, 1997, 71, 157-159.	3.3	59
41	Optical response and ground state of graphene. Physical Review B, 2011, 84, .	3.2	57
42	Microscopic theory of the extremely nonlinear terahertz response of semiconductors. Physica Status Solidi (B): Basic Research, 2011, 248, 863-866.	1.5	55
43	Exciton-Population Inversion and Terahertz Gain in Semiconductors Excited to Resonance. Physical Review Letters, 2004, 93, 076402.	7.8	54
44	Extraction of Many-Body Configurations from Nonlinear Absorption in Semiconductor Quantum Wells. Physical Review Letters, 2010, 104, 247401.	7.8	54
45	Observation of interlayer excitons in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoSe</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>WSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> single crystals. Physical Review B, 2018, 97, .	3.2	54
46	Propagation Induced Dephasing in Semiconductor High-Harmonic Generation. Physical Review Letters, 2020, 125, 083901.	7.8	53
47	Ultrahigh Offâ€Resonant Field Effects in Semiconductors. Laser and Photonics Reviews, 2017, 11, 1700049.	8.7	51
48	Ultrafast nonequilibrium carrier dynamics in semiconductor laser mode locking. Optica, 2014, 1, 192.	9.3	50
49	Quantum theory of light emission from a semiconductor quantum dot. Physical Review B, 2006, 73, .	3.2	48
50	Influence of the effective layer thickness on the ground-state and excitonic properties of transition-metal dichalcogenide systems. Physical Review B, 2018, 97, .	3.2	48
51	Highly strained InGaAsâ•GaAs multiwatt vertical-external-cavity surface-emitting laser emitting around 1170nm. Applied Physics Letters, 2007, 91, .	3.3	47
52	Tunable watt-level blue-green vertical-external-cavity surface-emitting lasers by intracavity frequency doubling. Applied Physics Letters, 2006, 88, 251117.	3.3	45
53	Giant excitation induced bandgap renormalization in TMDC monolayers. Applied Physics Letters, 2018, 112, .	3.3	45
54	Interband transitions of quantum wells and device structures containing Ga(N, As) and (Ga, In)(N, As). Semiconductor Science and Technology, 2002, 17, 830-842.	2.0	43

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55	Theory of nonlinear optical absorption in coupledâ€bband quantum wells with manyâ€body effects. Applied Physics Letters, 1994, 64, 279-281.	3.3	42
56	Polarization conversion and â€œfocusingâ€•of light propagating through a small chiral hole in a metallic screen. Applied Physics Letters, 2005, 86, 201105.	3.3	41
57	Coherent cyclotron motion beyond Kohnâ€™sÂtheorem. Nature Physics, 2016, 12, 119-123.	16.7	41
58	Theory of band-edge optical nonlinearities in type-I and type-II quantum-well structures. Physical Review B, 1991, 44, 3031-3042.	3.2	39
59	Super-resolution lightwave tomography of electronic bands in quantum materials. Science, 2020, 370, 1204-1207.	12.6	38
60	Manyâ€body treatment on the modulation response in a strained quantum well semiconductor laser medium. Applied Physics Letters, 1992, 61, 758-760.	3.3	36
61	Manyâ€body Coulomb effects in roomâ€temperature IIâ€“VI quantum well semiconductor lasers. Applied Physics Letters, 1995, 66, 3004-3006.	3.3	36
62	Gain of blue and cyan InGaN laser diodes. Applied Physics Letters, 2011, 98, .	3.3	36
63	Ionization of coherent excitons by strong terahertz fields. Physical Review B, 2012, 85, .	3.2	36
64	Self-Channeling of High-Power Long-Wave Infrared Pulses in Atomic Gases. Physical Review Letters, 2017, 118, 063901.	7.8	36
65	Influence of carrier correlations on the excitonic optical response including disorder and microcavity effects. European Physical Journal B, 1999, 11, 407-421.	1.5	35
66	Femtosecond optical gain in strongly confined quantum dots. Optics Letters, 1996, 21, 1043.	3.3	34
67	Many-body dynamics and exciton formation studied by time-resolved photoluminescence. Physical Review B, 2005, 72, .	3.2	33
68	Microscopic Theory of Rabi Flopping, Photon Echo, and Resonant Pulse Propagation in Semiconductors. Physica Status Solidi (B): Basic Research, 1992, 173, 177-187.	1.5	32
69	Configuration dependence of band-gap narrowing and localization in dilute<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>GaAs</mml:mi><mml:mrow><mml:mn>1-</mml:mn> Physical Review B, 2016, 93, .	3.2	31
70	Pathâ€integral study of excitons and biexcitons in semiconductor quantum dots. Journal of Chemical Physics, 1991, 94, 6776-6781.	3.0	30
71	Microscopic theory of the semiconductor terahertz response. Physica Status Solidi (B): Basic Research, 2003, 238, 443-450.	1.5	30
72	Terahertz Excitation of a CoherentÎ›-Type Three-Level System of Exciton-Polariton Modes in a Quantum-Well Microcavity. Physical Review Letters, 2012, 108, 267402.	7.8	30

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73	Nonequilibrium and thermal effects in mode-locked VECSELs. Optics Express, 2014, 22, 6422.	3.4	29
74	Exciton ionization in semiconductors. Physica Status Solidi (B): Basic Research, 2003, 238, 404-410.	1.5	28
75	Optical nonlinearities and Rabi flopping of an exciton population in a semiconductor interacting with strong terahertz fields. Physical Review B, 2008, 77, .	3.2	28
76	Novel type-II material system for laser applications in the near-infrared regime. AIP Advances, 2015, 5, 047105.	1.3	28
77	Observation of Forbidden Exciton Transitions Mediated by Coulomb Interactions in Photoexcited Semiconductor Quantum Wells. Physical Review Letters, 2013, 110, 137404.	7.8	27
78	Fully microscopic modeling of mode locking in microcavity lasers. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 75.	2.1	27
79	Spin-Layer and Spin-Valley Locking in CVD-Grown AAâ€²- and AB-Stacked Tungsten-Disulfide Bilayers. Journal of Physical Chemistry C, 2019, 123, 21813-21821.	3.1	27
80	Type-II vertical-external-cavity surface-emitting laser with Watt level output powers at 1.2â€‰Î¼m. Applied Physics Letters, 2016, 108, .	3.3	25
81	Structural dependence of carrier capture time in semiconductor quantum-well lasers. Applied Physics Letters, 2004, 85, 369-371.	3.3	24
82	Temporal decay of coherently optically injected charge and spin currents due to carrierâ€“LO-phonon and carrier-carrier scattering. Physical Review B, 2006, 74, .	3.2	24
83	Heat Management in High-Power Vertical-External-Cavity Surface-Emitting Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1772-1778.	2.9	24
84	Temperature and pump power dependent photoluminescence characterization of MBE grown GaAsBi on GaAs. Journal of Materials Science: Materials in Electronics, 2012, 23, 1799-1804.	2.2	24
85	Influence of the spatial pump distribution on the performance of high power vertical-external-cavity surface-emitting lasers. Applied Physics Letters, 2010, 97, .	3.3	23
86	Modeling and experimental realization of modelocked VECSEL producing high power sub-100 fs pulses. Applied Physics Letters, 2018, 113, .	3.3	23
87	Theory of the Optical Stark Effect in Semiconductors under Ultrashortâ€Pulse Excitation. Physica Status Solidi (B): Basic Research, 1988, 150, 379-385.	1.5	22
88	VECSEL Optimization Using Microscopic Many-Body Physics. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1753-1762.	2.9	22
89	Ultrafast band-gap renormalization and build-up of optical gain in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoTe</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mn> Physical Review B, 2020, 101, .	3.2	22
90	Transient optical response of quantum well excitons to intense narrowband terahertz pulses. Applied Physics Letters, 2009, 95, 201107.	3.3	21

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91	Time-dynamics of the two-color emission from vertical-external-cavity surface-emitting lasers. Applied Physics Letters, 2012, 100, .	3.3	21
92	On the measurement of the thermal impedance in vertical-external-cavity surface-emitting lasers. Journal of Applied Physics, 2013, 113, 153102.	2.5	21
93	Microscopic analysis of saturable absorbers: Semiconductor saturable absorber mirrors versus graphene. Journal of Applied Physics, 2016, 119, .	2.5	21
94	Ultrafast non-equilibrium carrier dynamics in semiconductor laser mode-locking. Semiconductor Science and Technology, 2017, 32, 013002.	2.0	21
95	Non-equilibrium ultrashort pulse generation strategies in VECSELs. Optica, 2017, 4, 412.	9.3	21
96	Temperature Dependence of Radiative and Auger Losses in Quantum Wells. IEEE Journal of Quantum Electronics, 2008, 44, 185-191.	1.9	20
97	Predictive Microscopic Modeling of VECSELs. IEEE Journal of Quantum Electronics, 2010, 46, 810-817.	1.9	20
98	APPLIED PHYSICS: Optics in the Nano-World. Science, 2001, 293, 2217-2218.	12.6	19
99	Nonâ€equilibrium analysis of the twoâ€color operation in semiconductor quantumâ€well lasers. Physica Status Solidi (B): Basic Research, 2011, 248, 843-846.	1.5	19
100	Dynamics of charge-transfer excitons in type-II semiconductor heterostructures. Physical Review B, 2018, 97, .	3.2	19
101	Microscopic theory of optical excitations, photoluminescence, and terahertz response in semiconductors. European Physical Journal D, 2005, 36, 143-157.	1.3	18
102	Pulse interactions in a colliding pulse mode-locked vertical external cavity surface emitting laser. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 329.	2.1	18
103	Influence of internal fields on gain and spontaneous emission in InGaN quantum wells. Applied Physics Letters, 2006, 89, 171120.	3.3	17
104	Auger losses in GaNâ€based quantum wells: Microscopic theory. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S864.	0.8	17
105	Influence of many-body interactions during the ionization of gases by short intense optical pulses. Physical Review E, 2014, 89, 033103.	2.1	17
106	Quantum-Memory Effects in the Emission of Quantum-Dot Microcavities. Physical Review Letters, 2014, 113, 093902.	7.8	17
107	Comparison of optical nonlinearities of type II and type I quantum wells. Applied Physics Letters, 1991, 59, 259-261.	3.3	16
108	Numerical study of the influence of an antireflection coating on the operating properties of vertical-external-cavity surface-emitting lasers. Journal of Applied Physics, 2009, 106, .	2.5	16

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109	High room-temperature optical gain in Ga(NAsP)/Si heterostructures. Applied Physics Letters, 2012, 100, .	3.3	16
110	Systematic investigation of terahertz-induced excitonic Rabi splitting. Physical Review B, 2014, 89, .	3.2	16
111	Microscopic analysis of non-equilibrium dynamics in the semiconductor-laser gain medium. Applied Physics Letters, 2014, 104, 151111.	3.3	16
112	Theory of quasiequilibrium nonlinear optical absorption in semiconductor superlattices. Applied Physics Letters, 1995, 67, 2978-2980.	3.3	15
113	Type I-type II transition in InGaAsâ€“GaNAs heterostructures. Applied Physics Letters, 2005, 86, 081903.	3.3	15
114	Phonon sidebands in semiconductor luminescence. Physica Status Solidi (B): Basic Research, 2009, 246, 332-336.	1.5	15
115	Characterizing biexciton coherences with quantum spectroscopy. Physical Review B, 2014, 89, .	3.2	15
116	Excitonic transitions in highly efficient (GaIn)As/Ga(AsSb) type-II quantum-well structures. Applied Physics Letters, 2015, 107, 182104.	3.3	14
117	High-temperature operation of electrical injection type-II (GaIn)As/Ga(AsSb)/(GaIn)As â€œWâ€•quantum well lasers emitting at 1.3 Âµm. Scientific Reports, 2018, 8, 1422.	3.3	14
118	Microscopic analysis of highâ€harmonic generation in semiconductor nanostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 420-423.	0.8	13
119	Gain spectroscopy of a type-II VECSEL chip. Applied Physics Letters, 2016, 109, .	3.3	13
120	Multi-Angle VECSEL Cavities for Dispersion Control and Peak-Power Scaling. IEEE Photonics Technology Letters, 2017, 29, 326-329.	2.5	13
121	Dynamic behavior of 1040nm semiconductor disk lasers on a nanosecond time scale. Applied Physics Letters, 2007, 90, 241102.	3.3	12
122	Microscopic calculation and measurement of the laser gain in a (GaIn)Sb quantum well structure. Applied Physics Letters, 2008, 92, .	3.3	12
123	Microscopic analysis of mid-infrared type-II â€œWâ€•diode lasers. Applied Physics Letters, 2009, 94, .	3.3	12
124	Theoretical and Experimental Results on Coulomb Effects in Semiconductor Quantum Dots. Physica Status Solidi (B): Basic Research, 1990, 159, 249-257.	1.5	11
125	Exciton formation and stability in semiconductor heterostructures. Physical Review B, 2004, 69, .	3.2	11
126	Transient gain spectroscopy of (GaIn)As quantum wells: Experiment and microscopic analysis. Applied Physics Letters, 2007, 90, 251102.	3.3	11

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127	Record pulsed power demonstration of a 2â€‚Î¼m GaSb-based optically pumped semiconductor laser grown lattice-mismatched on an AlAs/GaAs Bragg mirror and substrate. Applied Physics Letters, 2009, 95, 081112.	3.3	11
128	Interaction-induced nonlinear refractive-index reduction of gases in the midinfrared regime. Physical Review E, 2016, 93, 013208.	2.1	11
129	Interband Transitions in InGaN Quantum Wells. , 0, , 145-167.		10
130	Ultrafast pulse amplification in mode-locked vertical external-cavity surface-emitting lasers. Applied Physics Letters, 2014, 105, .	3.3	10
131	Excitonic Effects, Luminescence, and Lasing in Semiconductor Microcavities. Physica Status Solidi (B): Basic Research, 1998, 206, 3-18.	1.5	9
132	Signatures of biexcitons and triexcitons in coherent non-degenerate semiconductor optics. Physica Status Solidi (B): Basic Research, 2003, 238, 537-540.	1.5	9
133	Detection of THz radiation with semiconductor diode lasers. Applied Physics Letters, 2007, 91, .	3.3	9
134	Influence of dielectric environment on quantum-well luminescence spectra. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 187.	2.1	9
135	Auger losses in dilute InAsBi. Applied Physics Letters, 2018, 112, .	3.3	9
136	Influence of coupling between localized and continuum states in InGaN quantum-dot systems. Physica Status Solidi (B): Basic Research, 2003, 238, 589-592.	1.5	8
137	Quantum theory of luminescence in multiple-quantum-well Bragg structures. Physical Review B, 2006, 74, .	3.2	8
138	Quantum modeling of semiconductor gain materials and verticalâ€‰externalâ€‰cavity surfaceâ€‰emitting laser systems. Physica Status Solidi (B): Basic Research, 2010, 247, 789-808.	1.5	8
139	Sequential build-up of quantum-optical correlations. Journal of the Optical Society of America B: Optical Physics, 2012, 29, A17.	2.1	8
140	Compositional dependence of the band gap in Ga(NAsP) quantum well heterostructures. Journal of Applied Physics, 2015, 118, .	2.5	8
141	Atomic structure of â€˜Wâ€™â€‰type quantum well heterostructures investigated by aberrationâ€‰corrected STEM. Journal of Microscopy, 2017, 268, 259-268.	1.8	8
142	Density-dependent exciton dynamics and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>L</mml:mi></mml:math> -valley anisotropy in germanium. Physical Review B, 2017, 95, .	3.2	8
143	Extended band anti-crossing model for dilute bismides. Applied Physics Letters, 2018, 112, .	3.3	8
144	Microscopic theory for the incoherent resonant and coherent off-resonant optical response of tellurium. Physical Review B, 2021, 104, .	3.2	8

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145	Coulomb effects on quantum-well luminescence spectra and radiative recombination times. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 1344.	2.1	7
146	Heterodyne Detection of Intracavity Generated Terahertz Radiation. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 271-277.	3.1	7
147	Valence band splitting in bulk dilute bismides. Applied Physics Letters, 2017, 111, 182103.	3.3	7
148	Anab initiobased approach to optical properties of semiconductor heterostructures. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 065001.	2.0	7
149	Theory of Gain in Group-HI Nitride Lasers. Materials Research Society Symposia Proceedings, 1997, 468, 487.	0.1	6
150	Superradiant Coupling of Excitons in (In,Ga)As Multiple Quantum Wells. Physica Status Solidi (B): Basic Research, 1998, 206, 333-339.	1.5	6
151	Semiconductor excitons in photonic crystals. Physica Status Solidi (B): Basic Research, 2003, 238, 439-442.	1.5	6
152	Microscopic Modeling of Quantum Well Gain Media for VECSEL Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2009, 15, 984-992.	2.9	6
153	Charging Dynamics in Electrically Pumped Quantum Wells. IEEE Journal of Quantum Electronics, 2009, 45, 1024-1032.	1.9	6
154	Coherent Terahertz Control of Vertical Transport in Semiconductor Heterostructures. Physical Review Letters, 2015, 114, 116802.	7.8	6
155	VECSEL design for high peak power ultrashort mode-locked operation. Applied Physics Letters, 2018, 112, 262105.	3.3	6
156	Complex dielectric function of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>GaA</mml:mi><mml:msub><mml:mi mathvariant="normal">s</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo><mml:mi>x</mml:mi></mml:mrow></r mathvariant="normal">B</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mi>x</mml:mi></mml:msub></mml:mrow></mml:math> as a function of Bi content. Physical Review Materials, 2019, 3, .	2.4	6
157	Quantum confinement and strain effects on the lateral mode stability of an unstable resonator semiconductor laser. Applied Physics Letters, 1994, 64, 1469-1471.	3.3	5
158	Quantum theory of terahertz emission due to ultrashort pulse ionization of gases. Physical Review E, 2013, 88, 063102.	2.1	5
159	Magnetic control of Coulomb scattering and terahertz transitions among excitons. Physical Review B, 2014, 89, .	3.2	5
160	Band offset in (Ga, In)As/Ga(As, Sb) heterostructures. Journal of Applied Physics, 2016, 120, .	2.5	5
161	Microscopic simulation of nonequilibrium features in quantum-well pumped semiconductor disk lasers. Applied Physics Letters, 2010, 96, .	3.3	4
162	Microscopic simulation of semiconductor laser devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2558-2563.	0.8	4

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163	Analysis of optical scattering losses in vertical-external-cavity surface-emitting lasers. Applied Physics B: Lasers and Optics, 2015, 120, 41-46.	2.2	4
164	Hybrid cluster-expansion and density-functional-theory approach for optical absorption in TiO_2. Journal of the Optical Society of America B: Optical Physics, 2016, 33, C123.	2.1	4
165	Probing Intervalence Band Coupling via Highâ€Harmonic Generation in Binary Zincâ€Blende Semiconductors. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100397.	2.4	4
166	Electric-field-induced exciton ionization in a GaAs/AlGaAs superlattice. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1995, 17, 1759-1762.	0.4	3
167	Ultrashort pulse propagation and excitonic nonlinearities in semiconductor microcavities. , 1998, , 191-206.		3
168	Hole confinement in quantum islands in Ga(AsSb)âˆ•GaAsâˆ•(AlGa)As heterostructures. Applied Physics Letters, 2008, 92, 161101.	3.3	3
169	Indirect interband optical transitions in a semiconductor quantum ring with submicrometer dimensions. Physical Review B, 2011, 84, .	3.2	3
170	High Peak Power Operation of a 1- Î¼m GaAs-Based Optically Pumped Semiconductor Laser. IEEE Photonics Technology Letters, 2012, 24, 380-382.	2.5	3
171	Investigation of the Beam Quality of a Terahertz Emitting Vertical-External-Cavity Surface-Emitting Laser. Journal of Infrared, Millimeter, and Terahertz Waves, 2016, 37, 536-539.	2.2	3
172	Microscopic Theory for the Groundstate and Linear Optical Response of Novel Two-Dimensional Materials with Hexagonal Symmetry. , 2017, , 43-84.		3
173	Impact of detuning on the performance of semiconductor disk lasers. Applied Physics B: Lasers and Optics, 2017, 123, 1.	2.2	3
174	Exciton ionization by THz pulses in germanium. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 154001.	1.5	3
175	Microscopic Coulomb interaction in transition-metal dichalcogenides. Journal of Physics Condensed Matter, 2021, 33, 035301.	1.8	3
176	Microscopic theory for the nonlinear optical response of the Si(111)-(2Ã—1) surface exciton. Physica Status Solidi (B): Basic Research, 2003, 238, 525-528.	1.5	2
177	Pulse propagation in Bragg-resonant multiple quantum wells: from pulse breakup to compression. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 1484-1487.	0.8	2
178	Optical Forces on a Quantum Dot in Metallic Bowtie Structures. IEEE Photonics Technology Letters, 2008, 20, 431-433.	2.5	2
179	Terahertz excitations of lambda systems in a semiconductor microcavity. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1222-1225.	0.8	2
180	Terahertzâ€induced effects on excitons in magnetic field. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1218-1221.	0.8	2

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181	Terahertz-induced exciton signatures in semiconductors. Physica Status Solidi (B): Basic Research, 2013, 250, 1768-1772.	1.5	2
182	Mode-locking in vertical external-cavity surface-emitting lasers with type-II quantum-well configurations. Applied Physics Letters, 2019, 114, .	3.3	2
183	Microscopic calculation of the optical properties and intrinsic losses in the methylammonium lead iodide perovskite system. APL Materials, 2019, 7, 011107.	5.1	2
184	Interaction of THz Radiation with Semiconductors: Microscopic Theory and Experiments. , 2008, , 223-235.		2
185	On the importance of electronâ€“electron and electronâ€“phonon scatterings and energy renormalizations during carrier relaxation in monolayer transition-metal dichalcogenides. Journal of Physics Condensed Matter, 2022, 34, 285601.	1.8	2
186	Microscopic analysis of the optical and electronic properties of semiconductor photonicâ€crystal structures. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 3600-3617.	1.8	1
187	Analytical analysis of single-photon correlations emitted by disordered semiconductor heterostructures. Journal of Materials Science: Materials in Electronics, 2009, 20, 23-29.	2.2	1
188	Quantumâ€optical spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 385-388.	0.8	1
189	Carrier dynamics in (ZnMg)O alloy materials. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1149-1152.	0.8	1
190	Study of the two-color emission dynamics from a vertical-external-cavity surface-emitting laser. , 2012, , .		1
191	In situ spectroscopy of high-power vertical-external-cavity surface-emitting lasers. Physica Status Solidi (B): Basic Research, 2013, 250, 1781-1784.	1.5	1
192	Influence of non-equilibrium carrier dynamics on pulse amplification in semiconductor gain media. Proceedings of SPIE, 2015, , .	0.8	1
193	Optical excitation dependent emission properties of InGaN quantum wells. Journal of Computational Electronics, 2015, 14, 425-431.	2.5	1
194	Quantum-optical spectroscopy on dropletons. Proceedings of SPIE, 2015, , .	0.8	1
195	Non-equilibrium effects in VECSELs. Proceedings of SPIE, 2017, , .	0.8	1
196	Ab-initio calculation of band alignments for opto-electronic simulations. AIP Advances, 2019, 9, 055328.	1.3	1
197	Half-occupation approach for the ab initio calculation of strained Ga(AsSb)/GaAs valence band offsets. AIP Advances, 2020, 10, 045207.	1.3	1
198	Extension of the LDA-1/2 method to the material class of bismuth containing IIIâ€“V semiconductors. AIP Advances, 2020, 10, 115003.	1.3	1

#	Article	IF	Citations
199	Coherent Pulse Breakup in Femtosecond Pulse Propagation in Semiconductors. Physica Status Solidi (B): Basic Research, 1992, 173, 41-52.	1.5	0
200	Seventh International Workshop on Nonlinear Optics and Excitation in Semiconductors (NOEKS 7) in Karlsruhe, Germany, 24â€“28 February 2003. Physica Status Solidi (B): Basic Research, 2003, 236, 740-741.	1.5	0
201	Microscopic simulation of semiconductor lasers in the GaInNAs material system. , 2006, , .		0
202	Semiconductor Optics in Photonic Crystal Structures. , 2006, , 43-62.		0
203	Nanosecond to microsecond dynamics of 1040nm semiconductor disk lasers. , 2007, , .		0
204	Microscopic Nonequilibrium Simulations in Semiconductor Laser Structures. , 2007, , .		0
205	Optical pumping using chirped pulses of a vertical-cavity surface-emitting laser (VCSEL). , 2007, , .		0
206	Closed-Loop Design and Demonstration of an 1178nm Multi-Watt VECSEL for a Sodium Guidestar Source. , 2007, , .		0
207	Quantum theory of the optical excitation of a semiconductor quantum dot. , 2007, , .		0
208	Closed-loop design and demonstration of an 1178nm multi-watt VECSEL for a sodium guidestar source. , 2007, , .		0
209	Coherent Nonlinear Optical Effects in Semiconductor QWs Induced by Intense Single-Cycle THz Pulses. , 2007, , .		0
210	High power tunable yellow laser using InGaAs/GaAs vertical external-cavity surface-emitting lasers. , 2008, , .		0
211	Quantum Design of Active Semiconductor Materials for Targeted Wavelengths. Materials Research Society Symposia Proceedings, 2008, 1076, 1.	0.1	0
212	Nonlinear Terahertz Spectroscopy of Semiconductors. , 2009, , .		0
213	Optical gain and transient nonlinearities in Ge quantum wells. , 2009, , .		0
214	Analysis of in-well pumping of semiconductor lasers by microscopic gain calculations. , 2009, , .		0
215	Ultrafast nonlinear optical effects in semiconductor quantum wells resonantly driven by few-cycle Terahertz pulses. , 2009, , .		0
216	Microscopic theory of the linear and nonlinear Terahertz response of semiconductors. , 2009, , .		0

#	Article	IF	Citations
217	Microscopic modeling of the optical properties of dilute nitride semiconductor gain materials. , 2009, , .		0
218	Terahertzâ€induced extreme nonlinear transients in semiconductor quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 457-460.	0.8	0
219	Ga(AsSb)/GaAs/(AlGa)As heterostructures: additional holeâ€confinement due to quantum islands. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 411-414.	0.8	0
220	Performance changes of a verticalâ€externalâ€cavity surfaceemitting laser by an intraâ€cavity antiâ€reflexâ€coating. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 572-575.	0.8	0
221	Terahertz and optical frequency mixing in semiconductor quantum-wells. , 2010, , .		0
222	Modelling the interaction between terahertz radiation and semiconductors. , 2010, , .		0
223	Interaction of THz radiation with semiconductor many-body systems. , 2011, , .		0
224	An industry perspective on the optimization of InGaN lasers and LEDs via modeling. , 2011, , .		0
225	Advanced semiconductor quantum optics. , 0, , 608-626.		0
226	Semiconductor luminescence equations. , 0, , 572-592.		0
227	Interaction of terahertz radiation with semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1198-1203.	0.8	0
228	Plasmaâ€related phononâ€sideband emission in semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1129-1132.	0.8	0
229	Monitoring the temperature distribution in high-power VECSELs. , 2011, , .		0
230	Pushing the output powers of transversal multimode VECSELs beyond the 100 W barrier. , 2012, , .		0
231	Room-temperature terahertz generation using vertical-external-cavity surface-emitting lasers. , 2013, , .		0
232	THzâ€manipulation of excitonic polarization in (GaIn)As/GaAs quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1226-1229.	0.8	0
233	Analytical solutions for electronic states in three-dimensional semiconductor quantum rings. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1246-1249.	0.8	0
234	Evolution of multi-mode emission from vertical-external-cavity surface-emitting lasers. , 2014, , .		0

#	Article	IF	Citations
235	Sub-cycle strong-field electron dynamics in a bulk semiconductor traced by high-order harmonic generation. , 2015, , .		0
236	1.2Î¼m emitting VECSEL based on type-II aligned QWs. , 2016, , .		0
237	Low-Threshold Operation of GaAs-Based (GaIn)As/Ga(AsSb)/(GaIn)As â€žW"-Quantum Well Lasers Emitting at 1.3 Î¼m. , 2018, , .		0
238	Spin-Layer- and Spin-Valley-Locking Due to Symmetry in Differently-Stacked Tungsten Disulfide Bilayers. , 2019, , .		0
239	Controlling condensed matter with lightwave fields and forces. , 2021, , .		0
240	Magnetic-field tuning of the intraexcitonic absorption and gain in transition metal dichalcogenides. Physical Review B, 2021, 104, .	3.2	0
241	Electronâ€“Hole Plasmaâ€Induced Dephasing in Transition Metal Dichalcogenides. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100391.	2.4	0
242	Classical and Quantum Optics of Semiconductor Nanostructures. Nanostructure Science and Technology, 2008, , 255-351.	0.1	0
243	Configuration extraction of Coulomb-induced nonlinearities in semiconductor quantum wells. , 2010, , .		0
244	Non-equilibrium dynamics in the dual-wavelength operation of vertical external-cavity surface-emitting lasers. Optics Express, 2019, 27, 5368.	3.4	0
245	Carrier dynamics in TMDCs for optical applications. , 2019, , .		0
246	Influence of microscopic many-body scattering on multi-wavelength VECSEL lasing. , 2019, , .		0
247	Influence of inter- and intra-valley carrier dynamics on the optical properties of monolayer TMDCs. , 2022, , .		0
248	Spectroscopy and quantum-optical correlations. , 0, , 457-479.		0
249	Many-body aspects of excitonic luminescence. , 0, , 593-607.		0