Mack Kira

List of Publications by Year
in descending order

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102 papers	6,153 citations	136950 32 h-index	102487 66 g-index
104 all docs	104 docs citations	104 times ranked	4564 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	Vacuum Rabi splitting in semiconductors. Nature Physics, 2006, 2, 81-90.	16.7	782
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	Many-body correlations and excitonic effects in semiconductor spectroscopy. Progress in Quantum Electronics, 2006, 30, 155-296.	7.0	339
6	Semiconductor excitons in new light. Nature Materials, 2006, 5, 523-531.	27.5	272
7	Lightwave-driven quasiparticle collisions on a subcycle timescale. Nature, 2016, 533, 225-229.	27.8	216
8	Quantum theory of spontaneous emission and coherent effects in semiconductor microstructures. Progress in Quantum Electronics, 1999, 23, 189-279.	7.0	212
9	Lightwave valleytronics in a monolayer of tungsten diselenide. Nature, 2018, 557, 76-80.	27.8	201
10	Excitonic Nonlinearities of Semiconductor Microcavities in the Nonperturbative Regime. Physical Review Letters, 1996, 77, 5257-5260.	7.8	167
11	Symmetry-controlled temporal structure of high-harmonic carrier fields from a bulk crystal. Nature Photonics, 2017, 11, 227-231.	31.4	128
12	Excitonic Photoluminescence in Semiconductor Quantum Wells: Plasma versus Excitons. Physical Review Letters, 2004, 92, 067402.	7.8	118
13	Linear and nonlinear optical properties of excitons in semiconductor quantum wells and microcavities. Zeitschrift FÃ¼r Physik B-Condensed Matter, 1997, 104, 559-572.	1.1	108
14	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
15	Quantum droplets of electrons and holes. Nature, 2014, 506, 471-475.	27.8	101
16	Quantum spectroscopy with SchrÃ¶dinger-cat states. Nature Physics, 2011, 7, 799-804.	16.7	99
17	Exciton Formation in Semiconductors and the Influence of a Photonic Environment. Physical Review Letters, 2001, 87, 176401.	7.8	96
18	Quantum-optical spectroscopy of semiconductors. Physical Review A, 2006, 73, .	2.5	93

#	Article	IF	Citations
19	Optical generation of high carrier densities in 2D semiconductor heterobilayers. Science Advances, 2019, 5, eaax0145.	10.3	80
20	Quantum Theory of Secondary Emission in Optically Excited Semiconductor Quantum Wells. Physical Review Letters, 1999, 82, 3544-3547.	7.8	78
21	Influence of Coulomb and phonon interaction on the exciton formation dynamics in semiconductor heterostructures. Physical Review B, 2003, 67, .	3.2	75
22	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
23	Cluster-expansion representation in quantum optics. Physical Review A, 2008, 78, .	2.5	66
24	Microscopic theory of the extremely nonlinear terahertz response of semiconductors. Physica Status Solidi (B): Basic Research, 2011, 248, 863-866.	1.5	55
25	Extraction of Many-Body Configurations from Nonlinear Absorption in Semiconductor Quantum Wells. Physical Review Letters, 2010, 104, 247401.	7.8	54
26	Ultrahigh Offâ€Resonant Field Effects in Semiconductors. Laser and Photonics Reviews, 2017, 11, 1700049.	8.7	51
27	Characterization of Strong Light-Matter Coupling in Semiconductor Quantum-Dot Microcavities via Photon-Statistics Spectroscopy. Physical Review Letters, 2008, 101, 097401.	7.8	47
28	Quantum Correlations and Intraband Coherences in Semiconductor Cavity QED. Physical Review Letters, 1999, 83, 5338-5341.	7.8	42
29	Coherent cyclotron motion beyond Kohnâ€™sÂtheorem. Nature Physics, 2016, 12, 119-123.	16.7	41
30	Terahertz signatures of the exciton formation dynamics in non-resonantly excited semiconductors. Solid State Communications, 2004, 129, 733-736.	1.9	39
31	Monolayer GaN excitonic deep ultraviolet light emitting diodes. Applied Physics Letters, 2020, 116, .	3.3	39
32	Super-resolution lightwave tomography of electronic bands in quantum materials. Science, 2020, 370, 1204-1207.	12.6	38
33	Quantum Correlations in the Nonperturbative Regime of Semiconductor Microcavities. Physical Review Letters, 2000, 85, 5392-5395.	7.8	36
34	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
35	Fano Signatures in the Intersubband Terahertz Response of Optically Excited Semiconductor Quantum Wells. Physical Review Letters, 2009, 102, 127403.	7.8	27
36	Observation of Forbidden Exciton Transitions Mediated by Coulomb Interactions in Photoexcited Semiconductor Quantum Wells. Physical Review Letters, 2013, 110, 137404.	7.8	27

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37	Coherent quantum depletion of an interacting atom condensate. Nature Communications, 2015, 6, 6624.	12.8	27
38	Scalable Synthesis of Monolayer Hexagonal Boron Nitride on Graphene with Giant Bandgap Renormalization. Advanced Materials, 2022, 34, e2201387.	21.0	22
39	Transient optical response of quantum well excitons to intense narrowband terahertz pulses. Applied Physics Letters, 2009, 95, 201107.	3.3	21
40	Hyperbolic Bloch equations: Atom-cluster kinetics of an interacting Bose gas. Annals of Physics, 2015, 356, 185-243.	2.8	19
41	Controlling Defect Formation of Nanoscale AlN: Toward Efficient Current Conduction of Ultrawideâ€Bandgap Semiconductors. Advanced Electronic Materials, 2020, 6, 2000337.	5.1	19
42	Quantum-Memory Effects in the Emission of Quantum-Dot Microcavities. Physical Review Letters, 2014, 113, 093902.	7.8	17
43	Phonon sidebands in semiconductor luminescence. Physica Status Solidi (B): Basic Research, 2009, 246, 332-336.	1.5	15
44	Characterizing biexciton coherences with quantum spectroscopy. Physical Review B, 2014, 89, .	3.2	15
45	Excitation picture of an interacting Bose gas. Annals of Physics, 2014, 351, 200-249.	2.8	13
46	Charge-transfer states and optical transitions at the pentacene-TiO₂interface. New Journal of Physics, 2017, 19, 033019.	2.9	13
47	Scalable high-repetition-rate sub-half-cycle terahertz pulses from spatially indirect interband transitions. Light: Science and Applications, 2022, 11, .	16.6	13
48	Detection of THz radiation with semiconductor diode lasers. Applied Physics Letters, 2007, 91, .	3.3	9
49	Sequential build-up of quantum-optical correlations. Journal of the Optical Society of America B: Optical Physics, 2012, 29, A17.	2.1	8
50	Charging Dynamics in Electrically Pumped Quantum Wells. IEEE Journal of Quantum Electronics, 2009, 45, 1024-1032.	1.9	6
51	Coherent Terahertz Control of Vertical Transport in Semiconductor Heterostructures. Physical Review Letters, 2015, 114, 116802.	7.8	6
52	Excitonic terahertz absorption in semiconductors with effective-mass anisotropies. Journal of the Optical Society of America B: Optical Physics, 2016, 33, C30.	2.1	6
53	Control of the nonlinear response of bulk GaAs induced by long-wavelength infrared pulses. Optics Express, 2019, 27, 30462.	3.4	6
54	THz measurements of the optical response in a twoâ€dimensional electron gas. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 453-456.	0.8	5

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55	Magnetic control of Coulomb scattering and terahertz transitions among excitons. Physical Review B, 2014, 89, .	3.2	5
56	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
57	Quantum-light shaping and quantum spectroscopy in semiconductors. Semiconductors and Semimetals, 2020, , 417-460.	0.7	4
58	Hyperspectral absorption of semiconductor monolayer crystals. Applied Physics Letters, 2020, 116, .	3.3	4
59	Indirect interband optical transitions in a semiconductor quantum ring with submicrometer dimensions. Physical Review B, 2011, 84, .	3.2	3
60	Ultrafast transient gain in Ge/SiGe quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1109-1112.	0.8	2
61	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
62	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
63	Terahertz-induced exciton signatures in semiconductors. Physica Status Solidi (B): Basic Research, 2013, 250, 1768-1772.	1.5	2
64	High-harmonic generation in solids. Proceedings of SPIE, 2016, , .	0.8	2
65	Strong-Field Terahertz Excitations in Semiconductors. , 2018, , 33-39.		2
66	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
67	Quantumâ€optical spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 385-388.	0.8	1
68	Light-exciton coupling effects in semiconductor microcavities and heterostructures. , 0, , .		0
69	Signatures of polaritonic normal modes in the photoluminescence from periodic multiple quantum well structures following continuum excitation. , 0, , .		0
70	Signatures of Quantum Correlations in a Semiconductor Microcavity. Physica Status Solidi (B): Basic Research, 2000, 221, 107-110.	1.5	0
71	Quantum correlations in a semiconductor microcavity. , 0, , .		0
72	Quantum theory of the optical excitation of a semiconductor quantum dot. , 2007, , .		0

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73	Optical gain and transient nonlinearities in Ge quantum wells. , 2009, , .		0
74	Ultrafast nonlinear optical effects in semiconductor quantum wells resonantly driven by few-cycle Terahertz pulses. , 2009, , .		0
75	Microscopic theory of the linear and nonlinear Terahertz response of semiconductors. , 2009, , .		0
76	Modelling the interaction between terahertz radiation and semiconductors. , 2010, , .		0
77	Interaction of THz radiation with semiconductor many-body systems. , 2011, , .		0
78	Interaction of terahertz radiation with semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1198-1203.	0.8	0
79	Plasmaâ€related phononâ€sideband emission in semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1129-1132.	0.8	0
80	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
81	Coherent Bloch Oscillations Driven by Ultrastrong THz Excitation. , 2014, , .		0
82	Sub-cycle strong-field electron dynamics in a bulk semiconductor traced by high-order harmonic generation. , 2015, , .		0
83	Sub-cycle control of multi-THz high-harmonic generation and all-coherent charge transport in bulk semiconductors. , 2015, , .		0
84	Nonlinear quantum control of Landau systems beyond Kohn's theorem. , 2016, , .		0
85	Nonperturbative THz nonlinearities for many-body quantum control in semiconductors. , 2016, , .		0
86	THz-driven strong-field dynamics in solids: High-harmonic generation and quasiparticle collisions. , 2017, , .		0
87	Terahertz Quasiparticle Acceleration: From Electron-Hole Collisions To Lightwave Valleytronics. , 2018, , .		0
88	Lightwave control of the valley pseudospin in a monolayer of tungsten diselenide. EPJ Web of Conferences, 2019, 205, 05011.	0.3	0
89	Electronâ€“hole collisions in an atomically thin semiconductor. Journal of Physics: Conference Series, 2019, 1220, 012001.	0.4	0
90	Controlling condensed matter with lightwave fields and forces. , 2021, , .		0

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91	Phase-locked Multi-THz High-Harmonic Generation by Dynamical Bloch Oscillations in Bulk Semiconductors. , 2014, , .		0
92	Terahertz-driven High Harmonic Generation in Bulk Crystals. , 2016, , .		0
93	Terahertz subcycle control: from high-harmonic generation to molecular snapshots. , 2017, , .		0
94	Macroscopically Visible Quantum Interference Due to Strong Interactions in Colliding BECs. , 2017, , .		0
95	Quantum-Interference Controlled High Harmonics in Semiconductors. , 2017, , .		0
96	Non-perturbative THz Subcycle Nonlinearities: From Atomically Strong Fields to Vacuum Fields. , 2018, , .		0
97	Terahertz subcycle control of charge, spin & pseudospin. , 2019, , .		0
98	Valleytronics on the subcycle timescale. , 2019, , .		0
99	Lightwave control of Dirac electrons and the valley pseudospin. , 2019, , .		0
100	Terahertz lightwave electronics and valleytronics. , 2019, , .		0
101	Ultrafast Quantum-memory Effects in Carbon Nanotubes. , 2020, , .		0
102	Two-photon Absorption in Semiconductor Monolayers. , 2020, , .		0