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	Scalable Synthesis of Monolayer Hexagonal Boron Nitride on Graphene with Giant Bandgap Renormalization. Advanced Materials, 2022, 34, e2201387.	21.0	22
2	Scalable high-repetition-rate sub-half-cycle terahertz pulses from spatially indirect interband transitions. Light: Science and Applications, 2022, 11, .	16.6	13
3	Controlling condensed matter with lightwave fields and forces. , 2021, , .		0
4	Monolayer GaN excitonic deep ultraviolet light emitting diodes. Applied Physics Letters, 2020, 116, .	3.3	39
5	Super-resolution lightwave tomography of electronic bands in quantum materials. Science, 2020, 370, 1204-1207.	12.6	38
6	Quantum-light shaping and quantum spectroscopy in semiconductors. Semiconductors and Semimetals, 2020, , 417-460.	0.7	4
7	Controlling Defect Formation of Nanoscale AlN: Toward Efficient Current Conduction of Ultrawideâ€Bandgap Semiconductors. Advanced Electronic Materials, 2020, 6, 2000337.	5.1	19
8	Hyperspectral absorption of semiconductor monolayer crystals. Applied Physics Letters, 2020, 116, .	3.3	4
9	Ultrafast Quantum-memory Effects in Carbon Nanotubes. , 2020, , .		0
10	Two-photon Absorption in Semiconductor Monolayers. , 2020, , .		0
11	Lightwave control of the valley pseudospin in a monolayer of tungsten diselenide. EPJ Web of Conferences, 2019, 205, 05011.	0.3	0
12	Optical generation of high carrier densities in 2D semiconductor heterobilayers. Science Advances, 2019, 5, eaax0145.	10.3	80
13	Electronâ€“hole collisions in an atomically thin semiconductor. Journal of Physics: Conference Series, 2019, 1220, 012001.	0.4	0
14	Control of the nonlinear response of bulk GaAs induced by long-wavelength infrared pulses. Optics Express, 2019, 27, 30462.	3.4	6
15	Terahertz subcycle control of charge, spin & pseudospin. , 2019, , .		0
16	Valleytronics on the subcycle timescale. , 2019, , .		0
17	Lightwave control of Dirac electrons and the valley pseudospin. , 2019, , .		0
18	Terahertz lightwave electronics and valleytronics. , 2019, , .		0

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19	Lightwave valleytronics in a monolayer of tungsten diselenide. Nature, 2018, 557, 76-80.	27.8	201
20	Terahertz Quasiparticle Acceleration: From Electron-Hole Collisions To Lightwave Valleytronics. , 2018, , .		0
21	Strong-Field Terahertz Excitations in Semiconductors. , 2018, , 33-39.		2
22	Non-perturbative THz Subcycle Nonlinearities: From Atomically Strong Fields to Vacuum Fields. , 2018, , .		0
23	Charge-transfer states and optical transitions at the pentacene-TiO₂interface. New Journal of Physics, 2017, 19, 033019.	2.9	13
24	Symmetry-controlled temporal structure of high-harmonic carrier fields from a bulk crystal. Nature Photonics, 2017, 11, 227-231.	31.4	128
25	Ultrahigh Offâ€Resonant Field Effects in Semiconductors. Laser and Photonics Reviews, 2017, 11, 1700049.	8.7	51
26	THz-driven strong-field dynamics in solids: High-harmonic generation and quasiparticle collisions. , 2017, , .		0
27	Terahertz subcycle control: from high-harmonic generation to molecular snapshots. , 2017, , .		0
28	Macroscopically Visible Quantum Interference Due to Strong Interactions in Colliding BECs. , 2017, , .		0
29	Quantum-Interference Controlled High Harmonics in Semiconductors. , 2017, , .		0
30	Nonlinear quantum control of Landau systems beyond Kohn's theorem. , 2016, , .		0
31	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
32	High-harmonic generation in solids. Proceedings of SPIE, 2016, , .	0.8	2
33	Lightwave-driven quasiparticle collisions on a subcycle timescale. Nature, 2016, 533, 225-229.	27.8	216
34	Nonperturbative THz nonlinearities for many-body quantum control in semiconductors. , 2016, , .		0
35	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
36	Coherent cyclotron motion beyond Kohnâ€™sÂtheorem. Nature Physics, 2016, 12, 119-123.	16.7	41

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37	Terahertz-driven High Harmonic Generation in Bulk Crystals. , 2016, , .		0
38	Sub-cycle strong-field electron dynamics in a bulk semiconductor traced by high-order harmonic generation. , 2015, , .		0
39	Real-time observation of interfering crystal electrons in high-harmonic generation. Nature, 2015, 523, 572-575.	27.8	480
40	Coherent Terahertz Control of Vertical Transport in Semiconductor Heterostructures. Physical Review Letters, 2015, 114, 116802.	7.8	6
41	Hyperbolic Bloch equations: Atom-cluster kinetics of an interacting Bose gas. Annals of Physics, 2015, 356, 185-243.	2.8	19
42	Coherent quantum depletion of an interacting atom condensate. Nature Communications, 2015, 6, 6624.	12.8	27
43	Sub-cycle control of multi-THz high-harmonic generation and all-coherent charge transport in bulk semiconductors. , 2015, , .		0
44	Coherent Bloch Oscillations Driven by Ultrastrong THz Excitation. , 2014, , .		0
45	Magnetic control of Coulomb scattering and terahertz transitions among excitons. Physical Review B, 2014, 89, .	3.2	5
46	Characterizing biexciton coherences with quantum spectroscopy. Physical Review B, 2014, 89, .	3.2	15
47	Quantum droplets of electrons and holes. Nature, 2014, 506, 471-475.	27.8	101
48	Sub-cycle control of terahertz high-harmonic generation by dynamical Bloch oscillations. Nature Photonics, 2014, 8, 119-123.	31.4	808
49	Excitation picture of an interacting Bose gas. Annals of Physics, 2014, 351, 200-249.	2.8	13
50	Quantum-Memory Effects in the Emission of Quantum-Dot Microcavities. Physical Review Letters, 2014, 113, 093902.	7.8	17
51	Phase-locked Multi-THz High-Harmonic Generation by Dynamical Bloch Oscillations in Bulk Semiconductors. , 2014, , .		0
52	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
53	Observation of Forbidden Exciton Transitions Mediated by Coulomb Interactions in Photoexcited Semiconductor Quantum Wells. Physical Review Letters, 2013, 110, 137404.	7.8	27
54	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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55	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
56	Terahertz-induced exciton signatures in semiconductors. Physica Status Solidi (B): Basic Research, 2013, 250, 1768-1772.	1.5	2
57	Sequential build-up of quantum-optical correlations. Journal of the Optical Society of America B: Optical Physics, 2012, 29, A17.	2.1	8
58	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
59	Interaction of THz radiation with semiconductor many-body systems. , 2011, , .		0
60	Indirect interband optical transitions in a semiconductor quantum ring with submicrometer dimensions. Physical Review B, 2011, 84, .	3.2	3
61	Quantum spectroscopy with SchrÃ¶dinger-cat states. Nature Physics, 2011, 7, 799-804.	16.7	99
62	Microscopic theory of the extremely nonlinear terahertz response of semiconductors. Physica Status Solidi (B): Basic Research, 2011, 248, 863-866.	1.5	55
63	Interaction of terahertz radiation with semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1198-1203.	0.8	0
64	Plasmaâ€related phononâ€sideband emission in semiconductors. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1129-1132.	0.8	0
65	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
66	Modelling the interaction between terahertz radiation and semiconductors. , 2010, , .		0
67	Extraction of Many-Body Configurations from Nonlinear Absorption in Semiconductor Quantum Wells. Physical Review Letters, 2010, 104, 247401.	7.8	54
68	Optical gain and transient nonlinearities in Ge quantum wells. , 2009, , .		0
69	Fano Signatures in the Intersubband Terahertz Response of Optically Excited Semiconductor Quantum Wells. Physical Review Letters, 2009, 102, 127403.	7.8	27
70	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
71	Ultrafast nonlinear optical effects in semiconductor quantum wells resonantly driven by few-cycle Terahertz pulses. , 2009, , .		0
72	Microscopic theory of the linear and nonlinear Terahertz response of semiconductors. , 2009, , .		0

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73	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
74	Phonon sidebands in semiconductor luminescence. Physica Status Solidi (B): Basic Research, 2009, 246, 332-336.	1.5	15
75	Quantumâ€optical spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 385-388.	0.8	1
76	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
77	Transient optical response of quantum well excitons to intense narrowband terahertz pulses. Applied Physics Letters, 2009, 95, 201107.	3.3	21
78	Charging Dynamics in Electrically Pumped Quantum Wells. IEEE Journal of Quantum Electronics, 2009, 45, 1024-1032.	1.9	6
79	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
80	Characterization of Strong Light-Matter Coupling in Semiconductor Quantum-Dot Microcavities via Photon-Statistics Spectroscopy. Physical Review Letters, 2008, 101, 097401.	7.8	47
81	Cluster-expansion representation in quantum optics. Physical Review A, 2008, 78, .	2.5	66
82	Quantum theory of the optical excitation of a semiconductor quantum dot. , 2007, , .		0
83	Detection of THz radiation with semiconductor diode lasers. Applied Physics Letters, 2007, 91, .	3.3	9
84	Vacuum Rabi splitting in semiconductors. Nature Physics, 2006, 2, 81-90.	16.7	782
85	Semiconductor excitons in new light. Nature Materials, 2006, 5, 523-531.	27.5	272
86	Many-body correlations and excitonic effects in semiconductor spectroscopy. Progress in Quantum Electronics, 2006, 30, 155-296.	7.0	339
87	Quantum-optical spectroscopy of semiconductors. Physical Review A, 2006, 73, .	2.5	93
88	Terahertz signatures of the exciton formation dynamics in non-resonantly excited semiconductors. Solid State Communications, 2004, 129, 733-736.	1.9	39
89	Excitonic Photoluminescence in Semiconductor Quantum Wells: Plasma versus Excitons. Physical Review Letters, 2004, 92, 067402.	7.8	118
90	Influence of Coulomb and phonon interaction on the exciton formation dynamics in semiconductor heterostructures. Physical Review B, 2003, 67, .	3.2	75

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91	Exciton Formation in Semiconductors and the Influence of a Photonic Environment. Physical Review Letters, 2001, 87, 176401.	7.8	96
92	Signatures of Quantum Correlations in a Semiconductor Microcavity. Physica Status Solidi (B): Basic Research, 2000, 221, 107-110.	1.5	0
93	Quantum Correlations in the Nonperturbative Regime of Semiconductor Microcavities. Physical Review Letters, 2000, 85, 5392-5395.	7.8	36
94	Quantum Theory of Secondary Emission in Optically Excited Semiconductor Quantum Wells. Physical Review Letters, 1999, 82, 3544-3547.	7.8	78
95	Quantum Correlations and Intraband Coherences in Semiconductor Cavity QED. Physical Review Letters, 1999, 83, 5338-5341.	7.8	42
96	Quantum theory of spontaneous emission and coherent effects in semiconductor microstructures. Progress in Quantum Electronics, 1999, 23, 189-279.	7.0	212
97	Nonlinear optics of normal-mode-coupling semiconductor microcavities. Reviews of Modern Physics, 1999, 71, 1591-1639.	45.6	532
98	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
99	Excitonic Nonlinearities of Semiconductor Microcavities in the Nonperturbative Regime. Physical Review Letters, 1996, 77, 5257-5260.	7.8	167
100	Light-exciton coupling effects in semiconductor microcavities and heterostructures. , 0, , .		0
101	Signatures of polaritonic normal modes in the photoluminescence from periodic multiple quantum well structures following continuum excitation. , 0, , .		0
102	Quantum correlations in a semiconductor microcavity. , 0, , .		0