Ido Kaminer

List of Publications by Year
in descending order

128 papers	5,521 citations	76326 40 h-index	85541 71 g-index
135 all docs	135 docs citations	135 times ranked	3914 citing authors

#	Article	IF	Citations
1	Spinâ€Spacetime Censorship. Annalen Der Physik, 2022, 534, 2100348.	2.4	0
2	Light emission by free electrons in photonic time-crystals. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	35
3	A framework for scintillation in nanophotonics. Science, 2022, 375, eabm9293.	12.6	59
4	Free electrons can induce entanglement between photons. Npj Quantum Information, 2022, 8, .	6.7	21
5	Comment on â€œNonlinear quantum effects in electromagnetic radiation of a vortex electronâ€. Physical Review A, 2022, 105, .	2.5	2
6	Synthetic cells with self-activating optogenetic proteins communicate with natural cells. Nature Communications, 2022, 13, 2328.	12.8	23
7	Dynamic recognition and mirage using neuro-metamaterials. Nature Communications, 2022, 13, 2694.	12.8	37
8	Optimizing the spontaneous-emission of far-UVC phosphors. Applied Physics Letters, 2022, 120, 231902.	3.3	3
9	Cylindrical Metalens for Generation and Focusing of Free-Electron Radiation. Nano Letters, 2022, 22, 5641-5650.	9.1	12
10	Freeâ€Electron Qubits. Annalen Der Physik, 2021, 533, 2000254.	2.4	30
11	Free Electrons Can Induce Quantum Correlations Between Two Separate Photonic Cavities. , 2021, , .		0
12	Purcell-Enhanced UV Sources. , 2021, , .		0
13	Smith-Purcell Metasurface Lens. , 2021, , .		1
14	Ultrafast non-destructive measurement of the quantum state of light with free electrons. , 2021, , .		7
15	Observation of 2D Cherenkov radiation and its Quantized Photonic Nature Using Free-Electrons. , 2021, , .		1
16	A general framework for shaping luminescence in materials. , 2021, , .		0
17	Imaging the dynamics of 2D polariton wavepackets. , 2021, , .		0
18	The Fock-State Laser: Macroscopic Quantum States of Light Based on Deep Strong Light-Matter Coupling. , 2021, , .		0

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19	Quantum correlations in electron microscopy. Optica, 2021, 8, 70.	9.3	18
20	Generating conjectures on fundamental constants with the Ramanujan Machine. Nature, 2021, 590, 67-73.	27.8	22
21	Polarization Shaping of Freeâ€Electron Radiation by Gradient Bianisotropic Metasurfaces. Laser and Photonics Reviews, 2021, 15, 2000426.	8.7	36
22	Shaping quantum photonic states using free electrons. Science Advances, 2021, 7, .	10.3	46
23	Control of quantum electrodynamical processes by shaping electron wavepackets. Nature Communications, 2021, 12, 1700.	12.8	34
24	The coherence of light is fundamentally tied to the quantum coherence of the emitting particle. Science Advances, 2021, 7, .	10.3	42
25	Creating heralded hyper-entangled photons using Rydberg atoms. Light: Science and Applications, 2021, 10, 100.	16.6	2
26	Combining density functional theory with macroscopic QED for quantum light-matter interactions in 2D materials. Nature Communications, 2021, 12, 2778.	12.8	14
27	Spatiotemporal imaging of 2D polariton wave packet dynamics using free electrons. Science, 2021, 372, 1181-1186.	12.6	56
28	Toward Atomic-Resolution Quantum Measurements with Coherently Shaped Free Electrons. Physical Review Letters, 2021, 126, 233403.	7.8	38
29	Temporal and spatial design of x-ray pulses based on free-electronâ€“crystal interaction. APL Photonics, 2021, 6, .	5.7	12
30	Experimental observation of acceleration-induced thermality. Physical Review D, 2021, 104, .	4.7	15
31	Extreme Light-Matter Interactions in the Ultrafast Transmission Electron Microscope. Microscopy and Microanalysis, 2021, 27, 3122-3122.	0.4	1
32	Superradiance and Subradiance due to Quantum Interference of Entangled Free Electrons. Physical Review Letters, 2021, 127, 060403.	7.8	22
33	Imprinting the quantum statistics of photons on free electrons. Science, 2021, 373, eabj7128.	12.6	75
34	Vortex beams of atoms and molecules. Science, 2021, 373, 1105-1109.	12.6	37
35	Prospects in x-ray science emerging from quantum optics and nanomaterials. Applied Physics Letters, 2021, 119, .	3.3	18
36	A Brewster route to Cherenkov detectors. Nature Communications, 2021, 12, 5554.	12.8	24

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37	Shaping Quantum Photonic States Using Free Electrons. , 2021, , .		1
38	Superradiant Cathodoluminescence. , 2021, , .		1
39	Active spatial modulation of free electrons by controlling the shape and intensity of plasmonic fields. , 2021, , .		0
40	Free-Electron Interactions with Designed van der Waals Materials: Novel Source of Lensed X-ray Radiation. , 2021, , .		1
41	The Synthetic Hilbert Space of Laser-Driven Free-Electrons. , 2021, , .		0
42	Generation of tunable ultrashort X-ray pulses and delta-pulse trains in van der Waals materials. , 2021, , .		0
43	Quantum Nature of Dielectric Laser Accelerators. Physical Review X, 2021, 11, .	8.9	13
44	Longitudinal and transverse modulation of electron wave function with light, and its application to electron microscopy. , 2021, , .		0
45	Graphene Metamaterials for Intense, Tunable, and Compact Extreme Ultraviolet and Xâ€Ray Sources. Advanced Science, 2020, 7, 1901609.	11.2	21
46	Lightâ€“matter interactions with photonic quasiparticles. Nature Reviews Physics, 2020, 2, 538-561.	26.6	178
47	Resonant phase-matching between a light wave and a free-electron wavefunction. Nature Physics, 2020, 16, 1123-1131.	16.7	101
48	Photonic-Crystal Scintillators: Molding the Flow of Light to Enhance X-Ray and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î³</mml:mi></mml:math> -Ray Detection. Physical Review Letters, 2020, 125, 040801.	7.8	27
49	The Complex Charge Paradigm: A New Approach for Designing Electromagnetic Wavepackets. Advanced Science, 2020, 7, 1903377.	11.2	17
50	The quantum-optical nature of high harmonic generation. Nature Communications, 2020, 11, 4598.	12.8	49
51	Tunable free-electron X-ray radiation from van der Waals materials. Nature Photonics, 2020, 14, 686-692.	31.4	48
52	Theory of Shaping Electron Wavepackets with Light. ACS Photonics, 2020, 7, 2859-2870.	6.6	54
53	Coherent interaction between free electrons and a photonic cavity. Nature, 2020, 582, 50-54.	27.8	135
54	Monochromatic X-ray Source Based on Scattering from a Magnetic Nanoundulator. ACS Photonics, 2020, 7, 1096-1103.	6.6	4

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55	Back to Normal: An Old Physics Route to Reduce SARS-CoV-2 Transmission in Indoor Spaces. ACS Nano, 2020, 14, 7704-7713.	14.6	88
56	Tunable bandgap renormalization by nonlocal ultra-strong coupling in nanophotonics. Nature Physics, 2020, 16, 868-874.	16.7	16
57	Efficient generation of extreme terahertz harmonics in three-dimensional Dirac semimetals. Physical Review Research, 2020, 2, .	3.6	29
58	Observation of the Stimulated Quantum Cherenkov Effect. , 2020, , .		3
59	Spatial modulation of free-electron wavepackets by shaping ultrafast plasmonic excitations. , 2020, , .		2
60	Unveiling Emitter Wavefunction Size via the Quantum Coherence of its Radiation. , 2020, , .		2
61	Observation of the Quantum Nature of Laser-Driven Particle Acceleration. , 2020, , .		2
62	Optimizing optical nanostructures for X-ray detection. AIP Conference Proceedings, 2020, , .	0.4	0
63	Toward Quantum Optics with Free Electrons. Optics and Photonics News, 2020, 31, 35.	0.5	0
64	Toward Nanophotonic Free-Electron Lasers. , 2020, , .		1
65	Experimental Evidence for the Unruh Effect. , 2020, , .		0
66	Anomalous Suppression of Higher-Order Nonlinearities in 3D Dirac Semimetals. , 2020, , .		0
67	Observing the Quantum Wave Nature of Free Electrons through Spontaneous Emission. Physical Review Letters, 2019, 123, 060401.	7.8	44
68	Towards integrated tunable all-silicon free-electron light sources. Nature Communications, 2019, 10, 3176.	12.8	55
69	Ultrafast Carrier Dynamics and Bandgap Renormalization in Layered PtSe₂. Small, 2019, 15, e1902728.	10.0	60
70	Light emission based on nanophotonic vacuum forces. Nature Physics, 2019, 15, 1284-1289.	16.7	21
71	Accelerated-Cherenkov radiation and signatures of radiation reaction. New Journal of Physics, 2019, 21, 083038.	2.9	3
72	Ultrafast generation and control of an electron vortex beam via chiral plasmonic near fields. Nature Materials, 2019, 18, 573-579.	27.5	120

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73	Ultrafast Multiharmonic Plasmon Generation by Optically Dressed Electrons. Physical Review Letters, 2019, 122, 053901.	7.8	8
74	Experimental Observation of Superscattering. Physical Review Letters, 2019, 122, 063901.	7.8	88
75	Controlling spins with surface magnon polaritons. Physical Review B, 2019, 100, .	3.2	19
76	Transmission Nearfield Optical Microscopy (TNOM) of Photonic Crystal Bloch Modes. , 2019, , .		1
77	Free Electron Qubits. , 2019, , .		3
78	Imaging the collapse of electron wave-functions: the relation to plasmonic losses. , 2019, , .		3
79	Multifrequency Superscattering from Subwavelength Hyperbolic Structures. ACS Photonics, 2018, 5, 1506-1511.	6.6	63
80	â€˜Twistedâ€™ electrons. Contemporary Physics, 2018, 59, 126-144.	1.8	40
81	meV Resolution in Laser-Assisted Energy-Filtered Transmission Electron Microscopy. ACS Photonics, 2018, 5, 759-764.	6.6	70
82	Tunable UV-Emitters through Graphene Plasmonics. Nano Letters, 2018, 18, 308-313.	9.1	21
83	Metasurface-based multi-harmonic free-electron light source. Light: Science and Applications, 2018, 7, 64.	16.6	40
84	Nonperturbative Quantum Electrodynamics in the Cherenkov Effect. Physical Review X, 2018, 8, .	8.9	9
85	Smithâ€"Purcell Radiation from Low-Energy Electrons. ACS Photonics, 2018, 5, 3513-3518.	6.6	46
86	Controlling Cherenkov angles with resonance transition radiation. Nature Physics, 2018, 14, 816-821.	16.7	88
87	Efficient orbital angular momentum transfer between plasmons and free electrons. Physical Review B, 2018, 98, .	3.2	35
88	Superlight inverse Doppler effect. Nature Physics, 2018, 14, 1001-1005.	16.7	54
89	Maximal spontaneous photon emission and energy loss from free electrons. Nature Physics, 2018, 14, 894-899.	16.7	100
90	Twisting neutrons may reveal their internal structure. Nature Physics, 2018, 14, 1-2.	16.7	30

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91	Shaping Polaritons to Reshape Selection Rules. ACS Photonics, 2018, 5, 3064-3072.	6.6	15
92	Attosecond coherent control of free-electron wave functions using semi-infinite light fields. Nature Communications, 2018, 9, 2694.	12.8	136
93	Control of semiconductor emitter frequency by increasing polariton momenta. Nature Photonics, 2018, 12, 423-429.	31.4	32
94	Splashing transients of 2D plasmons launched by swift electrons. Science Advances, 2017, 3, e1601192.	10.3	69
95	Spectrally and Spatially Resolved Smith-Purcell Radiation in Plasmonic Crystals with Short-Range Disorder. Physical Review X, 2017, 7, .	8.9	43
96	All-angle negative refraction of highly squeezed plasmon and phonon polaritons in grapheneâ€“boron nitride heterostructures. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6717-6721.	7.1	144
97	Abruptly Focusing and Defocusing Needles of Light and Closed-Form Electromagnetic Wavepackets. ACS Photonics, 2017, 4, 1131-1137.	6.6	35
98	Light generation via quantum interaction of electrons with periodic nanostructures. Physical Review A, 2017, 95, .	2.5	38
99	Ultrashort Tilted-Pulse-Front Pulses and NonparaxialÂTilted-Phase-Front Beams. ACS Photonics, 2017, 4, 2257-2264.	6.6	54
100	Constructing â€œDesigner Atomsâ€•via Resonant Graphene-Induced Lamb Shifts. ACS Photonics, 2017, 4, 3098-3105.	6.6	14
101	Non-diffracting multi-ï»¿electron vortex beams balancing their electronâ€“electron interactions. Nature Communications, 2017, 8, 650.	12.8	7
102	Laser-Induced Linear-Field Particle Acceleration in Free Space. Scientific Reports, 2017, 7, 11159.	3.3	39
103	Topologically enabled optical nanomotors. Science Advances, 2017, 3, e1602738.	10.3	28
104	Spectral and spatial shaping of Smith-Purcell radiation. Physical Review A, 2017, 96, .	2.5	47
105	Making two-photon processes dominate one-photon processes using mid-IR phonon polaritons. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13607-13612.	7.1	44
106	Tailoring the energy distribution and loss of 2D plasmons. New Journal of Physics, 2016, 18, 105007.	2.9	34
107	Transverse-electric Brewster effect enabled by nonmagnetic two-dimensional materials. Physical Review A, 2016, 94, .	2.5	30
108	Direct imaging of isofrequency contours in photonic structures. Science Advances, 2016, 2, e1601591.	10.3	25

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109	Efficient plasmonic emission by the quantum ÄŒerenkov effect from hot carriers in graphene. Nature Communications, 2016, 7, ncomms11880.	12.8	78
110	Shrinking light to allow forbidden transitions on the atomic scale. Science, 2016, 353, 263-269.	12.6	185
111	Quantum ÄŒerenkov Radiation: Spectral Cutoffs and the Role of Spin and Orbital Angular Momentum. Physical Review X, 2016, 6, .	8.9	51
112	Exploiting Optical Asymmetry for Controlled Guiding of Particles with Light. ACS Photonics, 2016, 3, 197-202.	6.6	38
113	Towards graphene plasmon-based free-electron infrared to X-ray sources. Nature Photonics, 2016, 10, 46-52.	31.4	112
114	Consume, Modify, Share (CMS): The Interplay between Individual Decisions and Structural Network Properties in the Diffusion of Information. PLoS ONE, 2016, 11, e0164651.	2.5	0
115	Self-accelerating Dirac particles and prolonging the lifetime of relativistic fermions. Nature Physics, 2015, 11, 261-267.	16.7	48
116	Spawning rings of exceptional points out of Dirac cones. Nature, 2015, 525, 354-358.	27.8	610
117	Loss-proof self-accelerating beams and their use in non-paraxial manipulation of particlesâ€™ trajectories. Nature Communications, 2014, 5, 5189.	12.8	89
118	Exploring the effect of reinvention on critical mass formation and the diffusion of information in a social network. Social Network Analysis and Mining, 2014, 4, 1.	2.8	1
119	Accelerating Optical Beams. Optics and Photonics News, 2013, 24, 30.	0.5	74
120	Self-accelerating beams in photonic crystals. Optics Express, 2013, 21, 8886.	3.4	37
121	Self-accelerating self-trapped nonlinear beams of Maxwell's equations. Optics Express, 2012, 20, 18827.	3.4	29
122	Fully Vectorial Accelerating Diffraction-Free Helmholtz Beams. Physical Review Letters, 2012, 109, 203902.	7.8	144
123	Nondiffracting Accelerating Wave Packets of Maxwellâ€™s Equations. Physical Review Letters, 2012, 108, 163901.	7.8	295
124	Self-Accelerating Self-Trapped Optical Beams. Physical Review Letters, 2011, 106, 213903.	7.8	221
125	Causality effects on accelerating light pulses. Optics Express, 2011, 19, 23132.	3.4	61
126	Stochastic Recurrent Dynamics of Complex Systems of Solitons. Physical Review Letters, 2010, 105, 083901.	7.8	2

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127	Solitonets: complex networks of interacting fields. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 1093-1101.	2.1	5
128	Periodic solitons in nonlocal nonlinear media. Optics Letters, 2007, 32, 3209.	3.3	43