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	Spawning rings of exceptional points out of Dirac cones. Nature, 2015, 525, 354-358.	27.8	610
2	Nondiffracting Accelerating Wave Packets of Maxwellâ€™s Equations. Physical Review Letters, 2012, 108, 163901.	7.8	295
3	Self-Accelerating Self-Trapped Optical Beams. Physical Review Letters, 2011, 106, 213903.	7.8	221
4	Shrinking light to allow forbidden transitions on the atomic scale. Science, 2016, 353, 263-269.	12.6	185
5	Lightâ€“matter interactions with photonic quasiparticles. Nature Reviews Physics, 2020, 2, 538-561.	26.6	178
6	Fully Vectorial Accelerating Diffraction-Free Helmholtz Beams. Physical Review Letters, 2012, 109, 203902.	7.8	144
7	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
8	Attosecond coherent control of free-electron wave functions using semi-infinite light fields. Nature Communications, 2018, 9, 2694.	12.8	136
9	Coherent interaction between free electrons and a photonic cavity. Nature, 2020, 582, 50-54.	27.8	135
10	Ultrafast generation and control of an electron vortex beam via chiral plasmonic near fields. Nature Materials, 2019, 18, 573-579.	27.5	120
11	Towards graphene plasmon-based free-electron infrared to X-ray sources. Nature Photonics, 2016, 10, 46-52.	31.4	112
12	Resonant phase-matching between a light wave and a free-electron wavefunction. Nature Physics, 2020, 16, 1123-1131.	16.7	101
13	Maximal spontaneous photon emission and energy loss from free electrons. Nature Physics, 2018, 14, 894-899.	16.7	100
14	Loss-proof self-accelerating beams and their use in non-paraxial manipulation of particlesâ€™ trajectories. Nature Communications, 2014, 5, 5189.	12.8	89
15	Controlling Cherenkov angles with resonance transition radiation. Nature Physics, 2018, 14, 816-821.	16.7	88
16	Experimental Observation of Superscattering. Physical Review Letters, 2019, 122, 063901.	7.8	88
17	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
18	Efficient plasmonic emission by the quantum ÄŒerenkov effect from hot carriers in graphene. Nature Communications, 2016, 7, ncomms11880.	12.8	78

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19	Imprinting the quantum statistics of photons on free electrons. Science, 2021, 373, eabj7128.	12.6	75
20	Accelerating Optical Beams. Optics and Photonics News, 2013, 24, 30.	0.5	74
21	meV Resolution in Laser-Assisted Energy-Filtered Transmission Electron Microscopy. ACS Photonics, 2018, 5, 759-764.	6.6	70
22	Splashing transients of 2D plasmons launched by swift electrons. Science Advances, 2017, 3, e1601192.	10.3	69
23	Multifrequency Superscattering from Subwavelength Hyperbolic Structures. ACS Photonics, 2018, 5, 1506-1511.	6.6	63
24	Causality effects on accelerating light pulses. Optics Express, 2011, 19, 23132.	3.4	61
25	Ultrafast Carrier Dynamics and Bandgap Renormalization in Layered PtSe₂. Small, 2019, 15, e1902728.	10.0	60
26	A framework for scintillation in nanophotonics. Science, 2022, 375, eabm9293.	12.6	59
27	Spatiotemporal imaging of 2D polariton wave packet dynamics using free electrons. Science, 2021, 372, 1181-1186.	12.6	56
28	Towards integrated tunable all-silicon free-electron light sources. Nature Communications, 2019, 10, 3176.	12.8	55
29	Ultrashort Tilted-Pulse-Front Pulses and NonparaxialÂTilted-Phase-Front Beams. ACS Photonics, 2017, 4, 2257-2264.	6.6	54
30	Superlight inverse Doppler effect. Nature Physics, 2018, 14, 1001-1005.	16.7	54
31	Theory of Shaping Electron Wavepackets with Light. ACS Photonics, 2020, 7, 2859-2870.	6.6	54
32	Quantum ÄŒerenkov Radiation: Spectral Cutoffs and the Role of Spin and Orbital Angular Momentum. Physical Review X, 2016, 6, .	8.9	51
33	The quantum-optical nature of high harmonic generation. Nature Communications, 2020, 11, 4598.	12.8	49
34	Self-accelerating Dirac particles and prolonging the lifetime of relativistic fermions. Nature Physics, 2015, 11, 261-267.	16.7	48
35	Tunable free-electron X-ray radiation from van der Waals materials. Nature Photonics, 2020, 14, 686-692.	31.4	48
36	Spectral and spatial shaping of Smith-Purcell radiation. Physical Review A, 2017, 96, .	2.5	47

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37	Smithâ€“Purcell Radiation from Low-Energy Electrons. ACS Photonics, 2018, 5, 3513-3518.	6.6	46
38	Shaping quantum photonic states using free electrons. Science Advances, 2021, 7, .	10.3	46
39	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
40	Observing the Quantum Wave Nature of Free Electrons through Spontaneous Emission. Physical Review Letters, 2019, 123, 060401.	7.8	44
41	Periodic solitons in nonlocal nonlinear media. Optics Letters, 2007, 32, 3209.	3.3	43
42	Spectrally and Spatially Resolved Smith-Purcell Radiation in Plasmonic Crystals with Short-Range Disorder. Physical Review X, 2017, 7, .	8.9	43
43	The coherence of light is fundamentally tied to the quantum coherence of the emitting particle. Science Advances, 2021, 7, .	10.3	42
44	â€˜Twistedâ€™ electrons. Contemporary Physics, 2018, 59, 126-144.	1.8	40
45	Metasurface-based multi-harmonic free-electron light source. Light: Science and Applications, 2018, 7, 64.	16.6	40
46	Laser-Induced Linear-Field Particle Acceleration in Free Space. Scientific Reports, 2017, 7, 11159.	3.3	39
47	Exploiting Optical Asymmetry for Controlled Guiding of Particles with Light. ACS Photonics, 2016, 3, 197-202.	6.6	38
48	Light generation via quantum interaction of electrons with periodic nanostructures. Physical Review A, 2017, 95, .	2.5	38
49	Toward Atomic-Resolution Quantum Measurements with Coherently Shaped Free Electrons. Physical Review Letters, 2021, 126, 233403.	7.8	38
50	Self-accelerating beams in photonic crystals. Optics Express, 2013, 21, 8886.	3.4	37
51	Vortex beams of atoms and molecules. Science, 2021, 373, 1105-1109.	12.6	37
52	Dynamic recognition and mirage using neuro-metamaterials. Nature Communications, 2022, 13, 2694.	12.8	37
53	Polarization Shaping of Freeâ€Electron Radiation by Gradient Bianisotropic Metasurfaces. Laser and Photonics Reviews, 2021, 15, 2000426.	8.7	36
54	Abruptly Focusing and Defocusing Needles of Light and Closed-Form Electromagnetic Wavepackets. ACS Photonics, 2017, 4, 1131-1137.	6.6	35

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55	Efficient orbital angular momentum transfer between plasmons and free electrons. Physical Review B, 2018, 98, .	3.2	35
56	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
57	Tailoring the energy distribution and loss of 2D plasmons. New Journal of Physics, 2016, 18, 105007.	2.9	34
58	Control of quantum electrodynamical processes by shaping electron wavepackets. Nature Communications, 2021, 12, 1700.	12.8	34
59	Control of semiconductor emitter frequency by increasing polariton momenta. Nature Photonics, 2018, 12, 423-429.	31.4	32
60	Transverse-electric Brewster effect enabled by nonmagnetic two-dimensional materials. Physical Review A, 2016, 94, .	2.5	30
61	Twisting neutrons may reveal their internal structure. Nature Physics, 2018, 14, 1-2.	16.7	30
62	Freeâ€Electron Qubits. Annalen Der Physik, 2021, 533, 2000254.	2.4	30
63	Self-accelerating self-trapped nonlinear beams of Maxwell's equations. Optics Express, 2012, 20, 18827.	3.4	29
64	Efficient generation of extreme terahertz harmonics in three-dimensional Dirac semimetals. Physical Review Research, 2020, 2, .	3.6	29
65	Topologically enabled optical nanomotors. Science Advances, 2017, 3, e1602738.	10.3	28
66	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
67	Direct imaging of isofrequency contours in photonic structures. Science Advances, 2016, 2, e1601591.	10.3	25
68	A Brewster route to Cherenkov detectors. Nature Communications, 2021, 12, 5554.	12.8	24
69	Synthetic cells with self-activating optogenetic proteins communicate with natural cells. Nature Communications, 2022, 13, 2328.	12.8	23
70	Generating conjectures on fundamental constants with the Ramanujan Machine. Nature, 2021, 590, 67-73.	27.8	22
71	Superradiance and Subradiance due to Quantum Interference of Entangled Free Electrons. Physical Review Letters, 2021, 127, 060403.	7.8	22
72	Tunable UV-Emitters through Graphene Plasmonics. Nano Letters, 2018, 18, 308-313.	9.1	21

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73	Light emission based on nanophotonic vacuum forces. Nature Physics, 2019, 15, 1284-1289.	16.7	21
74	Graphene Metamaterials for Intense, Tunable, and Compact Extreme Ultraviolet and Xâ€Ray Sources. Advanced Science, 2020, 7, 1901609.	11.2	21
75	Free electrons can induce entanglement between photons. Npj Quantum Information, 2022, 8, .	6.7	21
76	Controlling spins with surface magnon polaritons. Physical Review B, 2019, 100, .	3.2	19
77	Quantum correlations in electron microscopy. Optica, 2021, 8, 70.	9.3	18
78	Prospects in x-ray science emerging from quantum optics and nanomaterials. Applied Physics Letters, 2021, 119, .	3.3	18
79	The Complex Charge Paradigm: A New Approach for Designing Electromagnetic Wavepackets. Advanced Science, 2020, 7, 1903377.	11.2	17
80	Tunable bandgap renormalization by nonlocal ultra-strong coupling in nanophotonics. Nature Physics, 2020, 16, 868-874.	16.7	16
81	Shaping Polaritons to Reshape Selection Rules. ACS Photonics, 2018, 5, 3064-3072.	6.6	15
82	Experimental observation of acceleration-induced thermality. Physical Review D, 2021, 104, .	4.7	15
83	Constructing â€œDesigner Atomsâ€•via Resonant Graphene-Induced Lamb Shifts. ACS Photonics, 2017, 4, 3098-3105.	6.6	14
84	Combining density functional theory with macroscopic QED for quantum light-matter interactions in 2D materials. Nature Communications, 2021, 12, 2778.	12.8	14
85	Quantum Nature of Dielectric Laser Accelerators. Physical Review X, 2021, 11, .	8.9	13
86	Temporal and spatial design of x-ray pulses based on free-electronâ€"crystal interaction. APL Photonics, 2021, 6, .	5.7	12
87	Cylindrical Metalens for Generation and Focusing of Free-Electron Radiation. Nano Letters, 2022, 22, 5641-5650.	9.1	12
88	Nonperturbative Quantum Electrodynamics in the Cherenkov Effect. Physical Review X, 2018, 8, .	8.9	9
89	Ultrafast Multiharmonic Plasmon Generation by Optically Dressed Electrons. Physical Review Letters, 2019, 122, 053901.	7.8	8
90	Non-diffracting multi-ï»¿electron vortex beams balancing their electronâ€"electron interactions. Nature Communications, 2017, 8, 650.	12.8	7

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91	Ultrafast non-destructive measurement of the quantum state of light with free electrons. , 2021, , .		7
92	Solitonets: complex networks of interacting fields. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 1093-1101.	2.1	5
93	Monochromatic X-ray Source Based on Scattering from a Magnetic Nanoundulator. ACS Photonics, 2020, 7, 1096-1103.	6.6	4
94	Accelerated-Cherenkov radiation and signatures of radiation reaction. New Journal of Physics, 2019, 21, 083038.	2.9	3
95	Free Electron Qubits. , 2019, , .		3
96	Imaging the collapse of electron wave-functions: the relation to plasmonic losses. , 2019, , .		3
97	Observation of the Stimulated Quantum Cherenkov Effect. , 2020, , .		3
98	Optimizing the spontaneous-emission of far-UVC phosphors. Applied Physics Letters, 2022, 120, 231902.	3.3	3
99	Stochastic Recurrent Dynamics of Complex Systems of Solitons. Physical Review Letters, 2010, 105, 083901.	7.8	2
100	Creating heralded hyper-entangled photons using Rydberg atoms. Light: Science and Applications, 2021, 10, 100.	16.6	2
101	Spatial modulation of free-electron wavepackets by shaping ultrafast plasmonic excitations. , 2020, , .		2
102	Unveiling Emitter Wavefunction Size via the Quantum Coherence of its Radiation. , 2020, , .		2
103	Observation of the Quantum Nature of Laser-Driven Particle Acceleration. , 2020, , .		2
104	Comment on â€œNonlinear quantum effects in electromagnetic radiation of a vortex electronâ€. Physical Review A, 2022, 105, .	2.5	2
105	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
106	Smith-Purcell Metasurface Lens. , 2021, , .		1
107	Observation of 2D Cherenkov radiation and its Quantized Photonic Nature Using Free-Electrons. , 2021, , .		1
108	Extreme Light-Matter Interactions in the Ultrafast Transmission Electron Microscope. Microscopy and Microanalysis, 2021, 27, 3122-3122.	0.4	1

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109	Shaping Quantum Photonic States Using Free Electrons. , 2021, , .		1
110	Superradiant Cathodoluminescence. , 2021, , .		1
111	Free-Electron Interactions with Designed van der Waals Materials: Novel Source of Lensed X-ray Radiation. , 2021, , .		1
112	Transmission Nearfield Optical Microscopy (TNOM) of Photonic Crystal Bloch Modes. , 2019, , .		1
113	Toward Nanophotonic Free-Electron Lasers. , 2020, , .		1
114	Free Electrons Can Induce Quantum Correlations Between Two Separate Photonic Cavities. , 2021, , .		0
115	Purcell-Enhanced UV Sources. , 2021, , .		0
116	A general framework for shaping luminescence in materials. , 2021, , .		0
117	Imaging the dynamics of 2D polariton wavepackets. , 2021, , .		0
118	The Fock-State Laser: Macroscopic Quantum States of Light Based on Deep Strong Light-Matter Coupling. , 2021, , .		0
119	Active spatial modulation of free electrons by controlling the shape and intensity of plasmonic fields. , 2021, , .		0
120	The Synthetic Hilbert Space of Laser-Driven Free-Electrons. , 2021, , .		0
121	Generation of tunable ultrashort X-ray pulses and delta-pulse trains in van der Waals materials. , 2021, , .		0
122	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
123	Optimizing optical nanostructures for X-ray detection. AIP Conference Proceedings, 2020, , .	0.4	0
124	Toward Quantum Optics with Free Electrons. Optics and Photonics News, 2020, 31, 35.	0.5	0
125	Experimental Evidence for the Unruh Effect. , 2020, , .		0
126	Spinâ€Spacetime Censorship. Annalen Der Physik, 2022, 534, 2100348.	2.4	0

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127	Longitudinal and transverse modulation of electron wave function with light, and its application to electron microscopy. , 2021, , .		0
128	Anomalous Suppression of Higher-Order Nonlinearities in 3D Dirac Semimetals. , 2020, , .		0