

Ebrahim Karimi

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113
papers

5,610
citations

35
h-index

74
g-index

122
ext. papers

6,960
ext. citations

5.9
avg, IF

5.7
L-index

#	Paper	IF	Citations
113	Generating optical orbital angular momentum at visible wavelengths using a plasmonic metasurface. <i>Light: Science and Applications</i> , 2014 , 3, e167-e167	16.7	531
112	Roadmap on structured light. <i>Journal of Optics (United Kingdom)</i> , 2017 , 19, 013001	1.7	518
111	Spin-to-orbital conversion of the angular momentum of light and its classical and quantum applications. <i>Journal of Optics (United Kingdom)</i> , 2011 , 13, 064001	1.7	309
110	4 T0 Gbit/s mode division multiplexing over free space using vector modes and a q-plate mode (de)multiplexer. <i>Optics Letters</i> , 2015 , 40, 1980-3	3	266
109	Polarization pattern of vector vortex beams generated by q-plates with different topological charges. <i>Applied Optics</i> , 2012 , 51, C1-6	1.7	261
108	Quantum information transfer from spin to orbital angular momentum of photons. <i>Physical Review Letters</i> , 2009 , 103, 013601	7.4	253
107	High-dimensional intracity quantum cryptography with structured photons. <i>Optica</i> , 2017 , 4, 1006	8.6	203
106	Optics. Observation of optical polarization Möbius strips. <i>Science</i> , 2015 , 347, 964-6	33.3	202
105	Hypergeometric-Gaussian modes. <i>Optics Letters</i> , 2007 , 32, 3053-5	3	196
104	Efficient generation and sorting of orbital angular momentum eigenmodes of light by thermally tuned q-plates. <i>Applied Physics Letters</i> , 2009 , 94, 231124	3.4	160
103	Optimal quantum cloning of orbital angular momentum photon qubits through HongOuMandel coalescence. <i>Nature Photonics</i> , 2009 , 3, 720-723	33.9	158
102	Generation and dynamics of optical beams with polarization singularities. <i>Optics Express</i> , 2013 , 21, 8815-30	3.9	130
101	Spin-orbit hybrid entanglement of photons and quantum contextuality. <i>Physical Review A</i> , 2010 , 82,	2.6	119
100	Quantum walks and wavepacket dynamics on a lattice with twisted photons. <i>Science Advances</i> , 2015 , 1, e1500087	14.3	109
99	Highly efficient electron vortex beams generated by nanofabricated phase holograms. <i>Applied Physics Letters</i> , 2014 , 104, 043109	3.4	97
98	Optical spin-to-orbital angular momentum conversion in ultra-thin metasurfaces with arbitrary topological charges. <i>Applied Physics Letters</i> , 2014 , 105, 101905	3.4	92
97	Structured quantum waves. <i>Nature Physics</i> , 2015 , 11, 629-634	16.2	91

96	Spin-to-orbital angular momentum conversion and spin-polarization filtering in electron beams. <i>Physical Review Letters</i> , 2012 , 108, 044801	7.4	86
95	Controlling the orbital angular momentum of high harmonic vortices. <i>Nature Communications</i> , 2017 , 8, 14970	17.4	77
94	Geometric phase from Aharonov-Bohm to Pancharatnam-Berry and beyond. <i>Nature Reviews Physics</i> , 2019 , 1, 437-449	23.6	74
93	Reconstructing the topology of optical polarization knots. <i>Nature Physics</i> , 2018 , 14, 1079-1082	16.2	71
92	Exploring the quantum nature of the radial degree of freedom of a photon via Hong-Ou-Mandel interference. <i>Physical Review A</i> , 2014 , 89,	2.6	70
91	PHYSICS. Classical entanglement?. <i>Science</i> , 2015 , 350, 1172-3	33.3	65
90	Tunable supercontinuum light vector vortex beam generator using a q-plate. <i>Optics Letters</i> , 2013 , 38, 5083-6	3	65
89	Holographic generation of highly twisted electron beams. <i>Physical Review Letters</i> , 2015 , 114, 034801	7.4	62
88	Limitations to the determination of a Laguerre-Gauss spectrum via projective, phase-flattening measurement. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2014 , 31, A20	1.7	62
87	Light propagation in a birefringent plate with topological charge. <i>Optics Letters</i> , 2009 , 34, 1225-7	3	58
86	Measuring the self-healing of the spatially inhomogeneous states of polarization of vector Bessel beams. <i>Journal of Optics (United Kingdom)</i> , 2015 , 17, 035617	1.7	56
85	Generation of Nondiffracting Electron Bessel Beams. <i>Physical Review X</i> , 2014 , 4,	9.1	56
84	Polarization Shaping for Control of Nonlinear Propagation. <i>Physical Review Letters</i> , 2016 , 117, 233903	7.4	56
83	High-dimensional quantum cloning and applications to quantum hacking. <i>Science Advances</i> , 2017 , 3, e1601915	14.5	52
82	Measuring the orbital angular momentum spectrum of an electron beam. <i>Nature Communications</i> , 2017 , 8, 15536	17.4	51
81	Polarization-controlled evolution of light transverse modes and associated Pancharatnam geometric phase in orbital angular momentum. <i>Physical Review A</i> , 2010 , 81,	2.6	48
80	Radial coherent and intelligent states of paraxial wave equation. <i>Optics Letters</i> , 2012 , 37, 2484-6	3	41
79	Observation of subluminal twisted light in vacuum. <i>Optica</i> , 2016 , 3, 351	8.6	38

78	Generalized optical angular momentum sorter and its application to high-dimensional quantum cryptography. <i>Optics Express</i> , 2017 , 25, 19832-19843	3.3	35
77	Integrated multi vector vortex beam generator. <i>Optics Express</i> , 2013 , 21, 16130-41	3.3	35
76	Observation of nanoscale magnetic fields using twisted electron beams. <i>Nature Communications</i> , 2017 , 8, 689	17.4	34
75	Real-time imaging of spin-to-orbital angular momentum hybrid remote state preparation. <i>Physical Review A</i> , 2015 , 92,	2.6	30
74	Time-division multiplexing of the orbital angular momentum of light. <i>Optics Letters</i> , 2012 , 37, 127-9	3	30
73	Arbitrary optical wavefront shaping via spin-to-orbit coupling. <i>Journal of Optics (United Kingdom)</i> , 2016 , 18, 124002	1.7	29
72	Generation and application of bessel beams in electron microscopy. <i>Ultramicroscopy</i> , 2016 , 166, 48-60	3.1	28
71	Quantum cryptography with structured photons through a vortex fiber. <i>Optics Letters</i> , 2018 , 43, 4108-4111	3.1	28
70	Reconstructing the Poynting vector skew angle and wavefront of optical vortex beams via two-channel moiré deflectometry. <i>Optics Letters</i> , 2013 , 38, 887-9	3	28
69	Test of mutually unbiased bases for six-dimensional photonic quantum systems. <i>Scientific Reports</i> , 2013 , 3, 2726	4.9	27
68	Improved focusing with hypergeometric-gaussian type-II optical modes. <i>Optics Express</i> , 2008 , 16, 21069-75	3.5	27
67	Twisted electrons. <i>Contemporary Physics</i> , 2018 , 59, 126-144	3.3	26
66	Multi-twist polarization ribbon topologies in highly-confined optical fields. <i>New Journal of Physics</i> , 2019 , 21, 053020	2.9	25
65	Achromatic orbital angular momentum generator. <i>New Journal of Physics</i> , 2014 , 16, 123006	2.9	24
64	Twisting neutrons may reveal their internal structure. <i>Nature Physics</i> , 2018 , 14, 1-2	16.2	22
63	Nondestructive Measurement of Orbital Angular Momentum for an Electron Beam. <i>Physical Review Letters</i> , 2016 , 117, 154801	7.4	21
62	Quantum simulation of a spin polarization device in an electron microscope. <i>New Journal of Physics</i> , 2013 , 15, 093026	2.9	20
61	Hardy's paradox tested in the spin-orbit Hilbert space of single photons. <i>Physical Review A</i> , 2014 , 89,	2.6	19

60	Experimental Demonstration of an Electrostatic Orbital Angular Momentum Sorter for Electron Beams. <i>Physical Review Letters</i> , 2021 , 126, 094802	7.4	19
59	Round-robin differential-phase-shift quantum key distribution with twisted photons. <i>Physical Review A</i> , 2018 , 98,	2.6	18
58	Universal unitary gate for single-photon spin-orbit four-dimensional states. <i>Physical Review A</i> , 2009 , 80,	2.6	16
57	Tighter spots of light with superposed orbital-angular-momentum beams. <i>Physical Review A</i> , 2016 , 94,	2.6	15
56	Design of electrostatic phase elements for sorting the orbital angular momentum of electrons. <i>Ultramicroscopy</i> , 2020 , 208, 112861	3.1	15
55	Orbital Angular Momentum and Energy Loss Characterization of Plasmonic Excitations in Metallic Nanostructures in TEM. <i>ACS Photonics</i> , 2019 , 6, 620-627	6.3	14
54	Efficient generation and control of different-order orbital angular momentum states for communication links. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2011 , 28, 61-5	1.8	14
53	Hong-Ou-Mandel interference of entangled Hermite-Gauss modes. <i>Physical Review A</i> , 2016 , 94,	2.6	14
52	Investigation of underwater quantum channels in a 30 meter flume tank using structured photons. <i>New Journal of Physics</i> , 2020 , 22, 093074	2.9	13
51	Quantifying the impact of proximity error correction on plasmonic metasurfaces [Invited]. <i>Optical Materials Express</i> , 2015 , 5, 2798	2.6	12
50	Optical framed knots as information carriers. <i>Nature Communications</i> , 2020 , 11, 5119	17.4	12
49	Two-photon interference: the Hong-Ou-Mandel effect. <i>Reports on Progress in Physics</i> , 2021 , 84, 012402	14.4	12
48	Entanglement: quantum or classical?. <i>Reports on Progress in Physics</i> , 2020 , 83, 064001	14.4	11
47	Generation of electron vortices using nonexact electric fields. <i>Physical Review Research</i> , 2020 , 2,	3.9	11
46	Generation of a spin-polarized electron beam by multipole magnetic fields. <i>Ultramicroscopy</i> , 2014 , 138, 22-7	3.1	10
45	General lossless spatial polarization transformations. <i>Journal of Optics (United Kingdom)</i> , 2017 , 19, 0940037		10
44	Full-field mode sorter using two optimized phase transformations for high-dimensional quantum cryptography. <i>Journal of Optics (United Kingdom)</i> , 2020 , 22, 024001	1.7	9
43	Quantum probabilities from quantum entanglement: experimentally unpacking the Born rule. <i>New Journal of Physics</i> , 2016 , 18, 053013	2.9	8

42	Experimental realization of wave-packet dynamics in cyclic quantum walks. <i>Optica</i> , 2019 , 6, 174	8.6	7
41	Orbital angular momentum resolved electron magnetic chiral dichroism. <i>Physical Review B</i> , 2019 , 100,	3.3	7
40	Experimental ladder proof of Hardy's nonlocality for high-dimensional quantum systems. <i>Physical Review A</i> , 2017 , 96,	2.6	6
39	Phase retrieval of an electron vortex beam using diffraction holography. <i>Applied Physics Letters</i> , 2017 , 111, 223101	3.4	6
38	Violation of Leggett-type inequalities in the spin-orbit degrees of freedom of a single photon. <i>Physical Review A</i> , 2013 , 88,	2.6	6
37	Laser-induced radial birefringence and spin-to-orbital optical angular momentum conversion in silver-doped glasses. <i>Applied Physics Letters</i> , 2011 , 99, 011113	3.4	6
36	Quantum process tomography of a high-dimensional quantum communication channel. <i>Quantum - the Open Journal for Quantum Science</i> , 3 , 138		6
35	Observation of quantum recoherence of photons by spatial propagation. <i>Scientific Reports</i> , 2015 , 5, 15330	4.9	5
34	Electron holograms encoding amplitude and phase for the generation of arbitrary wavefunctions. <i>Microscopy and Microanalysis</i> , 2015 , 21, 503-504	0.5	5
33	Innovative Phase Plates for Beam Shaping. <i>Microscopy and Microanalysis</i> , 2014 , 20, 228-229	0.5	4
32	Achieving Ultimate Noise Tolerance in Quantum Communication. <i>Physical Review Applied</i> , 2021 , 15,	4.3	4
31	Revealing optical vortices with a small number of photons. <i>Laser and Photonics Reviews</i> , 2017 , 11, 1600163	1.3	3
30	Holograms for the Generation of Vortex States with L=500h Fabricated by Electron Beam Lithography. <i>Microscopy and Microanalysis</i> , 2015 , 21, 667-668	0.5	3
29	Dynamical diffraction effects in STEM orbital angular momentum resolved electron energy-loss magnetic chiral dichroism. <i>Physical Review B</i> , 2020 , 102,	3.3	3
28	Majorana bosonic quasiparticles from twisted photons in free space. <i>Physical Review A</i> , 2021 , 103,	2.6	3
27	Full-mode characterization of correlated photon pairs generated in spontaneous downconversion. <i>Optics Letters</i> , 2021 , 46, 2388-2391	3	3
26	Towards communication in a curved spacetime geometry. <i>Communications Physics</i> , 2021 , 4,	5.4	3
25	Super-critical phasematching for photon pair generation in structured light modes. <i>Optics Express</i> , 2016 , 24, 24495-24508	3.3	3

24	Polychromatic electric field knots. <i>Physical Review Research</i> , 2021 , 3,	3.9	3
23	Theoretical and practical aspects of the design and production of synthetic holograms for transmission electron microscopy. <i>Journal of Applied Physics</i> , 2022 , 131, 031101	2.5	2
22	High-dimensional quantum cloning of orbital angular momentum qubits 2016 ,		2
21	Compressed sensing of twisted photons. <i>Optics Express</i> , 2019 , 27, 17426-17434	3.3	2
20	A Classical View of Quantum Time Crystals. <i>Physics Magazine</i> , 2017 , 10,	1.1	1
19	Generation with phase-and-amplitude electron holograms of Laguerre-Gauss beams with orbital angular momentum up to 200 2016 , 709-710		1
18	Nonlocal quantum erasure of phase objects. <i>Applied Physics Letters</i> , 2019 , 115, 051102	3.4	1
17	Structured Electron Beam Illumination: A New Control Over the Electron Probe Weird Probes and New Experiments. <i>Microscopy and Microanalysis</i> , 2015 , 21, 25-26	0.5	1
16	Observation of subluminal twisted light in vacuum: reply. <i>Optica</i> , 2017 , 4, 207	8.6	1
15	Experimental observation of subluminal light carrying orbital angular momentum in vacuum 2015 ,		1
14	Tuning vector vortex in spatially coherent supercontinuum multicolored optical beam using q-plate 2014 ,		1
13	Supercontinuum light vector beam generation with a tunable liquid crystal q-plate 2013 ,		1
12	Quantum cryptography with structured photons 2021 , 139-176		1
11	Holographically Probing Longitudinal Magnetic Fields with Electron Vortex Beams. <i>Microscopy and Microanalysis</i> , 2018 , 24, 938-939	0.5	0
10	Dynamics of laser-induced radial birefringence in silver-doped glasses. <i>Optics Letters</i> , 2015 , 40, 4062-5		3
9	The measurement of off-plane magnetic field through electron vortex beams 2016 , 685-686		
8	Electron beam lithography for the realization of electron beam vortices with large topological charge ($L=1000$) 2016 , 390-391		
7	Spin-multislice simulation of an electron inside the objective lens of a TEM 2016 , 410-411		

6 Diffraction holography for the phase retrieval of vortex beams **2016**, 713-714

5 Experiments and Potentialities for the use of Bessel Beam in Superresolution STEM. *Microscopy and Microanalysis*, **2014**, 20, 384-385 0.5

4 Holographic Generation of Highly Twisted Electron Beams. *Microscopy and Microanalysis*, **2015**, 21, 675-676

3 Spin-Multislit Applied to the Electron Spin Interaction with Materials. *Microscopy and Microanalysis*, **2015**, 21, 1961-1962 0.5

2 Quantum Applications of Structured Photons **2021**, 423-455

1 A sorter for electrons based on magnetic elements. *Ultramicroscopy*, **2021**, 231, 113287 3.1