Karen Volke-Sepulveda

List of Publications by Year
in descending order

73 papers	2,350 citations	331670 21 h-index	243625 44 g-index
73 all docs	73 docs citations	73 times ranked	1660 citing authors

#	Article	IF	Citations
1	Creation and Manipulation of Three-Dimensional Optically Trapped Structures. Science, 2002, 296, 1101-1103.	12.6	481
2	Orbital angular momentum of a high-order Bessel light beam. Journal of Optics B: Quantum and Semiclassical Optics, 2002, 4, S82-S89.	1.4	357
3	Transfer of Angular Momentum to Matter from Acoustical Vortices in Free Space. Physical Review Letters, 2008, 100, 024302.	7.8	193
4	Transfer of orbital angular momentum to an optically trapped low-index particle. Physical Review A, 2002, 66, .	2.5	156
5	Optical tweezers â€" from calibration to applications: a tutorial. Advances in Optics and Photonics, 2021, 13, 74.	25.5	127
6	Revolving interference patterns for the rotation of optically trapped particles. Optics Communications, 2002, 201, 21-28.	2.1	88
7	Transverse particle dynamics in a Bessel beam. Optics Express, 2007, 15, 13972.	3.4	80
8	Experimental Control of Transport and Current Reversals in a Deterministic Optical Rocking Ratchet. Physical Review Letters, 2011, 106, 168104.	7.8	67
9	Three-dimensional optical forces and transfer of orbital angular momentum from multiringed light beams to spherical microparticles. Journal of the Optical Society of America B: Optical Physics, 2004, 21, 1749.	2.1	66
10	Modulated optical sieve for sorting of polydisperse microparticles. Applied Physics Letters, 2006, 88, 121116.	3.3	64
11	Attractive-repulsive dynamics on light-responsive chiral microparticles induced by polarized tweezers. Lab on A Chip, 2013, 13, 459-467.	6.0	56
12	Light with enhanced optical chirality. Optics Letters, 2012, 37, 3486.	3.3	51
13	Experimental generation and analysis of first-order TE and TM Bessel modes in free space. Optics Letters, 2006, 31, 1732.	3.3	49
14	Omnidirectional Transport in Fully Reconfigurable Two Dimensional Optical Ratchets. Physical Review Letters, 2017, 118, 138002.	7.8	46
15	A demonstration of rotating sound waves in free space and the transfer of their angular momentum to matter. American Journal of Physics, 2009, 77, 209-215.	0.7	40
16	General construction and connections of vector propagation invariant optical fields: TE and TM modes and polarization states. Journal of Optics, 2006, 8, 867-877.	1.5	37
17	Moving interference patterns created using the angular Doppler-effect. Optics Express, 2002, 10, 844.	3.4	36
18	Generation of multiple vortex beam by means of active diffraction gratings. Applied Physics Letters, 2018, 112, .	3.3	35

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19	Experimental generation of Mathieuâ€“Gauss beams with a phase-only spatial light modulator. Applied Optics, 2010, 49, 6903.	2.1	34
20	All-optical 3D atomic loops generated with Bessel light fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 085303.	1.5	23
21	Optical sorting of nonspherical and living microobjects in moving interference structures. Optics Express, 2014, 22, 29746.	3.4	22
22	3D micromanipulation at low numerical aperture with a single light beam: the focused-Bessel trap. Optics Letters, 2016, 41, 614.	3.3	22
23	Enhanced optical guiding of colloidal particles using a supercontinuum light source. Optics Express, 2006, 14, 5792.	3.4	20
24	Comparative study of optical levitation traps: focused Bessel beam versus Gaussian beams. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 1060.	2.1	20
25	Polarization holograms allow highly efficient generation of complex light beams. Optics Express, 2013, 21, 7505.	3.4	19
26	Active-spiral Fresnel zone plate with tunable focal length for airborne generation of focused acoustic vortices. Applied Physics Letters, 2020, 116, 114101.	3.3	19
27	Steering and guiding light with light in a nanosuspension. Optics Letters, 2013, 38, 5284.	3.3	16
28	Experimental generation and dynamical reconfiguration of different circular optical lattices for applications in atom trapping. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 948.	2.1	15
29	Light control through a nonlinear lensing effect in a colloid of biosynthesized gold nanoparticles. Journal of Modern Optics, 2019, 66, 502-511.	1.3	13
30	Wave fields with a periodic orbital angular momentum gradient along a single axis: a chain of vortices. New Journal of Physics, 2009, 11, 043004.	2.9	11
31	Dynamical analysis of an optical rocking ratchet: Theory and experiment. Physical Review E, 2013, 87, 062910.	2.1	11
32	Acoustic analysis of a broadband spiral source for the simultaneous generation of multiple Bessel vortices in air. Journal of the Acoustical Society of America, 2018, 144, 3252-3261.	1.1	10
33	Force mapping of an extended light pattern in an inclined plane: Deterministic regime. Optics Express, 2009, 17, 3429.	3.4	9
34	Quantitative characterization of the energy circulation in helical beams by means of near-field diffraction. Optics Express, 2013, 21, 3379.	3.4	9
35	Steering and switching of soliton-like beams via interaction in a nanocolloid with positive polarizability. Optics Letters, 2017, 42, 2487.	3.3	9
36	Guiding light with singular beams in nanoplasmonic colloids. Applied Physics Letters, 2021, 118, .	3.3	7

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37	Polarization effects in the interaction between multi-level atoms and two optical fields. Physica Scripta, 2015, 90, 068017.	2.5	6
38	Hollow spheres as individual movable micromirrors in optical tweezers. Optics Express, 2005, 13, 968.	3.4	4
39	Nonlinear optical properties of dielectric nanocolloids: Particle size and concentration effects. Journal of Nonlinear Optical Physics and Materials, 2016, 25, 1650048.	1.8	4
40	Transverse electric (TE) and transverse magnetic (TM) vector vortices in free-space: analysis and experimental generation. , 2006, , .		3
41	Light Confinement with Structured Beams in Gold Nanoparticle Suspensions. Photonics, 2021, 8, 221.	2.0	3
42	Creation of optical speckle by randomizing a vortex-lattice. Optics Express, 2019, 27, 4105.	3.4	3
43	Waveguides in colloidal nanosuspensions. , 2014, , .		2
44	Optical guiding using Gaussian and Bessel light beams. , 2003, 5121, 68.		1
45	Continuous motion of interference patterns using the angular Doppler effect. , 2003, 5121, 98.		1
46	Transfer of Angular Momentum to Matter from Acoustical Vortices in Free Space. Topologica, 2009, 2, 016.	0.3	1
47	Beam-splitting waveguides induced in nanocolloids. Proceedings of SPIE, 2014, , .	0.8	1
48	A Macroscopic Tractor Beam with Acoustic Waves. Physics Magazine, 2014, 7, .	0.1	1
49	Characterization of optical nonlinearity and formation of Self-Collimated Beams in nanocolloids. , 2016, , .		1
50	Angular Momentum in Optics and Acoustics: Complementary Studies. , 2011, , .		1
51	Controlled rotation of trapped particles in a spiral interference pattern. , 2001, , .		0
52	Enhanced particle guiding using supercontinuum radiation. , 2006, , .		0
53	Characterization of an interferometric optical sieve for particle sorting. , 2006, , .		0
54	Rotating matter with optical and acoustical wavefields: new aspects of angular momentum transfer. , 2007, , .		0

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55	Characterization of a periodic optical potential by means of particle dynamics analysis in a deterministic regime. Proceedings of SPIE, 2008, , .	0.8	0
56	Deterministic optical rocking ratchet: theory and experiment. Proceedings of SPIE, 2010, , .	0.8	0
57	Particles dynamics in travelling optical lattices. , 2010, , .		0
58	Transverse energy flux estimation in optical vortices by single-slit diffraction. Proceedings of SPIE, 2011, , .	0.8	0
59	A New Type of Light With Optical Chirality. , 2012, , .		0
60	Generation of complex beams by means of polarization holograms. Proceedings of SPIE, 2012, , .	0.8	0
61	Publisher's Note: Dynamical analysis of an optical rocking ratchet: Theory and experiment [Phys. Rev. E87, 062910 (2013)]. Physical Review E, 2013, 87, .	2.1	0
62	Optical spatial solitons in bidisperse fluorescent nanocolloids. , 2015, , .		0
63	Formation of Spatial Solitons in a Colloid of Biosynthesized Gold Nanoparticles. , 2017, , .		0
64	Experimental stochastic systems based on optical forces. Journal of Physics: Conference Series, 2018, 1092, 012173.	0.4	0
65	10.1063/5.0041198.1. , 2021, , .		0
66	Can diffraction provide quantitative information about energy flux in an optical vortex?. , 2011, , .		0
67	Current reversals in a deterministic optical rocking ratchet. , 2012, , .		0
68	Guiding and Steering Light With Nanocolloids. , 2014, , .		0
69	Analysis of self-collimated beams in nanocolloids as a function of particle size and concentration. , 2016, , .		0
70	A new path to speckle by randomizing a vortex lattice. , 2017, , .		0
71	Motion rectification and transport control in 2D optical Brownian ratchets. , 2018, , .		0
72	Underdamped and overdamped dynamics of objects in nonlinear optical potentials. , 2018, , .		0

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73	Electro-active diffraction gratings for the generation of acoustic vortex beams. , 2021, , .		0