

Tomas Cizmar

List of Publications by Year in descending order

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Version: 2024-02-01

158
papers

7,121
citations

76326

40
h-index

74163

75
g-index

162
all docs

162
docs citations

162
times ranked

4750
citing authors

#	ARTICLE	IF	CITATIONS
1	Shaping the future of manipulation. Nature Photonics, 2011, 5, 335-342.	31.4	848
2	Light-sheet microscopy using an Airy beam. Nature Methods, 2014, 11, 541-544.	19.0	679
3	Exploiting multimode waveguides for pure fibre-based imaging. Nature Communications, 2012, 3, 1027.	12.8	450
4	Seeing through chaos in multimode fibres. Nature Photonics, 2015, 9, 529-535.	31.4	406
5	In situ wavefront correction and its application to micromanipulation. Nature Photonics, 2010, 4, 388-394.	31.4	390
6	Experimental demonstration of optical transport, sorting and self-arrangement using a "tractor beam"™. Nature Photonics, 2013, 7, 123-127.	31.4	296
7	Shaping the light transmission through a multimode optical fibre: complex transformation analysis and applications in biophotonics. Optics Express, 2011, 19, 18871.	3.4	292
8	High quality quasi-Bessel beam generated by round-tip axicon. Optics Express, 2008, 16, 12688.	3.4	288
9	High-fidelity multimode fibre-based endoscopy for deep brain in vivo imaging. Light: Science and Applications, 2018, 7, 92.	16.6	211
10	Optical conveyor belt for delivery of submicron objects. Applied Physics Letters, 2005, 86, 174101.	3.3	194
11	Tunable Bessel light modes: engineering the axial propagation. Optics Express, 2009, 17, 15558.	3.4	150
12	Multiple optical trapping and binding: new routes to self-assembly. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 102001.	1.5	135
13	Optical sorting and detection of submicrometer objects in a motional standing wave. Physical Review B, 2006, 74, .	3.2	132
14	Bidirectional Optical Sorting of Gold Nanoparticles. Nano Letters, 2012, 12, 1923-1927.	9.1	124
15	Three-dimensional holographic optical manipulation through a high-numerical-aperture soft-glass multimode fibre. Nature Photonics, 2018, 12, 33-39.	31.4	121
16	Subcellular spatial resolution achieved for deep-brain imaging in vivo using a minimally invasive multimode fiber. Light: Science and Applications, 2018, 7, 110.	16.6	118
17	Sub-micron particle organization by self-imaging of non-diffracting beams. New Journal of Physics, 2006, 8, 43-43.	2.9	116
18	Long-Range One-Dimensional Longitudinal Optical Binding. Physical Review Letters, 2008, 101, 143601.	7.8	116

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19	Propagation characteristics of Airy beams: dependence upon spatial coherence and wavelength. Optics Express, 2009, 17, 13236.	3.4	103
20	High-speed spatial control of the intensity, phase and polarisation of vector beams using a digital micro-mirror device. Optics Express, 2016, 24, 29269.	3.4	101
21	An optical nanotrap array movable over a millimetre range. Applied Physics B: Lasers and Optics, 2006, 84, 197-203.	2.2	100
22	Comparison of nematic liquid-crystal and DMD based spatial light modulation in complex photonics. Optics Express, 2017, 25, 29874.	3.4	95
23	Generation of multiple Bessel beams for a biophotonics workstation. Optics Express, 2008, 16, 14024.	3.4	88
24	The holographic optical micro-manipulation system based on counter-propagating beams. Laser Physics Letters, 2011, 8, 50-56.	1.4	87
25	Robustness of Light-Transport Processes to Bending Deformations in Graded-Index Multimode Waveguides. Physical Review Letters, 2018, 120, 233901.	7.8	86
26	Optical forces generated by evanescent standing waves and their usage for sub-micron particle delivery. Applied Physics B: Lasers and Optics, 2006, 84, 157-165.	2.2	77
27	Time-of-flight 3D imaging through multimode optical fibers. Science, 2021, 374, 1395-1399.	12.6	66
28	Experimental and theoretical determination of optical binding forces. Optics Express, 2010, 18, 25389.	3.4	60
29	Memory effect assisted imaging through multimode optical fibres. Nature Communications, 2021, 12, 3751.	12.8	58
30	GPU accelerated toolbox for real-time beam-shaping in multimode fibres. Optics Express, 2014, 22, 2933.	3.4	56
31	Static optical sorting in a laser interference field. Applied Physics Letters, 2008, 92, .	3.3	54
32	Label-free CARS microscopy through a multimode fiber endoscope. Optics Express, 2019, 27, 30055.	3.4	54
33	Cellular and Colloidal Separation Using Optical Forces. Methods in Cell Biology, 2007, 82, 467-495.	1.1	50
34	Compressively sampling the optical transmission matrix of a multimode fibre. Light: Science and Applications, 2021, 10, 88.	16.6	49
35	Optical path clearing and enhanced transmission through colloidal suspensions. Optics Express, 2010, 18, 17130.	3.4	48
36	Observing distant objects with a multimode fiber-based holographic endoscope. APL Photonics, 2021, 6, .	5.7	47

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37	Multimode fibre: Light-sheet microscopy at the tip of a needle. Scientific Reports, 2015, 5, 18050.	3.3	46
38	Fibre based cellular transfection. Optics Express, 2008, 16, 17007.	3.4	45
39	Formation of long and thin polymer fiber using nondiffracting beam. Optics Express, 2006, 14, 8506.	3.4	44
40	A dual beam photonic crystal fiber trap for microscopic particles. Applied Physics Letters, 2008, 93, 041110.	3.3	42
41	Realization of curved Bessel beams: propagation around obstructions. Journal of Optics (United Kingdom), 2014, 17, 074001.	2.2	42
42	Spatially optimized gene transfection by laser-induced breakdown of optically trapped nanoparticles. Applied Physics Letters, 2011, 98, .	3.3	39
43	Compact multimode fiber beam-shaping system based on GPU accelerated digital holography. Optics Letters, 2015, 40, 197.	3.3	35
44	Surface delivery of a single nanoparticle under moving evanescent standing-wave illumination. New Journal of Physics, 2008, 10, 113010.	2.9	33
45	Dynamic size tuning of multidimensional optically bound matter. Applied Physics Letters, 2011, 99, 101105.	3.3	32
46	Accelerating vortices in Airy beams. Proceedings of SPIE, 2009, , .	0.8	31
47	Wavefront corrected light sheet microscopy in turbid media. Applied Physics Letters, 2012, 100, .	3.3	30
48	Optical trapping in counter-propagating Bessel beams. , 2004, , .		29
49	Holographic display system for restoration of sight to the blind. Journal of Neural Engineering, 2013, 10, 056021.	3.5	29
50	Optical micromanipulation using supercontinuum Laguerre-Gaussian and Gaussian beams. Optics Express, 2008, 16, 10117.	3.4	28
51	Automated laser guidance of neuronal growth cones using a spatial light modulator. Journal of Biophotonics, 2009, 2, 682-692.	2.3	20
52	Speed enhancement of multi-particle chain in a traveling standing wave. Applied Physics Letters, 2012, 100, 051103.	3.3	17
53	Polarization-resolved second-harmonic generation imaging through a multimode fiber. Optica, 2021, 8, 1065.	9.3	17
54	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. Neurophotonics, 2022, 9, 013001.	3.3	17

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55	HF plasma pencil and DC diaphragm discharge in liquids – diagnostics and applications. European Physical Journal D, 2006, 56, B1051-B1056.	0.4	16
56	Wavelength dependent characterization of a multimode fibre endoscope. Optics Express, 2019, 27, 28239.	3.4	15
57	Numerical investigation of passive optical sorting of plasmon nanoparticles. Optics Express, 2011, 19, 13922.	3.4	12
58	Near perfect focusing through multimode fibres. Optics Express, 2022, 30, 10645.	3.4	12
59	Femtosecond Optoinjection of Intact Tobacco BY-2 Cells Using a Reconfigurable Photoporation Platform. PLoS ONE, 2013, 8, e79235.	2.5	11
60	Interference-free superposition of nonzero order light modes: Functionalized optical landscapes. Applied Physics Letters, 2011, 98, 081114.	3.3	10
61	Side-view holographic endomicroscopy via a custom-terminated multimode fibre. Optics Express, 2021, 29, 23083.	3.4	10
62	<title>Orbital angular momentum of mixed vortex beams</title>. Proceedings of SPIE, 2007, , .	0.8	9
63	Optical tracking of spherical micro-objects in spatially periodic interference fields. Optics Express, 2007, 15, 2262.	3.4	9
64	Computational image enhancement of multimode fibre-based holographic endo-microscopy: harnessing the muddy modes. Optics Express, 2021, 29, 38206.	3.4	8
65	Thermal stability of wavefront shaping using a DMD as a spatial light modulator. Optics Express, 2021, 29, 41808.	3.4	7
66	Hybrid multimode - multicore fibre based holographic endoscope for deep-tissue neurophotonics. Light Advanced Manufacturing, 2022, 3, 1.	5.1	7
67	All-optical manipulation of photonic membranes. Optics Express, 2021, 29, 14260.	3.4	6
68	Endoscopic Imaging Using a Multimode Optical Fibre Calibrated with Multiple Internal References. Photonics, 2022, 9, 37.	2.0	6
69	Nanobore fiber focus trap with enhanced tuning capabilities. Optics Express, 2019, 27, 36221.	3.4	5
70	Submicron particle localization using evanescent field. , 2005, , .		4
71	Optical binding in non-diffracting beams. , 2006, , .		4
72	Multimode fibres for micro-endoscopy. Optofluidics, Microfluidics and Nanofluidics, 2015, 2, .	0.5	4

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73	Generation and control of multiple Bessel beams for optical micromanipulation. , 2008, , .		3
74	Supercontinuum Airy beams. , 2009, , .		3
75	Suppression of the non-linear background in a multimode fibre CARS endoscope. Biomedical Optics Express, 2022, 13, 862.	2.9	3
76	Behavior of microparticles in laser interference field. , 2005, , .		2
77	<title>Manufacturing of extremely narrow polymer fibers by non-diffracting beams</title>. , 2007, , .		2
78	Quasi-Bessel beam generated by oblate-tip axicon. Proceedings of SPIE, 2008, , .	0.8	2
79	Axial intensity shaping of a Bessel beam. , 2009, , .		2
80	Airy Beams for Light-sheet Microscopy. Microscopy and Microanalysis, 2015, 21, 1723-1724.	0.4	2
81	Time-averaged image projection through a multimode fiber. Optics Express, 2021, 29, 28005.	3.4	2
82	Exploiting digital micromirror device for holographic micro-endoscopy. , 2019, , .		2
83	Behavior of submicron colloids in two-dimensional optical lattice. , 2005, , .		1
84	Optical conveyor belt based on Bessel beams. , 2005, , .		1
85	Static particle sorting in 1D optical lattice. , 2006, , .		1
86	Submicron-scale Brownian swimmer or surfer in one dimensional standing wave optical traps. , 2006, 6326, 645.		1
87	Non-diffracting beam synthesis used for optical trapping and delivery of sub-micron objects. , 2006, , .		1
88	Polarisation distribution for internal conical diffraction and the superposition of zero and first order Bessel beams. , 2008, , .		1
89	Increasing the resolution of light sheet microscopy in the presence of aberrations. Proceedings of SPIE, 2013, , .	0.8	1
90	Single laser beam based passive optical sorter. , 2013, , .		1

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91	Experimental demonstration of optical transport, sorting and self arrangement using a "tractor beam". , 2013, , .		1
92	Femtosecond optical injection of intact plant cells using a reconfigurable platform. , 2014, , .		1
93	Holographic Optical Tweezers at the Tip of a Needle. , 2018, , .		1
94	Liquid-Crystal and MEMS Modulators for Beam-Shaping Through Multimode Fibre. , 2018, , .		1
95	10.1063/1.3554415.1. , 2011, , .		1
96	Towards focusing broad band light through a multimode fiber endoscope. , 2019, , .		1
97	Multimode fiber transmission matrix obtained with internal references. , 2019, , .		1
98	3D imaging through a single optical fiber. , 2022, , .		1
99	Combination of photopolymerization and optical micromanipulation techniques. , 2005, , .		0
100	Sub-micron particle delivery using evanescent field. , 2005, 5958, 147.		0
101	<title>Optical conveyor belt for delivery of sub-micron objects</title>. , 2006, , .		0
102	<title>Behavior of colloidal microparticles in interference field created by several laser beams</title>. , 2006, 6180, 511.		0
103	Optical interference fields: an excellent tool kit to study Brownian dynamics. , 2006, , .		0
104	Precise determination of object position in 1D optical lattice. , 2006, 6326, 549.		0
105	<title>Optical tracking of micro-objects within living cells</title>. , 2006, 6180, 466.		0
106	Multistability of optically bound objects. , 2006, , .		0
107	Narrow polymer fibers obtained as a combination of photopolymerization and non-diffracting beams. , 2006, , .		0
108	<title>How to use laser radiative and evanescent interference fields to control movement of the sub-micron objects</title>. , 2007, , .		0

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109	Novel dual beam fiber traps using endlessly single-mode photonic crystal fiber. Proceedings of SPIE, 2008, , .	0.8	0
110	Stability and dynamics of self-arranged structures in longitudinal optical binding. Proceedings of SPIE, 2008, , .	0.8	0
111	Laser beam interference and its applications in optical micromanipulation. Proceedings of SPIE, 2008, , .	0.8	0
112	Delivery of multiparticle chains by an optical conveyor belt. , 2008, , .		0
113	One-dimensional long-range self-arranged optically bound structures. , 2008, , .		0
114	Optically bound chain of microparticles. , 2008, , .		0
115	Flexible dual-beam geometry for advanced optical micromanipulation experiments. , 2010, , .		0
116	Optical Sculpting: Shaping the Future of Biophotonic. , 2010, , .		0
117	Formation of one-dimensional optically bound structures of polystyrene particles near the surface. Proceedings of SPIE, 2010, , .	0.8	0
118	In situ wavefront optimization: towards the ideal performance of a biophotonics system. Proceedings of SPIE, 2010, , .	0.8	0
119	Modelling of optical trapping. , 2011, , .		0
120	Advanced optical manipulation with tailored counter-propagating laser beams. Proceedings of SPIE, 2011, , .	0.8	0
121	Demonstration of multi-dimensional optical binding in counter-propagating laser beams with variable beam properties. , 2011, , .		0
122	Optical sculpting: trapping through disorder and transfer of orbital angular momentum. Proceedings of SPIE, 2011, , .	0.8	0
123	Passive optical sorting of plasmon nanoparticles: Numerical investigation of optimal illumination. , 2011, , .		0
124	Behaviour of self-arranged chain of colloidal particles in a travelling standing wave. Proceedings of SPIE, 2012, , .	0.8	0
125	Optical sorting of gold nanoparticles based on the red-shift of plasmon resonance. Proceedings of SPIE, 2012, , .	0.8	0
126	Multimode fibre as a light mode convertor: principles and applications. , 2012, , .		0

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127	Manipulation and control of light in multimode fibres. , 2012, , .		0
128	Faster optical delivery of self-arranged multi-particle cluster. , 2012, , .		0
129	Exploiting multimode waveguides for pure fibre based fluorescence imaging. , 2013, , .		0
130	The role of propagation invariant light modes in single and multi-photon imaging. , 2013, , .		0
131	Optical manipulation, beam-shaping and scanner-free bright-field and dark-field imaging via multimode optical fibre. , 2013, , .		0
132	GPU accelerated holography for multimode fiber applications. Proceedings of SPIE, 2015, , .	0.8	0
133	Multimode fibres: a pathway towards deep-tissue fluorescence microscopy. Proceedings of SPIE, 2015, , .	0.8	0
134	Fibre-based imaging: new challenges. , 2015, , .		0
135	Untangled modes in multimode fibres for flexible microendoscopy. , 2015, , .		0
136	All-optical manipulation of photonic membranes. , 2016, , .		0
137	Untangled modes in multimode waveguides. , 2016, , .		0
138	Non-linear label-free imaging through a multimode graded index optical fibre. EPJ Web of Conferences, 2020, 238, 04006.	0.3	0
139	Transport of multi-particle clusters by motional standing wave optical traps. , 2009, , .		0
140	Optically bound chain of microparticles. , 2009, , .		0
141	Optical Sculpting: Changing The Shape of Micromanipulation. , 2010, , .		0
142	SHAPING THE FUTURE OF NANOBIPHOTONICS. , 2011, , .		0
143	Optimal focusing In Situ: new routes for optical trapping and Biophotonics. , 2011, , .		0
144	Optical Sculpting: trapping through disorder. , 2011, , .		0

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145	10.1063/1.3680234.1. , 2012, , .		0
146	High-speed Polarisation Shaping of Arbitrary Vector Beams Using a Digital Micro-mirror Device. , 2017, , .		0
147	A biophotonics platform based on optical trapping of photonic membranes. , 2017, , .		0
148	Imaging Beyond a Multimode Fibre with Time of Flight Depth Information. , 2018, , .		0
149	Time of Flight Based 3D Imaging Through Multimode Optical Fibres. , 2019, , .		0
150	Nano-bore fiber focus trap with enhanced performance. , 2019, , .		0
151	Digital holographic endo-microscopes based on multimode fibres. , 2020, , .		0
152	Digital holographic endo-microscopes based on multimode fibres. , 2020, , .		0
153	Label-free non-linear imaging through a multimode fiberendoscope. , 2020, , .		0
154	Multimode fibre probe calibration. EPJ Web of Conferences, 2020, 238, 02007.	0.3	0
155	Transport properties of optical fibres with high numerical apertures. , 2020, , .		0
156	Excitation Polarization Resolved Second Harmonic Generation Microscopy Through a Multimode Optical Fiber. , 2021, , .		0
157	Suppressing the Non-linear Fiber Background in Multimode Fiber Endoscopy. , 2021, , .		0
158	CARS Microscopy Through a Multimode Fiber Probe with Reduced Four-Wave Mixing Background. , 2022, , .		0