

# Jeroen Beeckman

## List of Publications by Year in descending order

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156  
papers

2,283  
citations

236612

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264894

42  
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158  
all docs

158  
docs citations

158  
times ranked

1927  
citing authors

#	ARTICLE	IF	CITATIONS
1	Liquid-crystal photonic applications. <i>Optical Engineering</i> , 2011, 50, 081202.	0.5	201
2	Nanophotonic Pockels modulators on a silicon nitride platform. <i>Nature Communications</i> , 2018, 9, 3444.	5.8	163
3	Simulations and experiments on self-focusing conditions in nematic liquid-crystal planar cells. <i>Optics Express</i> , 2004, 12, 1011.	1.7	110
4	Measurement of the self-induced waveguide of a solitonlike optical beam in a nematic liquid crystal. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2005, 22, 1424.	0.9	95
5	Dynamics of charge transport in planar devices. <i>Physical Review E</i> , 2008, 78, 011502.	0.8	65
6	Lanthanide-Assisted Deposition of Strongly Electro-optic PZT Thin Films on Silicon: Toward Integrated Active Nanophotonic Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 13350-13359.	4.0	58
7	Wide tuning of silicon-on-insulator ring resonators with a liquid crystal cladding. <i>Optics Letters</i> , 2011, 36, 3876.	1.7	56
8	Digitally Controlled Phase Shifter Using an SOI Slot Waveguide With Liquid Crystal Infiltration. <i>IEEE Photonics Technology Letters</i> , 2015, 27, 1269-1272.	1.3	48
9	Active Liquid Crystal Tuning of Metallic Nanoantenna Enhanced Light Emission from Colloidal Quantum Dots. <i>Nano Letters</i> , 2014, 14, 5555-5560.	4.5	47
10	Calculation of Fully Anisotropic Liquid Crystal Waveguide Modes. <i>Journal of Lightwave Technology</i> , 2009, 27, 3812-3819.	2.7	45
11	Multi-electrode tunable liquid crystal lenses with one lithography step. <i>Optics Letters</i> , 2018, 43, 271.	1.7	44
12	Tilted Chiral Liquid Crystal Gratings for Efficient Large-Angle Diffraction. <i>Advanced Optical Materials</i> , 2019, 7, 1901364.	3.6	44
13	Conductor grid optimization for luminance loss reduction in organic light emitting diodes. <i>Journal of Applied Physics</i> , 2008, 103, .	1.1	43
14	A finite element beam propagation method for simulation of liquid crystal devices. <i>Optics Express</i> , 2009, 17, 10895.	1.7	42
15	Switchable 3D liquid crystal grating generated by periodic photo-alignment on both substrates. <i>Soft Matter</i> , 2015, 11, 7802-7808.	1.2	42
16	Tuning of silicon-on-insulator ring resonators with liquid crystal cladding using the longitudinal field component. <i>Optics Letters</i> , 2009, 34, 2054.	1.7	41
17	Patterned electrode steering of nematicons. <i>Journal of Optics</i> , 2006, 8, 214-220.	1.5	40
18	Large-Scale and Electroswitchable Polarized Emission from Semiconductor Nanorods Aligned in Polymeric Nanofibers. <i>ACS Photonics</i> , 2015, 2, 583-588.	3.2	38

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19	Light emission from dye-doped cholesteric liquid crystals at oblique angles: Simulation and experiment. <i>Physical Review E</i> , 2012, 85, 041702.	0.8	37
20	Dipole radiation within one-dimensional anisotropic microcavities: a simulation method. <i>Optics Express</i> , 2011, 19, 18558.	1.7	35
21	Synthesis and mesomorphic properties of laterally substituted 4,4'-dialkyl-p-terphenyls. <i>Liquid Crystals</i> , 2014, 41, 503-513.	0.9	34
22	Complex liquid crystal superstructures induced by periodic photo-alignment at top and bottom substrates. <i>Soft Matter</i> , 2018, 14, 6892-6902.	1.2	31
23	Preferentially oriented BaTiO <sub>3</sub> thin films deposited on silicon with thin intermediate buffer layers. <i>Nanoscale Research Letters</i> , 2013, 8, 62.	3.1	30
24	Periodic Planar Homeotropic Anchoring Realized by Photoalignment for Stabilization of Chiral Superstructures. <i>Advanced Optical Materials</i> , 2018, 6, 1701163.	3.6	26
25	Induced modulation instability and recurrence in nematic liquid crystals. <i>Optics Express</i> , 2007, 15, 11185.	1.7	25
26	Widely tunable chiral nematic liquid crystal optical filter with microsecond switching time. <i>Optics Express</i> , 2014, 22, 19098.	1.7	25
27	Time dependence of soliton formation in planar cells of nematic liquid crystals. <i>IEEE Journal of Quantum Electronics</i> , 2005, 41, 735-740.	1.0	23
28	Ring-shaped liquid crystal structures through patterned planar photo-alignment. <i>Soft Matter</i> , 2020, 16, 4999-5008.	1.2	23
29	Near-infrared luminescence emitted by an electrically switched liquid crystal cell. <i>Journal of Luminescence</i> , 2007, 127, 611-615.	1.5	22
30	Electrically Controllable Liquid Crystal Component for Efficient Light Steering. <i>IEEE Photonics Journal</i> , 2015, 7, 1-13.	1.0	22
31	Tuning silicon-on-insulator ring resonators with in-plane switching liquid crystals. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2011, 28, 79.	0.9	21
32	Highly photoluminescent Eu(III) complexes of the new 1-triphenyl-2-yl-3-trifluoroacetylacetone. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2012, 250, 85-91.	2.0	21
33	Simulation of 2-D lateral light propagation in nematic-liquid-crystal cells with tilted molecules and nonlinear reorientational effect. <i>Optical and Quantum Electronics</i> , 2005, 37, 95-106.	1.5	20
34	Design, fabrication and characterization of a distributed Bragg reflector for reducing the bandwidth of a wavelength converting system. <i>Optics Express</i> , 2020, 28, 12837.	1.7	19
35	Large Angle Forward Diffraction by Chiral Liquid Crystal Gratings with Inclined Helical Axis. <i>Crystals</i> , 2020, 10, 807.	1.0	18
36	Trimming of silicon-on-insulator ring resonators with a polymerizable liquid crystal cladding. <i>Optics Letters</i> , 2012, 37, 1475.	1.7	17

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37	VCSEL With Photo-Aligned Liquid Crystal Overlay. IEEE Photonics Technology Letters, 2012, 24, 1509-1512.	1.3	17
38	Inducing monodomain blue phase liquid crystals by long-lasting voltage application during temperature variation. Liquid Crystals, 2016, 43, 688-693.	0.9	16
39	Self-Trapping of Light Using the Pancharatnam-Berry Phase. Physical Review X, 2019, 9, .	2.8	16
40	Finding exact spatial soliton profiles in nematic liquid crystals. Optics Express, 2010, 18, 3311.	1.7	15
41	Numerical simulation of stimulated emission and lasing in dye doped cholesteric liquid crystal films. Journal of Applied Physics, 2013, 113, 063106.	1.1	15
42	Switching and intrinsic position bistability of soliton beams in chiral nematic liquid crystals. Physical Review A, 2011, 83, .	1.0	14
43	Vertical-cavity surface-emitting laser emitting circularly polarized light. Laser Physics Letters, 2013, 10, 105003.	0.6	14
44	Nematicon-driven injection of amplified spontaneous emission into an optical fiber. Optics Letters, 2016, 41, 2245.	1.7	14
45	Surface-mediated Alignment of Long Pitch Chiral Nematic Liquid Crystal Structures. Advanced Optical Materials, 2018, 6, 1800070.	3.6	14
46	Electrically assisted bandedge mode selection of photonic crystal lasing in chiral nematic liquid crystals. Applied Physics Letters, 2018, 112, .	1.5	14
47	Quasistationary current contributions in electronic devices. Opto-electronics Review, 2007, 15, .	2.4	13
48	Effect of material properties on reverse flow in nematic liquid crystal devices with homeotropic alignment. Applied Physics Letters, 2009, 95, .	1.5	13
49	Countering spatial soliton breakdown in nematic liquid crystals. Optics Letters, 2009, 34, 1900.	1.7	13
50	Reflective liquid crystal hybrid beam-steerer. Optics Express, 2016, 24, 21541.	1.7	13
51	Generation of multiple solitons using competing nonlocal nonlinearities. Optics Letters, 2019, 44, 1162.	1.7	13
52	Diffraction and fringing field effects in small pixel liquid crystal devices with homeotropic alignment. Journal of Applied Physics, 2010, 108, 083104.	1.1	12
53	Optimization of liquid crystal devices based on weakly conductive layers for lensing and beam steering. Journal of Applied Physics, 2017, 121, .	1.1	12
54	Voltage-controlled formation of short pitch chiral liquid crystal structures based on high-resolution surface topography. Optics Express, 2019, 27, 11492.	1.7	12

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55	Vertical-cavity surface-emitting laser with a liquid crystal external cavity. <i>Optics Letters</i> , 2014, 39, 6494.	1.7	11
56	Electrically tuneable lateral leakage loss in liquid crystal clad shallow-etched silicon waveguides. <i>Optics Express</i> , 2015, 23, 2846.	1.7	11
57	Optimization of electrically tunable VCSEL with intracavity nematic liquid crystal. <i>Optics Express</i> , 2015, 23, 15706.	1.7	11
58	Fast polarisation-insensitive optical shutter supported by backflow in dichroic dye-doped dual-frequency liquid crystal. <i>Liquid Crystals</i> , 2014, 41, 1553-1558.	0.9	10
59	Optical induction of Bessel-like lattices in methyl-red doped liquid crystal cells. <i>Optics Communications</i> , 2015, 338, 467-472.	1.0	10
60	Ferroelectric thin films with liquid crystal for gradient index applications. <i>Optics Express</i> , 2016, 24, 8088.	1.7	10
61	Spatial fluctuations of optical solitons due to long-range correlated dielectric perturbations in liquid crystals. <i>Physical Review A</i> , 2017, 96, .	1.0	10
62	Hydrodynamics of fringing-field induced defects in nematic liquid crystals. <i>Journal of Applied Physics</i> , 2021, 130, .	1.1	10
63	Low power optical phase shifter using liquid crystal actuation on a silicon photonics platform. <i>Optical Materials Express</i> , 2022, 12, 2181.	1.6	10
64	Polarization Selective Wavelength Tunable Filter. <i>Molecular Crystals and Liquid Crystals</i> , 2009, 502, 19-28.	0.4	9
65	Hybrid fluorescent layer emitting polarized light. <i>APL Materials</i> , 2017, 5, .	2.2	9
66	Light-induced multi-wavelength lasing in dye-doped chiral nematic liquid crystals due to strong pumping illumination. <i>Liquid Crystals</i> , 2018, 45, 1272-1278.	0.9	9
67	Observation of symmetry breaking in photoalignment-induced periodic 3D LC structures. <i>Journal of Molecular Liquids</i> , 2020, 306, 112864.	2.3	9
68	Rotationally invariant ring-shaped liquid crystal structures between two substrates with different photoalignment. <i>Journal of Molecular Liquids</i> , 2021, 337, 116238.	2.3	9
69	Broadband Electro-optic Modulation using Low-loss PZT-on-Silicon Nitride Integrated Waveguides. , 2017, , .		9
70	Vertical-Cavity Surface-Emitting Laser With Cholesteric Liquid Crystal Overlay. <i>Journal of Lightwave Technology</i> , 2014, 32, 20-26.	2.7	8
71	Fringe-field-induced out-of-plane reorientation in vertically aligned nematic spatial light modulators and its effect on light diffraction. <i>Liquid Crystals</i> , 2021, 48, 1516-1524.	0.9	8
72	Numerical Simulations of Electrically Induced Birefringence in Photonic Liquid Crystal Fibers. <i>Acta Physica Polonica A</i> , 2010, 118, 1113-1117.	0.2	8

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73	Tunable quasi-homeotropic liquid crystal pretilt angle based on competing alignment layers. <i>Liquid Crystals</i> , 2009, 36, 1373-1377.	0.9	7
74	Multicasting optical interconnects using liquid crystal over silicon devices. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2011, 28, 363.	0.8	7
75	Nematic Liquid Crystal Disclination Lines Driven by A Photoaligned Defect Grid. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	7
76	Observation of out-coupling of a nematicon. <i>Opto-electronics Review</i> , 2006, 14, .	2.4	6
77	Theoretical study of reorientation and torque of liquid crystal molecules under influence of external electric field and experimentally generation of spatial optical soliton beam and getting a sharp switching in chiral nematic liquid crystal. <i>Optik</i> , 2013, 124, 3983-3986.	1.4	6
78	Vertical-Cavity Surface-Emitting Laser With a Chiral Nematic Liquid Crystal Overlay. <i>IEEE Photonics Journal</i> , 2014, 6, 1-10.	1.0	6
79	Electrically tunable Fabry-Perot lasing in nematic liquid crystal cells. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2014, 31, 1516.	0.9	6
80	Interplay between multiple scattering and optical nonlinearity in liquid crystals. <i>Optics Letters</i> , 2018, 43, 3461.	1.7	6
81	Active Optical Beam Shaping Based on Liquid Crystals and Polymer Micro-Structures. <i>Crystals</i> , 2020, 10, 977.	1.0	6
82	Design and Realization of a Compact Efficient Beam Combiner, Based on Liquid Crystal Pancharatnam-Berry Phase Gratings. <i>Crystals</i> , 2021, 11, 220.	1.0	6
83	Reversible and Tunable Second-Order Nonlinear Optical Susceptibility in PZT Thin Films for Integrated Optics. <i>Advanced Optical Materials</i> , 2021, 9, 2100149.	3.6	6
84	Tunable light beam steering device using polymer stabilized blue phase liquid crystals. <i>Photonics Letters of Poland</i> , 2017, 9, 11.	0.2	6
85	Role of homeotropic alignment strength at the air interface of polymerized liquid crystal layers. <i>Optical Materials Express</i> , 2021, 11, 4036.	1.6	6
86	A four-electrode liquid crystal device for 2D in-plane director rotation. <i>Journal Physics D: Applied Physics</i> , 2005, 38, 3976-3984.	1.3	5
87	Realization of a Four-Electrode Liquid Crystal Device With Full In-Plane Director Rotation. <i>IEEE Transactions on Electron Devices</i> , 2007, 54, 1295-1300.	1.6	5
88	Optical Analysis of Small Pixel Liquid Crystal Microdisplays. <i>Journal of Display Technology</i> , 2011, 7, 156-161.	1.3	5
89	Tuning the lateral leakage loss of TM-like modes in shallow-etched waveguides using liquid crystals. <i>Applied Optics</i> , 2014, 53, 214.	0.9	5
90	Solvent-induced self-assembly of uniform lying helix alignment of the cholesteric liquid crystal phase for the flexoelectro-optic effect. <i>Liquid Crystals</i> , 2018, 45, 774-782.	0.9	5

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91	Improvement of liquid crystal tunable lenses with weakly conductive layers using multifrequency driving. Optics Letters, 2020, 45, 1001.	1.7	5
92	Disclination lines in nematic liquid crystal between a structured photoalignment layer and a homeotropic alignment layer. Journal of Molecular Liquids, 2022, 352, 118710.	2.3	5
93	Wave guiding with liquid crystals. , 2007, , .		4
94	Induced modulation instability and recurrence in nonlocal nonlinear media. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 065402.	0.6	4
95	Fast Visible-Near Infrared Switchable Liquid Crystal Filter. Molecular Crystals and Liquid Crystals, 2009, 502, 9-18.	0.4	4
96	Refractive Bessel lattice in azobenzene liquid crystal. Journal of Modern Optics, 2018, 65, 2034-2043.	0.6	4
97	In-plane characterization of PZT thin films for the creation of a general impedance model. Journal of Applied Physics, 2021, 129, .	1.1	4
98	Mode coupling by scattering in chiral nematic liquid crystal ring lasing. Optics Express, 2019, 27, 8081.	1.7	4
99	One- and two-dimensional liquid crystal structures for lasing applications. Proceedings of SPIE, 2015, , .	0.8	3
100	Driving issues of large area liquid crystal devices. Liquid Crystals, 2021, 48, 281-294.	0.9	3
101	A Strong Pockels PZT/Si Modulator for Efficient Electro-Optic Tuning. , 2020, , .		3
102	Si-phonic integrated PZT thin film for acousto-optic modulation. , 2020, , .		3
103	Influence of period and surface anchoring strength in liquid crystal optical axis gratings. Soft Matter, 2022, 18, 3249-3256.	1.2	3
104	Light Modulation in Silicon Photonics by PZT Actuated Acoustic Waves. ACS Photonics, 2022, 9, 1944-1953.	3.2	3
105	One-dimensional simulation of field-induced director reorientation and lateral light propagation in liquid crystals. , 2004, , .		2
106	Lateral Light Propagation in SSFLC Devices and Thermal Optical Nonlinearities. Ferroelectrics, 2006, 344, 225-231.	0.3	2
107	Nonlinear wave guiding in nematic liquid crystals. , 2007, , .		2
108	Orientation of nematic liquid crystal in open glass microstructures. Journal of Applied Physics, 2009, 106, 063101.	1.1	2

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109	Non-linear light propagation and bistability in nematic liquid crystals. Proceedings of SPIE, 2009, , .	0.8	2
110	Simulating the Emission Properties of Luminescent Dyes within One-Dimensional Uniaxial Liquid Crystal Microcavities. Molecular Crystals and Liquid Crystals, 2012, 560, 82-92.	0.4	2
111	Direct digital control of an efficient silicon&#x002B;liquid crystal phase shifter. , 2014, , .		2
112	Thin film polarizer and color filter based on photo-polymerizable nematic liquid crystal. Proceedings of SPIE, 2015, , .	0.8	2
113	Optical gain from polyfluorene keto defects in a liquid crystal mixture. Chemical Communications, 2015, 51, 9686-9689.	2.2	2
114	Tuning the lasing wavelength of dye-doped chiral nematic liquid crystal by fluid flow. Liquid Crystals, 2016, , 1-7.	0.9	2
115	Light-controlled reorientation of nematic liquid crystal driven by an electric field. Liquid Crystals, 2016, 43, 1422-1430.	0.9	2
116	Hybrid PZT/Si TM/TE electro-optic phase modulators. , 2019, , .		2
117	Tunable Silicon-on-Insulator based integrated optical filters with liquid crystal cladding. , 2009, , .		1
118	Widely tunable silicon-on-insulator ring resonators with a liquid crystal cladding. , 2011, , .		1
119	Finite element optical modeling of liquid crystal waveguides. Optical Engineering, 2011, 50, 081204.	0.5	1
120	Microsecond-range optical shutter for unpolarized light with chiral nematic liquid crystal. AIP Advances, 2015, 5, .	0.6	1
121	The role of segregation in the polarized emission from polyfluorene embedded in a liquid crystal. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 1558-1563.	2.4	1
122	75â€³: Highly Collimated Backlight for Liquid Crystal Displays. Digest of Technical Papers SID International Symposium, 2020, 51, 1120-1123.	0.1	1
123	Reversible and Tunable Secondâ€™Order Nonlinear Optical Susceptibility in PZT Thin Films for Integrated Optics (Advanced Optical Materials 16/2021). Advanced Optical Materials, 2021, 9, 2170062.	3.6	1
124	Liquid crystals in waveguides for tuning and sensing. Photonics Letters of Poland, 2011, 3, .	0.2	1
125	Acousto-optic modulation in a Si-waveguide. , 2021, , .		1
126	New wavelength-tuning method in optical ring resonators with liquid crystal cladding: exploiting the longitudinal E-field. Proceedings of SPIE, 2009, , .	0.8	0



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127	Propagation of nematicons in unbiased configurations: spiraling solitons. Proceedings of SPIE, 2010, , .	0.8	0
128	Waveguides with liquid crystals. Proceedings of SPIE, 2011, , .	0.8	0
129	Self-focusing mechanism in nematic liquid crystals with sub-millisecond response. Proceedings of SPIE, 2011, , .	0.8	0
130	Three-dimensional finite element modeling of liquid crystal devices. Proceedings of SPIE, 2011, , .	0.8	0
131	850nm VCSEL with a liquid crystal overlay. , 2012, , .		0
132	VCSELs with nematic and cholesteric liquid crystal overlays. Proceedings of SPIE, 2013, , .	0.8	0
133	Vertical cavity surface emitting laser with nematic and chiral liquid crystals overlay. Proceedings of SPIE, 2013, , .	0.8	0
134	Effect of UV curing conditions on polymerized tunable chiral nematic liquid crystals. Proceedings of SPIE, 2014, , .	0.8	0
135	Modeling optical modes of in-plane liquid crystal lasers. , 2014, , .		0
136	Vertical-cavity surface-emitting laser with liquid crystal external cavity. Proceedings of SPIE, 2014, , .	0.8	0
137	Paper No S2.4: Large-Scale and Electroswitchable Polarized Emission From Semiconductor Nanorods Aligned in Polymeric Nanofibers. Digest of Technical Papers SID International Symposium, 2015, 46, 12-12.	0.1	0
138	Paper No S1.3: Lead Zirconate Titanate-Based Transmissive Liquid Crystal Lens Approach. Digest of Technical Papers SID International Symposium, 2015, 46, 7-7.	0.1	0
139	Thin Film Polarized Liquid Crystal Backlight. Digest of Technical Papers SID International Symposium, 2015, 46, 37-37.	0.1	0
140	New materials and devices for optical interconnect. , 2015, , .		0
141	Hybrid VCSEL: liquid crystal systems. , 2015, , .		0
142	Liquid crystal devices with continuous phase variation based on high-permittivity thin films. Proceedings of SPIE, 2016, , .	0.8	0
143	New materials for modulators and switches in silicon photonics (Conference Presentation). , 2017, , .		0
144	Chiral Superstructures in Liquid Crystals: Periodic Planar Homeotropic Anchoring Realized by Photoalignment for Stabilization of Chiral Superstructures (Advanced Optical Materials 6/2018). Advanced Optical Materials, 2018, 6, 1870025.	3.6	0

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145	Liquid Crystal Superstructures: Surface-Mediated Alignment of Long Pitch Chiral Nematic Liquid Crystal Structures (Advanced Optical Materials 13/2018). Advanced Optical Materials, 2018, 6, 1870053.	3.6	0
146	Optical Self-Localization Based upon the Pancharatnam-Berry Phase. , 2019, , .		0
147	Self-Written Y-Junctions using Spatial Solitons. , 2019, , .		0
148	Large, Electric-Field Induced Tunable and Reversible $\chi^{(2)}$ in PZT Thin Films for on-chip second-order nonlinearities. , 2021, , .		0
149	Strong collection of Amplified Spontaneous Emission with nematicons. , 2016, , .		0
150	Spatial instabilities in nematicon propagation generated by correlated noise in liquid crystals. , 2017, , .		0
151	Advances in PZT-on-SiN electro-optic modulator platform. , 2018, , .		0
152	Peculiarities of spatial soliton formation in azobenzene liquid crystal. , 2018, , .		0
153	Liquid Crystal Based Active Phase Modulator for Silicon Nitride Photonics Circuits at Near-Infrared. , 2020, , .		0
154	Submicrometer photoalignment for photonic components based on tilted chiral liquid crystal. , 2022, , .		0
155	PZT based actuator for an efficient electro-optomechanical interaction in Si-photonics integrated circuits. , 2022, , .		0
156	PZT Based Acoustic Resonator for the Refractive Index Modulation. , 2022, , .		0