

Romeo Beccherelli

List of Publications by Year in descending order

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148
papers

2,456
citations

172457

29
h-index

243625

44
g-index

150
all docs

150
docs citations

150
times ranked

1947
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrically Tunable Critically Coupled Terahertz Metamaterial Absorber Based on Nematic Liquid Crystals. <i>Physical Review Applied</i> , 2015, 3, .	3.8	113
2	Guided-wave liquid-crystal photonics. <i>Lab on A Chip</i> , 2012, 12, 3598.	6.0	112
3	Nematic Liquid Crystal Optical Channel Waveguides on Silicon. <i>IEEE Journal of Quantum Electronics</i> , 2006, 42, 1084-1090.	1.9	79
4	Electrically tunable terahertz polarization converter based on overcoupled metal-isolator-metal metamaterials infiltrated with liquid crystals. <i>Nanotechnology</i> , 2017, 28, 124002.	2.6	74
5	Design of a very large chemical sensor system for mimicking biological olfaction. <i>Sensors and Actuators B: Chemical</i> , 2010, 146, 446-452.	7.8	73
6	Liquidâ€Crystal Highâ€Frequency Microwave Technology: Materials and Characterization. <i>Advanced Materials Technologies</i> , 2019, 4, 1800447.	5.8	73
7	Ultra-high-quality factor resonant dielectric metasurfaces based on hollow nanocuboids. <i>Optics Express</i> , 2019, 27, 6320.	3.4	72
8	Tunable terahertz fishnet metamaterials based on thin nematic liquid crystal layers for fast switching. <i>Scientific Reports</i> , 2015, 5, 13137.	3.3	69
9	A Switchable Liquid-Crystal Optical Channel Waveguide on Silicon. <i>IEEE Journal of Quantum Electronics</i> , 2010, 46, 762-768.	1.9	66
10	Tunable integrated optical filter made of a glass ion-exchanged waveguide and an electro-optic composite holographic grating. <i>Optics Express</i> , 2008, 16, 9254.	3.4	64
11	Flexible terahertz wire grid polarizer with high extinction ratio and low loss. <i>Optics Letters</i> , 2016, 41, 2009.	3.3	61
12	Anapole Modes in Hollow Nanocuboid Dielectric Metasurfaces for Refractometric Sensing. <i>Nanomaterials</i> , 2019, 9, 30.	4.1	56
13	POLICRYPS: a liquid crystal composed nano/microstructure with a wide range of optical and electro-optical applications. <i>Journal of Optics</i> , 2009, 11, 024017.	1.5	55
14	Broad- and Narrow-Line Terahertz Filtering in Frequency-Selective Surfaces Patterned on Thin Low-Loss Polymer Substrates. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2017, 23, 1-8.	2.9	52
15	Systematic Design of THz Leaky-Wave Antennas Based on Homogenized Metasurfaces. <i>IEEE Transactions on Antennas and Propagation</i> , 2018, 66, 1169-1178.	5.1	46
16	Guided-mode resonant narrowband terahertz filtering by periodic metallic stripe and patch arrays on cyclo-olefin substrates. <i>Scientific Reports</i> , 2018, 8, 17272.	3.3	45
17	All-optical intensity modulation of near infrared light in a liquid crystal channel waveguide. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	42
18	Hybrid Plasmonic Modulators and Filters Based on Electromagnetically Induced Transparency. <i>IEEE Photonics Technology Letters</i> , 2016, 28, 818-821.	2.5	42

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19	Transparent conducting oxide electro-optic modulators on silicon platforms: A comprehensive study based on the drift-diffusion semiconductor model. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	41
20	Tunable Beam Steering at Terahertz Frequencies Using Reconfigurable Metasurfaces Coupled With Liquid Crystals. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-9.	2.9	40
21	Guided lamb wave electroacoustic devices on micromachined AlN/Al plates. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2010, 57, 1175-1182.	3.0	38
22	Large-Scale Chemical Sensor Array Testing Biological Olfaction Concepts. <i>IEEE Sensors Journal</i> , 2012, 12, 3174-3183.	4.7	36
23	A biomimetic approach to machine olfaction, featuring a very large-scale chemical sensor array and embedded neuro-bio-inspired computation. <i>Microsystem Technologies</i> , 2014, 20, 729-742.	2.0	36
24	Evaluation of optical anisotropy in the pretransitional regime in antiferroelectric liquid crystals. <i>Liquid Crystals</i> , 1998, 25, 573-577.	2.2	34
25	All- ϵ Dielectric Silicon Metasurface with Strong Subterahertz Toroidal Dipole Resonance. <i>Advanced Optical Materials</i> , 2019, 7, 1900777.	7.3	32
26	Long-range plasmonic directional coupler switches controlled by nematic liquid crystals. <i>Optics Express</i> , 2013, 21, 8240.	3.4	30
27	Electrically Tunable Metal- ϵ Semiconductor- ϵ Metal Terahertz Metasurface Modulators. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2019, 25, 1-8.	2.9	30
28	Hybrid electro-optic plasmonic modulators based on directional coupler switches. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	2.3	29
29	Toroidal metasurface resonances in microwave waveguides. <i>Scientific Reports</i> , 2019, 9, 7544.	3.3	29
30	Modelling, design and analysis of liquid crystal waveguides in preferentially etched silicon grooves. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 045111.	2.8	28
31	Observation of tunable optical filtering in photosensitive composite structures containing liquid crystals. <i>Optics Letters</i> , 2011, 36, 4755.	3.3	28
32	Liquid-crystal-tunable metal- ϵ insulator- ϵ metal plasmonic waveguides and Bragg resonators. <i>Journal of Optics (United Kingdom)</i> , 2013, 15, 055009.	2.2	28
33	Liquid- ϵ crystal tunable waveguides for integrated plasmonic components. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2013, 11, 73-84.	2.0	26
34	Beam-splitter switches based on zenithal bistable liquid-crystal gratings. <i>Physical Review E</i> , 2014, 90, 042503.	2.1	26
35	Liquid-crystal tunable filter based on sapphire microspheres. <i>Optics Letters</i> , 2009, 34, 3253.	3.3	25
36	Characterisation of Photoalignment Materials for Photonic Applications at Visible and Infrared Wavelengths. <i>Molecular Crystals and Liquid Crystals</i> , 2005, 429, 227-235.	0.9	24

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37	A method for butt-coupling optical fibres to liquid crystal planar waveguides. <i>Optical Materials</i> , 2007, 29, 1019-1022.	3.6	24
38	Design of a vertically coupled liquid-crystal long-range plasmonic optical switch. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	24
39	Plasmonic Variable Optical Attenuator Based on Liquid-Crystal Tunable Stripe Waveguides. <i>Plasmonics</i> , 2013, 8, 599-604.	3.4	24
40	Periodical Elements as Low-Cost Building Blocks for Tunable Terahertz Filters. <i>IEEE Photonics Technology Letters</i> , 2016, 28, 2459-2462.	2.5	24
41	Tunable one-dimensional photonic crystal slabs based on preferential etching of silicon-on-insulator. <i>Optics Express</i> , 2007, 15, 1832.	3.4	23
42	Polarization-Independent Nematic Liquid Crystal Waveguides for Optofluidic Applications. <i>IEEE Photonics Technology Letters</i> , 2015, 27, 1709-1712.	2.5	23
43	Angle-resolved and polarization-dependent investigation of cross-shaped frequency-selective surface terahertz filters. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	23
44	Photonic devices based on preferential etching. <i>Applied Optics</i> , 2005, 44, 7181.	2.1	22
45	A Real-Time Exposure System for Electrophysiological Recording in Brain Slices. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2007, 55, 2463-2471.	4.6	22
46	Tunable Fabry-Pérot Cavity THz Antenna Based on Leaky-Wave Propagation in Nematic Liquid Crystals. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2017, 16, 2046-2049.	4.0	22
47	All-Optical and Thermal Tuning of a Bragg Grating Based on Photosensitive Composite Structures Containing Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 2012, 558, 64-71.	0.9	21
48	All-Dielectric Toroidal Metasurfaces for Angular-Dependent Resonant Polarization Beam Splitting. <i>Advanced Optical Materials</i> , 2021, 9, 2002143.	7.3	21
49	Integrated plasmonic refractometric sensor using Fano resonance. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 055104.	2.8	20
50	Directional Emission of Fluorescent Dye-Doped Dielectric Nan gratings for Lighting Applications. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 24750-24757.	8.0	20
51	Design of Switchable Guided-Mode Resonant Filters in Zenithal-Bistable Liquid-Crystal Gratings. <i>IEEE Photonics Technology Letters</i> , 2017, 29, 1367-1370.	2.5	17
52	Tunable optical properties of silicon-on-insulator photonic crystal slab structures. <i>Journal of the European Optical Society-Rapid Publications</i> , 0, 4, .	1.9	16
53	Amplitude modulation in infrared metamaterial absorbers based on electro-optically tunable conducting oxides. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	2.3	16
54	Electro-optic modulators based on hybrid plasmonic micro-ring-disk resonators with femtojoule switching energy. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	2.3	15

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55	Fabrication and spectroscopic characterization of graphene transparent electrodes on flexible cyclo-olefin substrates for terahertz electro-optic applications. <i>Nanotechnology</i> , 2020, 31, 364006.	2.6	15
56	Low power hybrid plasmonic microring-on-disks electro-optical modulators. <i>Journal of Nanophotonics</i> , 2017, 11, 016014.	1.0	14
57	Guided mode resonance flat-top bandpass filter for terahertz telecom applications. <i>Optics Letters</i> , 2019, 44, 4239.	3.3	14
58	Time-domain modeling of dispersive and lossy liquid-crystals for terahertz applications. <i>Optical Materials Express</i> , 2014, 4, 449.	3.0	12
59	Quarter-wave plate metasurfaces on electromagnetically thin polyimide substrates. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	12
60	Terahertz focusing properties of polymeric zone plates characterized by a modified knife-edge technique. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2019, 36, D88.	2.1	12
61	Integration and Characterization of LC/Polymer Gratings on Glass and Silicon Platform. <i>Molecular Crystals and Liquid Crystals</i> , 2010, 516, 152-158.	0.9	11
62	Alignment of antiferroelectric liquid crystals for high contrast displays. <i>Displays</i> , 1999, 20, 185-190.	3.7	10
63	Study of Microplastics and Inorganic Contaminants in Mussels from the Montenegrin Coast, Adriatic Sea. <i>Journal of Marine Science and Engineering</i> , 2021, 9, 544.	2.6	10
64	Measurements of image sticking and hysteresis in SSFLC cells. <i>Ferroelectrics</i> , 1996, 178, 27-39.	0.6	9
65	Integrated optic devices using liquid crystals: design and fabrication issues. , 2004, , .		9
66	Integrated optics nano-opto-fluidic sensor based on whispering gallery modes for picoliter volume refractometry. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 105104.	2.8	9
67	Realization of a Liquid Crystal Electrically Controlled Optical Waveguide on Micromachined Silicon. <i>Molecular Crystals and Liquid Crystals</i> , 2009, 500, 23-30.	0.9	8
68	Optical interrogation system based on holographic soft matter filter. <i>Applied Physics Letters</i> , 2011, 98, 151103.	3.3	8
69	Liquid crystal waveguide technologies for a new generation of low-power photonic integrated circuits. , 2015, , .		8
70	Biologically Inspired Computation for Chemical Sensing. <i>Procedia Computer Science</i> , 2011, 7, 226-227.	2.0	7
71	Integrated Optics Devices Based on Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 2007, 465, 249-257.	0.9	6
72	Quasi-soliton propagation in dispersion-engineered silicon nanowires. <i>Optics Communications</i> , 2012, 285, 3306-3311.	2.1	6

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73	A switchable circular polarizer based on zenithal bistable liquid crystal gratings. Journal Physics D: Applied Physics, 2016, 49, 195104.	2.8	6
74	Low power compact hybrid plasmonic double microring electro-optical modulator. Proceedings of SPIE, 2016, , .	0.8	6
75	A reconfigurable multilayered THz leaky-wave antenna employing liquid crystals. , 2017, , .		6
76	Numerical and Experimental Time-Domain Characterization of Terahertz Conducting Polymers. IEEE Photonics Technology Letters, 2018, 30, 1579-1582.	2.5	6
77	Experimental demonstration of ultrathin broken-symmetry metasurfaces with controllably sharp resonant response. Applied Physics Letters, 2021, 119, 231601.	3.3	6
78	Reconfigurable beam-steerable leaky-wave antenna loaded with metamaterial apertures using liquid crystal-based delay lines. Optics Express, 2022, 30, 28966.	3.4	6
79	Influence of Charge Transfer Complex Doping of Polyamide Alignment Film on SSFLC Cell Performance. Molecular Crystals and Liquid Crystals, 1996, 290, 129-137.	0.3	5
80	Unstable states of antiferroelectric liquid crystal devices. Journal of Applied Physics, 2000, 87, 8433-8439.	2.5	5
81	Very Large Chemical Sensor Array for Mimicking Biological Olfaction. , 2009, , .		5
82	Liquid-Crystal Tunable Long-Range Surface Plasmon Polariton Directional Coupler. Molecular Crystals and Liquid Crystals, 2013, 573, 70-76.	0.9	5
83	High-Resolution Binary Zone Plate in Double-Sided Configuration for Terahertz Radiation Focusing. IEEE Photonics Technology Letters, 2019, 31, 117-120.	2.5	5
84	Terahertz polarizing component on cyclo-olefin polymer. Photonics Letters of Poland, 2017, 9, 2.	0.4	5
85	Terahertz characterization of graphene conductivity via time-domain reflection spectroscopy on metal-backed dielectric substrates. Journal Physics D: Applied Physics, 2022, 55, 365101.	2.8	5
86	Use of Ptfе Alignment Layers in Passive Addressed Ssflc Displays. Molecular Crystals and Liquid Crystals, 1997, 304, 357-362.	0.3	4
87	Homogeneous and heterogeneous switching in antiferroelectric liquid crystals. EPJ Applied Physics, 2000, 9, 247-252.	0.7	4
88	Influence of the Alignment Process on the Switching of High Contrast Antiferroelectric Liquid Crystal Displays. Molecular Crystals and Liquid Crystals, 2000, 351, 237-244.	0.3	4
89	All Optical Tunable Nematic Liquid Crystal Waveguide. Molecular Crystals and Liquid Crystals, 2012, 558, 204-208.	0.9	4
90	Geometrical and fluidic tuning of periodically modulated thin metal films. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 177-182.	2.0	4

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91	An ADE-FDTD Formulation for the Study of Liquid-Crystal Components in the Terahertz Spectrum. <i>Molecular Crystals and Liquid Crystals</i> , 2015, 619, 49-60.	0.9	4
92	Tunable terahertz metamaterials based on nematic liquid crystals. , 2016, , .		4
93	Title is missing!. <i>Journal Physics D: Applied Physics</i> , 1999, 32, 2241-2245.	2.8	3
94	Passive matrix SSFLC display with analogue grey levels using PTFE alignment films. <i>Displays</i> , 1999, 20, 191-197.	3.7	3
95	Integrated Optics Using Smectic and Nematic Liquid Crystals. <i>Ferroelectrics</i> , 2006, 344, 247-254.	0.6	3
96	All-Optical Liquid Crystal Waveguide on Silicon. <i>Molecular Crystals and Liquid Crystals</i> , 2011, 549, 100-105.	0.9	3
97	Plasmon resonance optical tuning based on photosensitive composite structures. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2014, 31, 360.	2.1	3
98	Properties and Stability of Bismuth Doped Tin Oxide Thin Films Deposited on Various Types of Glass Substrates. <i>Materials Research Society Symposia Proceedings</i> , 1996, 424, 355.	0.1	2
99	The Pre-Transitional Effect in Antiferroelectric Liquid Crystals: a Comparison between Theory and Experiment. <i>Molecular Crystals and Liquid Crystals</i> , 1999, 328, 65-73.	0.3	2
100	High voltage multichannel wave form generator for liquid crystal research. <i>Review of Scientific Instruments</i> , 2000, 71, 563-566.	1.3	2
101	Theoretical Performance Analysis of an Integrated Optic Filter Made of Glass Waveguides and POLICRYPS Holographic Gratings. <i>Molecular Crystals and Liquid Crystals</i> , 2007, 465, 227-237.	0.9	2
102	Realization of an Optical Filter Using POLICRYPS Holographic Gratings on Glass Waveguides. <i>Molecular Crystals and Liquid Crystals</i> , 2008, 486, 31/[1073]-37/[1079].	0.9	2
103	Fiber Bragg grating interrogation system based on a novel integrated optical filter. , 2008, , .		2
104	Polymeric zone plates for THz focusing. , 2016, , .		2
105	Terahertz frequency-selective surface and guided-mode resonance filters. , 2017, , .		2
106	Towards an hydrogenated amorphous silicon phototransistor cellular neural network. , 0, , .		1
107	Performance of a passive matrix ferroelectric liquid crystal display with analog grey levels. , 0, , .		1
108	Video speed low total voltage matrix addressing technique for SSFLC displays. <i>Ferroelectrics</i> , 1998, 214, 27-34.	0.6	1

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109	Investigation of the apparently thresholdless behaviour in the high temperature range of an antiferroelectric liquid crystal mixture. <i>Ferroelectrics</i> , 2000, 246, 43-50.	0.6	1
110	Nematic liquid crystal channel waveguides embedded in SiO ₂ /Si grooves. , 0, , .		1
111	Tunable one-dimensional photonic crystal slabs. , 2007, , .		1
112	Nonlinear switching of near infrared light in liquid crystal on silicon channel waveguides. <i>Proceedings of SPIE</i> , 2010, , .	0.8	1
113	Tunable integrated optical filters based on sapphire microspheres and liquid crystals. <i>Proceedings of SPIE</i> , 2010, , .	0.8	1
114	Liquid crystal waveguide devices. , 2011, , .		1
115	Biologically inspired large scale chemical sensor arrays and embedded data processing. <i>Proceedings of SPIE</i> , 2013, , .	0.8	1
116	Polarization independent optofluidic nematic liquid crystal channels. , 2014, , .		1
117	Electrically tunable solid-state terahertz metamaterial absorbers. , 2018, , .		1
118	Liquid Crystal Active Metasurface for Ultra-Selective Wavelength Switching. , 2019, , .		1
119	Matrix Addressing Waveforms for Grey Shades Ssflc Displays. <i>Molecular Crystals and Liquid Crystals</i> , 1997, 304, 363-370.	0.3	0
120	An investigation into the director structure in the electroclinic effect at the SA-SC* transition. <i>Ferroelectrics</i> , 2000, 244, 339-346.	0.6	0
121	P-72: Novel Hybrid Addressing Schemes for SSFLC Displays Operating at Reduced Total Voltage. <i>Digest of Technical Papers SID International Symposium</i> , 2001, 32, 830.	0.3	0
122	Surface Evanescent Field Characterisation of Antiferroelectric Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 2001, 358, 263-274.	0.3	0
123	Versatile driving system for non-root-mean-square responding liquid crystal displays. <i>IET Circuits, Devices and Systems</i> , 2003, 150, 57.	0.6	0
124	Performance optimization of optical switches in ferroelectric liquid crystals and polymers operating at 1550 nm. , 2003, , .		0
125	Novel tuneable optical filter made of a polymer and liquid crystal holographic grating on glass waveguides. , 2007, , .		0
126	Low driving power integrated tuneable filter using composite holographic grating on glass waveguides. <i>Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS</i> , 2007, , .	0.0	0

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127	Electrooptical tuning of a ruby microsphere morphology dependent resonance in a liquid crystal medium. , 2009, , .		0
128	Optical modulation with a ruby microsphere in liquid crystal. , 2009, , .		0
129	Ruby microsphere and liquid crystal based tunable optical filter. , 2009, , .		0
130	All optical tunable nematic liquid crystal waveguide. , 2011, , .		0
131	Long-range plasmonic waveguides controlled by nematic liquid crystals. , 2012, , .		0
132	Liquid-crystal tunable plasmonic stripe directional coupler switches. Proceedings of SPIE, 2013, , .	0.8	0
133	Liquid-crystal tunable fishnet terahertz metamaterials. , 2014, , .		0
134	Mechanically tunable Bragg filters for terahertz applications. , 2016, , .		0
135	Terahertz polarizer on flexible and conformal substrate. , 2016, , .		0
136	Near infrared plasmonic sensor based on Fano resonance. Proceedings of SPIE, 2016, , .	0.8	0
137	Hybrid plasmonic conductor-gap-silicon microring-on-disks electro-optic modulator. , 2017, , .		0
138	Switchable photonic components based on zenithal-bistable nematic liquid crystal gratings. , 2017, , .		0
139	Spatial Dispersion Analysis of Homogenized Metasurfaces for Terahertz Leaky-wave Antennas. , 2018, , .		0
140	Terahertz Modal Analysis of a Grounded Liquid-crystal Cell and Its Application as a Tunable Cavity Antenna. , 2019, , .		0
141	Terahertz filter with flat-top transmission response. , 2019, , .		0
142	All-Dielectric Metasurfaces with Toroidal Multipole Resonances at sub-THz. , 2019, , .		0
143	Microwave waveguides loaded with dielectric metasurfaces. , 2019, , .		0
144	Ambient Sensors. , 2003, , .		0

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145	A Nonlinear Liquid Crystal Optical Waveguide on Silicon. , 2010, , .		0
146	Tunability of Plasmonic Devices. NATO Science for Peace and Security Series B: Physics and Biophysics, 2015, , 187-207.	0.3	0
147	Static and Tunable Devices for Terahertz Focusing and Beam Steering. NATO Science for Peace and Security Series B: Physics and Biophysics, 2018, , 453-455.	0.3	0
148	Ultra-high-Q dielectric metasurface for polarization conversion. , 2019, , .		0