

Miha Ravnik

List of Publications by Year in descending order

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Version: 2024-02-01

114
papers

4,850
citations

136885

32
h-index

95218

68
g-index

115
all docs

115
docs citations

115
times ranked

2750
citing authors

#	ARTICLE	IF	CITATIONS
1	Blue Phase III: Topological Fluid of Skyrmions. <i>Physical Review X</i> , 2022, 12, .	2.8	3
2	Controllable shifting, steering, and expanding of light beam based on multi-layer liquid-crystal cells. <i>Scientific Reports</i> , 2022, 12, 352.	1.6	5
3	Numerical modeling of optical modes in topological soft matter. <i>Optics Express</i> , 2022, 30, 14393.	1.7	2
4	Charge-, salt- and flexoelectricity-driven anchoring effects in nematics. <i>Liquid Crystals</i> , 2021, 48, 423-435.	0.9	5
5	Anisotropic electrostatic screening of charged colloids in nematic solvents. <i>Science Advances</i> , 2021, 7, .	4.7	11
6	Ionically Charged Topological Defects in Nematic Fluids. <i>Physical Review X</i> , 2021, 11, .	2.8	1
7	Topics in the mathematical design of materials. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200108.	1.6	1
8	Introduction to Colloidal and Microfluidic Nematic Microstructures. <i>Crystals</i> , 2021, 11, 956.	1.0	14
9	Long-term stability predictions of therapeutic monoclonal antibodies in solution using Arrhenius-based kinetics. <i>Scientific Reports</i> , 2021, 11, 20534.	1.6	33
10	Topological liquid crystal superstructures as structured light lasers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	17
11	Surfaces Affect Screening Reliability in Formulation Development of Biologics. <i>Pharmaceutical Research</i> , 2020, 37, 27.	1.7	8
12	Collective photonic response of high refractive index dielectric metasurfaces. <i>Scientific Reports</i> , 2020, 10, 15599.	1.6	10
13	Topological-Defect-Induced Surface Charge Heterogeneities in Nematic Electrolytes. <i>Physical Review Letters</i> , 2020, 125, 037801.	2.9	9
14	Control of viscosity in biopharmaceutical protein formulations. <i>Journal of Colloid and Interface Science</i> , 2020, 580, 308-317.	5.0	19
15	Spectral energy analysis of bulk three-dimensional active nematic turbulence. <i>Soft Matter</i> , 2020, 16, 9059-9068.	1.2	12
16	Three-Dimensional Active Defect Loops. <i>Physical Review Letters</i> , 2020, 124, 088001.	2.9	36
17	Field generated nematic microflows via backflow mechanism. <i>Scientific Reports</i> , 2020, 10, 1446.	1.6	19
18	Discharging dynamics of topological batteries. <i>Physical Review Research</i> , 2020, 2, .	1.3	7

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19	Controlling light with hyperbolic metamaterial director profiles. , 2020, , .		0
20	Designed self-assembly of metamaterial split-ring colloidal particles in nematic liquid crystals. <i>Soft Matter</i> , 2019, 15, 5585-5595.	1.2	9
21	Topology of Three-Dimensional Active Nematic Turbulence Confined to Droplets. <i>Physical Review X</i> , 2019, 9, .	2.8	19
22	High-order elastic multipoles as colloidal atoms. <i>Nature Communications</i> , 2019, 10, 1825.	5.8	18
23	Optical properties of metamaterial split ring nematic colloids. <i>Scientific Reports</i> , 2019, 9, 7025.	1.6	9
24	Mesoscopic Approach to Nematic Fluids. <i>Soft and Biological Matter</i> , 2019, , 51-93.	0.3	2
25	Active nematic emulsions. <i>Science Advances</i> , 2018, 4, eaao1470.	4.7	51
26	Nematic colloidal knots in topological environments. <i>Soft Matter</i> , 2018, 14, 4935-4945.	1.2	3
27	Complex electric double layers in charged topological colloids. <i>Scientific Reports</i> , 2018, 8, 14119.	1.6	15
28	Photonic properties of heliconical liquid crystals. <i>Optics Express</i> , 2018, 26, 23265.	1.7	2
29	Surface-patterning generated half-skyrmion lattices in cholesteric blue phase thin films. <i>Liquid Crystals</i> , 2018, 45, 2329-2340.	0.9	6
30	Read on Demand Images in Laser-Written Polymerizable Liquid Crystal Devices. <i>Advanced Optical Materials</i> , 2018, 6, 1800515.	3.6	31
31	Quasicrystalline Ordering in Thin Liquid Crystal Films. <i>Crystals</i> , 2018, 8, 275.	1.0	5
32	Characterisation of protein aggregation with the Smoluchowski coagulation approach for use in biopharmaceuticals. <i>Soft Matter</i> , 2018, 14, 6001-6012.	1.2	31
33	Elementary Flow Field Profiles of Micro-Swimmers in Weakly Anisotropic Nematic Fluids: Stokeslet, Stresslet, Rotlet and Source Flows. <i>Fluids</i> , 2018, 3, 15.	0.8	10
34	Lensing and waveguiding in birefringent double-twist cylinders demonstrated using FDTD simulations. <i>Optics Express</i> , 2018, 26, 26327.	1.7	2
35	Electromagnetic response of dielectric nanostructures in liquid crystals. , 2018, , .		0
36	Fractal nematic colloids. <i>Nature Communications</i> , 2017, 8, 14026.	5.8	50

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37	Refraction of light on flat boundary of liquid crystals or anisotropic metamaterials. <i>Liquid Crystals Reviews</i> , 2017, 5, 53-68.	1.1	6
38	High Throughput Prediction Approach for Monoclonal Antibody Aggregation at High Concentration. <i>Pharmaceutical Research</i> , 2017, 34, 1831-1839.	1.7	15
39	Cross-talk between topological defects in different fields revealed by nematic microfluidics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E5771-E5777.	3.3	52
40	Ray optics simulations of polarised microscopy textures in chiral nematic droplets. <i>Liquid Crystals</i> , 2017, 44, 679-687.	0.9	14
41	Liquid microlenses and waveguides from bulk nematic birefringent profiles. <i>Optics Express</i> , 2016, 24, 22177.	1.7	9
42	Photonic crystals, light manipulation, and imaging in complex nematic structures. , 2016, , .		0
43	Nematic liquid crystal gyroids as photonic crystals. <i>Liquid Crystals</i> , 2016, 43, 2320-2331.	0.9	6
44	Sensing and tuning microfiber chirality with nematic chirogyral effect. <i>Physical Review E</i> , 2016, 93, 032703.	0.8	9
45	Unveiling details of defect structures in chiral and achiral nematic droplets by improving simulations of optical images. <i>Proceedings of SPIE</i> , 2016, , .	0.8	0
46	Sensing surface morphology of biofibers by decorating spider silk and cellulosic filaments with nematic microdroplets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 1174-1179.	3.3	31
47	Relevance of saddle-splay elasticity in complex nematic geometries. <i>Soft Matter</i> , 2016, 12, 1313-1323.	1.2	23
48	Electric field generation of Skyrmion-like structures in a nematic liquid crystal. <i>Soft Matter</i> , 2016, 12, 853-858.	1.2	11
49	Porous nematic microfluidics for generation of umbilic defects and umbilic defect lattices. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	3
50	Nematic topological line defects as optical waveguides. , 2015, , .		1
51	Templated blue phases. <i>Soft Matter</i> , 2015, 11, 8417-8425.	1.2	8
52	Nematic Defects and Colloids as Photonic Elements. <i>Molecular Crystals and Liquid Crystals</i> , 2015, 619, 61-69.	0.4	1
53	Particles with changeable topology in nematic colloids. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 354111.	0.7	10
54	Light-controlled topological charge in a nematic liquid crystal. <i>Nature Physics</i> , 2015, 11, 183-187.	6.5	68

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55	Quasicrystalline tilings with nematic colloidal platelets. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2464-2469.	3.3	42
56	Janus Nematic Colloids with Designable Valence. Materials, 2014, 7, 4272-4281.	1.3	10
57	Imaging and visualization of complex nematic fields. Proceedings of SPIE, 2014, , .	0.8	0
58	Nematic colloidal tilings as photonic materials. Proceedings of SPIE, 2014, , .	0.8	0
59	Mutually tangled colloidal knots and induced defect loops in nematic fields. Nature Materials, 2014, 13, 258-263.	13.3	158
60	Topological Soft Matter for Optics and Photonics. Molecular Crystals and Liquid Crystals, 2014, 594, 2-10.	0.4	5
61	Tunable photonic crystals with partial bandgaps from blue phase colloidal crystals and dielectric-doped blue phases. Soft Matter, 2014, 10, 6339-6346.	1.2	30
62	Generation of vector beams with liquid crystal disclination lines. Physical Review E, 2014, 90, 022503.	0.8	30
63	Chiral bipolar colloids from nonchiral chromonic liquid crystals. Physical Review E, 2014, 89, 062502.	0.8	28
64	Liquid Crystal Microfluidics for Tunable Flow Shaping. Physical Review Letters, 2013, 110, 048303.	2.9	94
65	Assembly and control of 3D nematic dipolar colloidal crystals. Nature Communications, 2013, 4, 1489.	5.8	180
66	Microparticles confined to a nematic liquid crystal shell. Soft Matter, 2013, 9, 6911.	1.2	41
67	Elementary building blocks of nematic disclination networks in densely packed 3D colloidal lattices. Soft Matter, 2013, 9, 8203.	1.2	15
68	Confined Active Nematic Flow in Cylindrical Capillaries. Physical Review Letters, 2013, 110, 026001.	2.9	80
69	Workshop on assembling of superstructures in soft matter. Liquid Crystals Today, 2013, 22, 12-13.	2.3	0
70	Topology with Liquid Crystals. Physics Magazine, 2013, 6, .	0.1	0
71	Complex field-stabilised nematic defect structures in Laguerre-Gaussian optical tweezers. Soft Matter, 2012, 8, 1865-1870.	1.2	17
72	Defect trajectories in nematic shells: Role of elastic anisotropy and thickness heterogeneity. Physical Review E, 2012, 86, 020705.	0.8	50

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73	Geometrical frustration of chiral ordering in cholesteric droplets. <i>Soft Matter</i> , 2012, 8, 11982.	1.2	162
74	Shape-tuning the colloidal assemblies in nematic liquid crystals. <i>Soft Matter</i> , 2012, 8, 1657-1663.	1.2	49
75	Anisotropy in the annihilation dynamics of umbilic defects in nematic liquid crystals. <i>Physical Review E</i> , 2012, 85, 021703.	0.8	47
76	Complex field-induced nematic defect structures in Laguerre-Gaussian optical tweezers. , 2012, , .		0
77	Confined Colloidal Blue Phases with Potential for Photonics. <i>Molecular Crystals and Liquid Crystals</i> , 2012, 561, 107-114.	0.4	4
78	Effect of flexoelectricity and order electricity on defect cores in nematic droplets. <i>Soft Matter</i> , 2011, 7, 132-136.	1.2	32
79	Confined blue phases: trapping of colloidal particles in disclination superstructures. <i>Proceedings of SPIE</i> , 2011, , .	0.8	0
80	Colloidal structures in confined nematic liquid crystals. <i>Liquid Crystals Today</i> , 2011, 20, 77-84.	2.3	5
81	Colloidal entanglement in highly twisted chiral nematic colloids: Twisted loops, Hopf links, and trefoil knots. <i>Physical Review E</i> , 2011, 84, 031703.	0.8	74
82	Confining blue phase colloids to thin layers. <i>Soft Matter</i> , 2011, 7, 10144.	1.2	21
83	Reconfigurable Knots and Links in Chiral Nematic Colloids. <i>Science</i> , 2011, 333, 62-65.	6.0	358
84	Three-dimensional colloidal crystals in liquid crystalline blue phases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 5188-5192.	3.3	205
85	International Liquid Crystal Conference 2010: across borders and multiscales. <i>Liquid Crystals Today</i> , 2011, 20, 31-33.	2.3	0
86	Blue phases decorated with colloidal particles: photonic crystals. <i>Photonics Letters of Poland</i> , 2011, 3, .	0.2	0
87	Light-driven oscillations of entangled nematic colloidal chains. <i>European Physical Journal E</i> , 2010, 33, 291-296.	0.7	3
88	Mesoscopic modelling of colloids in chiral nematics. <i>Faraday Discussions</i> , 2010, 144, 159-169.	1.6	100
89	Blue phases as templates for 3D colloidal photonic crystals. , 2010, , .		2
90	Detection of alignment changes at the open surface of a confined nematic liquid crystal sensor. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	17

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91	Electrically tunable liquid crystal optical microresonators. Nature Photonics, 2009, 3, 595-600.	15.6	339
92	Vortexlike Topological Defects in Nematic Colloids: Chiral Colloidal Dimers and 2D Crystals. Physical Review Letters, 2009, 103, 127801.	2.9	50
93	Nematic Braids: Modeling of Colloidal Structures. Molecular Crystals and Liquid Crystals, 2009, 508, 150/[512]-162/[524].	0.4	3
94	Landau-de Gennes modelling of nematic liquid crystal colloids. Liquid Crystals, 2009, 36, 1201-1214.	0.9	236
95	Nematic colloids entangled by topological defects. Soft Matter, 2009, 5, 269.	1.2	53
96	Janus nematic colloids. Soft Matter, 2009, 5, 3905.	1.2	46
97	Nematic braids: 2D entangled nematic liquid crystal colloids. Soft Matter, 2009, 5, 4520.	1.2	20
98	Colloidal structures and interactions in a nematic liquid crystal. Proceedings of SPIE, 2009, , .	0.8	0
99	Electrically tunable diffraction of light from 2D nematic colloidal crystals. European Physical Journal E, 2008, 27, 73-9.	0.7	17
100	2D Interactions and Binary Crystals of Dipolar and Quadrupolar Nematic Colloids. Physical Review Letters, 2008, 100, 217803.	2.9	98
101	Confinement Effect on Interparticle Potential in Nematic Colloids. Physical Review Letters, 2008, 101, 237801.	2.9	61
102	Hierarchical self-assembly of nematic colloidal superstructures. Physical Review E, 2008, 77, 061706.	0.8	87
103	Nematic colloidal assemblies: towards photonic crystals and metamaterials. Proceedings of SPIE, 2008, , .	0.8	1
104	Optical manipulation of nematic colloids: wires, superstructures, and 2D crystals. Proceedings of SPIE, 2008, , .	0.8	0
105	Interactions of quadrupolar nematic colloids. Physical Review E, 2008, 77, 031705.	0.8	139
106	Two-dimensional dipolar nematic colloidal crystals. Physical Review E, 2007, 76, 051406.	0.8	101
107	Entangled Nematic Colloidal Dimers and Wires. Physical Review Letters, 2007, 99, 247801.	2.9	191
108	Self-assembly in nematic colloids. , 2007, , .		0

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109	Optical detection of anchoring at free and fluid surfaces using a nematic liquid crystal sensor. Applied Physics Letters, 2007, 91, 141916.	1.5	17
110	Branching of Colloidal Chains in Capillary-Confined Nematics. Physical Review Letters, 2006, 96, 048301.	2.9	18
111	Two-Dimensional Nematic Colloidal Crystals Self-Assembled by Topological Defects. Science, 2006, 313, 954-958.	6.0	696
112	Laser trapping of low refractive index colloidal particles in a nematic liquid crystal. , 2006, , .		0
113	Laser trapping of low refractive index colloids in a nematic liquid crystal. Physical Review E, 2006, 73, 021705.	0.8	73
114	Nematodynamics and structures in junctions of cylindrical micropores. Liquid Crystals, 0, , 1-11.	0.9	3