Jan P F Lagerwall

List of Publications by Year
in descending order

125 papers	6,118 citations	81743 39 h-index	74018 75 g-index
142 all docs	142 docs citations	142 times ranked	4412 citing authors

#	Article	IF	Citations
1	Cellulose nanocrystal-based materials: from liquid crystal self-assembly and glass formation to multifunctional thin films. NPG Asia Materials, 2014, 6, e80-e80.	3.8	679
2	A new era for liquid crystal research: Applications of liquid crystals in soft matter nano-, bio- and microtechnology. Current Applied Physics, 2012, 12, 1387-1412.	1.1	583
3	Current Topics in Smectic Liquid Crystal Research. ChemPhysChem, 2006, 7, 20-45.	1.0	318
4	Carbon nanotubes in liquid crystals. Journal of Materials Chemistry, 2008, 18, 2890.	6.7	248
5	Nanotube Alignment Using Lyotropic Liquid Crystals. Advanced Materials, 2007, 19, 359-364.	11.1	185
6	Rod Packing in Chiral Nematic Cellulose Nanocrystal Dispersions Studied by Small-Angle X-ray Scattering and Laser Diffraction. Langmuir, 2015, 31, 6507-6513.	1.6	177
7	Liquid crystals in micron-scale droplets, shells and fibers. Journal of Physics Condensed Matter, 2017, 29, 133003.	0.7	140
8	Macroscopic Control of Helix Orientation in Films Dried from Cholesteric Liquidâ€Crystalline Cellulose Nanocrystal Suspensions. ChemPhysChem, 2014, 15, 1477-1484.	1.0	136
9	Optical and x-ray evidence of the â€œde Vriesâ€Smâˆ'A*â€"Smâˆ'C*transition in a non-layer-shrinkage ferroelectric liquid crystal with very weak interlayer tilt correlation. Physical Review E, 2002, 66, 031703.	0.8	129
10	The case of thresholdless antiferroelectricity: polarization-stabilized twisted SmC* liquid crystals give V-shaped electro-optic response. Journal of Materials Chemistry, 1999, 9, 1257-1261.	6.7	125
11	One-piece micropumps from liquid crystalline core-shell particles. Nature Communications, 2012, 3, 1178.	5.8	125
12	High-fidelity spherical cholesteric liquid crystal Bragg reflectors generating unclonable patterns for secure authentication. Scientific Reports, 2016, 6, 26840.	1.6	122
13	Antiferroelectric liquid crystals with 45Â° tilt - a new class of promising electro-optic materials. Ferroelectrics, 2000, 244, 115-128.	0.3	115
14	Tuneable multicoloured patterns from photonic cross-communication between cholesteric liquid crystal droplets. Journal of Materials Chemistry C, 2014, 2, 806-810.	2.7	102
15	Nematic-Smectic Transition under Confinement in Liquid Crystalline Colloidal Shells. Physical Review Letters, 2011, 106, 247801.	2.9	96
16	Coaxial electrospinning of microfibres with liquid crystal in the core. Chemical Communications, 2008, , 5420.	2.2	91
17	Equilibrium Liquid Crystal Phase Diagrams and Detection of Kinetic Arrest in Cellulose Nanocrystal Suspensions. Frontiers in Materials, 2016, 3, .	1.2	89
18	Cholesteric Liquid Crystal Shells as Enabling Material for Informationâ€Rich Design and Architecture. Advanced Materials, 2018, 30, e1707382.	11.1	89

#	ARTICLE	IF	CITATIONS
19	Fractionation of cellulose nanocrystals: enhancing liquid crystal ordering without promoting gelation. NPG Asia Materials, 2018, 10, 455-465.	3.8	80
20	Facile Anisotropic Deswelling Method for Realizing Largeâ€Area Cholesteric Liquid Crystal Elastomers with Uniform Structural Color and Broadâ€Range Mechanochromic Response. Advanced Functional Materials, 2020, 30, 1909537.	7.8	80
21	Towards Efficient Dispersion of Carbon Nanotubes in Thermotropic Liquid Crystals. Advanced Functional Materials, 2010, 20, 3350-3357.	7.8	78
22	Electrospun microfibres with temperature sensitive iridescence from encapsulated cholesteric liquid crystal. Journal of Materials Chemistry, 2010, 20, 6866.	6.7	73
23	Non-electronic gas sensors from electrospun mats of liquid crystal core fibres for detecting volatile organic compounds at room temperature. Liquid Crystals, 2016, 43, 1986-2001.	0.9	73
24	From Equilibrium Liquid Crystal Formation and Kinetic Arrest to Photonic Bandgap Films Using Suspensions of Cellulose Nanocrystals. Crystals, 2020, 10, 199.	1.0	73
25	Spontaneous macroscopic carbon nanotube alignment via colloidal suspension in hexagonal columnar lyotropic liquid crystals. Soft Matter, 2008, 4, 570.	1.2	69
26	Order-disorder molecular model of the smectic-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>A</mml:mi></mml:mrow></mml:math>â€“smectic-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>C</mml:mi></mml:mrow></mml:math>phase transition in materials with conventional and anomalously weak layer contraction. Physical Review E, 2007, 76, 0517	0.8	67
27	Effects of chain branching and chirality on liquid crystalline phases of bent-core molecules: blue phases, de Vries transitions and switching of diastereomeric states. Soft Matter, 2011, 7, 8266.	1.2	65
28	Nanoparticles dispersed in liquid crystals: impact on conductivity, low-frequency relaxation and electro-optical performance. Journal of Materials Chemistry C, 2016, 4, 3485-3491.	2.7	64
29	Tilt plane orientation in antiferroelectric liquid crystal cells and the origin of the pretransitional effect. Physical Review E, 2002, 66, 061708.	0.8	53
30	On the phase sequence of antiferroelectric liquid crystals and its relation to orientational and translational order. Liquid Crystals, 2003, 30, 399-414.	0.9	52
31	Towards tunable defect arrangements in smectic liquid crystal shells utilizing the nematicâ€“smectic transition in hybrid-aligned geometries. Soft Matter, 2012, 8, 5443.	1.2	50
32	Liquid crystal functionalization of electrospun polymer fibers. Journal of Polymer Science, Part B: Polymer Physics, 2013, 51, 855-867.	2.4	49
33	Enhancing Self-Assembly in Cellulose Nanocrystal Suspensions Using High-Permittivity Solvents. Langmuir, 2016, 32, 9854-9862.	1.6	48
34	Carbon nanotubes in liquid crystals as versatile functional materials. Physica Status Solidi (B): Basic Research, 2007, 244, 4212-4217.	0.7	46
35	Liquid crystal elastomer shell actuators with negative order parameter. Science Advances, 2019, 5, eaaw2476.	4.7	45
36	On the origin of high optical director tilt in a partially fluorinated orthoconic antiferroelectric liquid crystal mixture. Liquid Crystals, 2004, 31, 1175-1184.	0.9	44

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37	Molecular model for de Vries type smectic-Aâ€"smectic-Cphase transition in liquid crystals. Physical Review E, 2007, 75, 060701.	0.8	44
38	Through the Spherical Lookingâ€Glass: Asymmetry Enables Multicolored Internal Reflection in Cholesteric Liquid Crystal Shells. Advanced Optical Materials, 2018, 6, 1700923.	3.6	44
39	Ferroelectric polysiloxane liquid crystals with â€˜de Vriesâ€™-type smectic A*â€"smectic C* transitions. Liquid Crystals, 2004, 31, 883-887.	0.9	42
40	Tuning the defect configurations in nematic and smectic liquid crystalline shells. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120258.	1.6	42
41	Effect of phenyl rings in liquid crystal molecules on SWCNTs studied by Raman spectroscopy. Physica Status Solidi (B): Basic Research, 2006, 243, 3238-3241.	0.7	41
42	Simultaneous alignment and dispersion of carbon nanotubes with lyotropic liquid crystals. Physica Status Solidi (B): Basic Research, 2006, 243, 3046-3049.	0.7	39
43	Influence of interface stabilisers and surrounding aqueous phases on nematic liquid crystal shells. Soft Matter, 2016, 12, 367-372.	1.2	39
44	Micrometerâ€Scale Porous Buckling Shell Actuators Based on Liquid Crystal Networks. Advanced Functional Materials, 2018, 28, 1801209.	7.8	39
45	A Chameleon Chiral Polar Liquid Crystal:Â Rod-Shaped When Nematic, Bent-Shaped When Smectic. Chemistry of Materials, 2004, 16, 3606-3615.	3.2	36
46	Antiferroelectric liquid crystals with induced intermediate polar phases and the effects of doping with carbon nanotubes. Journal of Non-Crystalline Solids, 2007, 353, 4411-4417.	1.5	36
47	Correlation between structural properties and iridescent colors of cellulose nanocrystalline films. Cellulose, 2016, 23, 3601-3609.	2.4	36
48	Responsive Photonic Liquid Marbles. Angewandte Chemie - International Edition, 2020, 59, 19260-19267.	7.2	33
49	Coaxial electrospinning of liquid crystal-containing poly(vinylpyrrolidone) microfibres. Beilstein Journal of Organic Chemistry, 2009, 5, 58.	1.3	32
50	Interrogating helical nanorod self-assembly with fractionated cellulose nanocrystal suspensions. Communications Materials, 2020, 1, .	2.9	32
51	On the balance between syn- and anticlinicity in smectic phases formed by achiral hockey-stick mesogens with and without chiral dopants. Journal of Materials Chemistry, 2009, 19, 2950.	6.7	31
52	Taming Liquid Crystal Selfâ€Assembly: The Multifaceted Response of Nematic and Smectic Shells to Polymerization. Advanced Materials, 2016, 28, 10170-10174.	11.1	31
53	Liquid Crystals in Novel Geometries Prepared by Microfluidics and Electrospinning. Molecular Crystals and Liquid Crystals, 2011, 549, 69-77.	0.4	29
54	Multifunctional responsive fibers produced by dual liquid crystal core electrospinning. Journal of Materials Chemistry C, 2015, 3, 8979-8985.	2.7	29

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55	Why organically functionalized nanoparticles increase the electrical conductivity of nematic liquid crystal dispersions. Journal of Materials Chemistry C, 2017, 5, 8802-8809.	2.7	29
56	Elastic sheathâ€"liquid crystal core fibres achieved by microfluidic wet spinning. Journal of Materials Chemistry C, 2019, 7, 11588-11596.	2.7	29
57	Phases, phase transitions and confinement effects in a series of antiferroelectric liquid crystals. Liquid Crystals, 2002, 29, 163-178.	0.9	27
58	Disruption of Electrospinning due to Water Condensation into the Taylor Cone. ACS Applied Materials & Interfaces, 2020, 12, 26566-26576.	4.0	27
59	Unraveling the Mystery of â€œThresholdless Antiferroelectricityâ€• High Contrast Analog Electro-Optics in Chiral Smectic Liquid Crystals. Digest of Technical Papers SID International Symposium, 1999, 30, 409.	0.1	25
60	Encoding Hidden Information onto Surfaces Using Polymerized Cholesteric Spherical Reflectors. Advanced Functional Materials, 2021, 31, 2100399.	7.8	25
61	Tailor-designed polyphilic promotors for stabilizing dispersions of carbon nanotubes in liquid crystals. Chemical Communications, 2010, 46, 6989.	2.2	24
62	Utilizing the Krafft Phenomenon to Generate Ideal Micelleâ€Free Surfactantâ€Stabilized Nanoparticle Suspensions. Angewandte Chemie - International Edition, 2012, 51, 3254-3257.	7.2	24
63	Demonstration of the antiferroelectric aspect of the helical superstructures in Sm-C*, Sm-CÎ±*, and Sm-Ca*liquid crystals. Physical Review E, 2005, 71, 051703.	0.8	22
64	On the change in helix handedness at transitions between the SmCâˆ— and phases in chiral smectic liquid crystals. Liquid Crystals, 2006, 33, 625-633.	0.9	22
65	Electrospun Composite Liquid Crystal Elastomer Fibers. Materials, 2018, 11, 393.	1.3	22
66	Generation of frustrated liquid crystal phases by mixing an achiral nematicâ€"smectic-C mesogen with an antiferroelectric chiral smectic liquid crystal. Journal of Chemical Physics, 2005, 122, 144906.	1.2	21
67	Differences between smectic homoâ€•and coâ€polysiloxanes as a consequence of microphase separation. Liquid Crystals, 2005, 32, 533-538.	0.9	20
68	Macroscopic-scale carbon nanotube alignment via self-assembly in lyotropic liquid crystals. Synthetic Metals, 2009, 159, 2177-2179.	2.1	20
69	Electrolyte Effects on the Stability of Nematic and Lamellar Lyotropic Liquid Crystal Phases: Colligative and Ion-Specific Aspects. Journal of Physical Chemistry B, 2009, 113, 11414-11420.	1.2	20
70	Dynamic tuning of the director field in liquid crystal shells using block copolymers. Physical Review Research, 2020, 2, .	1.3	20
71	Antiferroelectric liquid-crystal mixture without smectic layer shrinkage at the directSmâˆ'A*â€"Smâˆ'Ca*transition. Physical Review E, 2002, 66, 051704.	0.8	19
72	Morphology and Core Continuity of Liquidâ€Crystalâ€Functionalized, Coaxially Electrospun Fiber Mats Tuned via the Polymer Sheath Solution. Macromolecular Materials and Engineering, 2013, 298, 583-589.	1.7	18

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73	Realignment of Liquid Crystal Shells Driven by Temperature-Dependent Surfactant Solubility. Langmuir, 2019, 35, 11132-11140.	1.6	18
74	Microfluidic Tensiometry Technique for the Characterization of the Interfacial Tension between Immiscible Liquids. Langmuir, 2018, 34, 2403-2409.	1.6	17
75	Isotropicâ€“isotropic phase separation and spinodal decomposition in liquid crystalâ€“solvent mixtures. Soft Matter, 2019, 15, 6044-6054.	1.2	17
76	Filament formation in carbon nanotube-doped lyotropic liquid crystals. Soft Matter, 2011, 7, 2663.	1.2	16
77	Surface- and Field-Induced AFLC Structures Detected by Dielectric Spectroscopy. Ferroelectrics, 2002, 277, 239-250.	0.3	15
78	The peculiar optic, dielectric and Xâ€ray diffraction properties of a fluorinated de Vries asymmetric diffuse coneâ€model ferroelectric liquid crystal. Liquid Crystals, 2006, 33, 17-23.	0.9	15
79	Ultralong Ordered Nanowires from the Concerted Self-Assembly of Discotic Liquid Crystal and Solvent Molecules. Langmuir, 2015, 31, 9432-9440.	1.6	15
80	Influence of head group and chain length of surfactants used for stabilising liquid crystal shells. Liquid Crystals, 2018, 45, 2319-2328.	0.9	15
81	Influence of Wetting on Morphology and Core Content in Electrospun Coreâ€“Sheath Fibers. ACS Applied Materials & Interfaces, 2014, 6, 16441-16447.	4.0	14
82	Sub-second dynamic phototuning of alignment in azodendrimer-doped nematic liquid crystal shells. Journal of Molecular Liquids, 2018, 267, 197-204.	2.3	14
83	Responsive Photonic Liquid Marbles. Angewandte Chemie, 2020, 132, 19422-19429.	1.6	14
84	Quantitative volatile organic compound sensing with liquid crystal core fibers. Cell Reports Physical Science, 2021, 2, 100661.	2.8	13
85	Frustration between syn- and anticlinicity in mixtures of chiral and non-chiral tilted smectic-C-type liquid crystals. European Physical Journal E, 2005, 18, 113-121.	0.7	12
86	Complex Chirality at the Nanoscale. ChemPhysChem, 2010, 11, 975-977.	1.0	12
87	Self-assembled ordered structures in thin films of HAT5 discotic liquid crystal. Beilstein Journal of Organic Chemistry, 2010, 6, 51.	1.3	11
88	Security in the shell: An optical physical unclonable function made of shells of cholesteric liquid crystals. , 2017, , .		11
89	Linking physical objects to their digital twins via fiducial markers designed for invisibility to humans. Multifunctional Materials, 2021, 4, 022002.	2.4	11
90	Measuring the Anisotropy in Interfacial Tension of Nematic Liquid Crystals. Crystals, 2021, 11, 687.	1.0	9

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91	Electrolyte effects on the nematicâ€“isotropic phase transition in lyotropic liquid crystals. Liquid Crystals, 2005, 32, 1301-1306.	0.9	8
92	Partitioning and reorientational dynamics of phenylalcohols in SDS lyotropic liquid crystalline mesophases: An ALC-Î¼SR study. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2007, 309, 224-230.	2.3	8
93	Transmission polarized optical microscopy of short-pitch cholesteric liquid crystal shells. Proceedings of SPIE, 2016, , .	0.8	8
94	Liquid crystal elastomer shells with topological defect-defined actuation: Complex shape morphing, opening/closing, and unidirectional rotation. Journal of Applied Physics, 2021, 129, 174701.	1.1	8
95	Optic, electrooptic and dielectric properties of novel antiferroelectric liquid crystal compounds. Ferroelectrics, 2000, 244, 147-157.	0.3	7
96	Soft-Matter Nanotubes. , 2011, , 75-125.		6
97	Stable Electrospinning of Core-Functionalized Coaxial Fibers Enabled by the Minimum-Energy Interface Given by Partial Coreâ€“Sheath Miscibility. Langmuir, 2021, 37, 13265-13277.	1.6	6
98	The effects of carbon nanotubes on the clearing transition of the antiferroelectric liquid crystal MHPOBC. Ferroelectrics, 2016, 495, 69-74.	0.3	5
99	Elucidating the fine details of cholesteric liquid crystal shell reflection patterns. Liquid Crystals, 2017, , 1-12.	0.9	5
100	Lipid islands on liquid crystal shells. Physical Review Research, 2022, 4, .	1.3	5
101	On the coexistence of SmC* and SmCA* phases in binary chiral-dopant antiferroelectric mixtures. Ferroelectrics, 2000, 244, 211-221.	0.3	4
102	Polarity-directed analog electro-optic switching in a low-polarization chiral smectic liquid crystal with positive dielectric anisotropy. Physical Review E, 2004, 70, 031703.	0.8	4
103	Topological Defect-Guided Regular Stacking of Focal Conic Domains in Hybrid-Aligned Smectic Liquid Crystal Shells. Crystals, 2021, 11, 913.	1.0	4
104	Switchable and responsive liquid crystal-functionalized microfibers produced via coaxial electrospinning. Proceedings of SPIE, 2012, , .	0.8	3
105	Dynamic and complex optical patterns from colloids of cholesteric liquid crystal droplets. , 2015, , .		3
106	Advancing flexible volatile compound sensors using liquid crystals encapsulated in polymer fibers. , 2018, , .		3
107	Electrospinning Ethanolâ€“Water Solutions of Poly(Acrylic Acid): Nonlinear Viscosity Variations and Dynamic Taylor Cone Behavior. Macromolecular Materials and Engineering, 0, , 2100640.	1.7	3
108	Electrooptic and Dielectric Spectroscopy Measurements of Binary Chiral-Dopant Antiferroelectric Mixtures. Molecular Crystals and Liquid Crystals, 2000, 351, 361-370.	0.3	2

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109	The dependence on the helical pitch of the antiferroelectric dielectric modes. Ferroelectrics, 2000, 244, 223-231.	0.3	2
110	Effects of carbon nanotubes on a very low surfactant concentration lyotropic liquid crystal host. Proceedings of SPIE, 2014, , .	0.8	2
111	An Introduction to the Physics of Liquid Crystals. , 2016, , 307-340.		2
112	Cholesteric liquid crystal formation in suspensions of cellulose nanocrystals. Series in Sof Condensed Matter, 2016, , 871-897.	0.1	2
113	Liquid Crystals: Cholesteric Liquid Crystal Shells as Enabling Material for Informationâ€Rich Design and Architecture (Adv. Mater. 30/2018). Advanced Materials, 2018, 30, 1870221.	11.1	2
114	High-contrast imaging of 180Â° ferroelectric domains by optical microscopy using ferroelectric liquid crystals. Applied Physics Letters, 2020, 116, 212901.	1.5	2
115	Electrooptic and dielectric properties of new antiferroelectric liquid crystal mixtures. Ferroelectrics, 2000, 244, 137-146.	0.3	1
116	(â€")-Isopinocampheol Substituted Mesogens: An Investigation of the Effect of Bulky Terminal Groups in Chiral Smectic Liquid Crystals. Ferroelectrics, 2004, 311, 67-75.	0.3	1
117	Chiral Smectic C Subphases Induced by Mixing a Bistereogenic Antiferroelectric Liquid Crystal with a Non-Chiral Liquid Crystal. Ferroelectrics, 2005, 315, 221-230.	0.3	1
118	A Study of a Bistereogenic Mesogen for the Development of Orthoconic Antiferroelectric Liquid Crystal Materials. Ferroelectrics, 2005, 315, 213-219.	0.3	1
119	Towards micrometer sized core-shell actuators from liquid crystalline elastomers by a continuous flow synthesis. Proceedings of SPIE, 2012, , .	0.8	1
120	Nanotube networks in liquid crystals. , 2016, , .		1
121	A phenomenological introduction to liquid crystals and colloids. Series in Sof Condensed Matter, 2016, , 11-93.	0.1	0
122	Nanoparticle guests in lyotropic liquid crystals. Series in Sof Condensed Matter, 2016, , 695-722.	0.1	0
123	Solvent effect on columnar formation in solar-cell geometry. , 2016, , .		0
124	Cholesteric Liquid Crystals: Through the Spherical Lookingâ€Glass: Asymmetry Enables Multicolored Internal Reflection in Cholesteric Liquid Crystal Shells (Advanced Optical Materials 1/2018). Advanced Optical Materials, 2018, 6, 1870002.	3.6	0
125	10.1063/5.0044920.7. , 2021, , .		0