Joseph E Maclennan

List of Publications by Citations

134 papers	5,663 citations	37 h-index	72 g-index
144 ext. papers	6,056 ext. citations	5.4 avg, IF	5.03 L-index

#	Paper	IF	Citations
134	Spontaneous formation of macroscopic chiral domains in a fluid smectic phase of achiral molecules. *Science*, **1997**, 278, 1924-7	33.3	1081
133	Chiral heliconical ground state of nanoscale pitch in a nematic liquid crystal of achiral molecular dimers. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 15931-6	11.5	368
132	A ferroelectric liquid crystal conglomerate composed of racemic molecules. *Science*, **2000**, 288, 2181-4	33.3	283
131	Polarization-modulated smectic liquid crystal phases. *Science*, **2003**, 301, 1204-11	33.3	271
130	Chiral isotropic liquids from achiral molecules. *Science*, **2009**, 325, 452-6	33.3	224
129	Electro-optic behavior of liquid-crystal-filled silica opal photonic crystals: effect of liquid-crystal alignment. *Physical Review Letters*, **2001**, 86, 4052-5	7.4	219
128	Twist-bend heliconical chiral nematic liquid crystal phase of an achiral rigid bent-core mesogen. *Physical Review E*, **2014**, 89, 022506	2.4	181
127	Resonant Carbon K-Edge Soft X-Ray Scattering from Lattice-Free Heliconical Molecular Ordering: Soft Dilative Elasticity of the Twist-Bend Liquid Crystal Phase. *Physical Review Letters*, **2016**, 116, 147803	7.4	134
126	Spontaneous ferroelectric order in a bent-core smectic liquid crystal of fluid orthorhombic layers. *Science*, **2011**, 332, 72-7	33.3	125
125	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		116
124	Athermal photofluidization of glasses. *Nature Communications*, **2013**, 4, 1521	17.4	100
123	Director and layer structure of SSFLC cells. *Ferroelectrics*, **1988**, 85, 79-97	0.6	90
122	Electro-optic characteristics of de Vries tilted smectic liquid crystals: Analog behavior in the smectic A* and smectic C* phases. *Applied Physics Letters*, **2002**, 80, 4097-4099	3.4	86
121	Electrostatics and the electro-optic behaviour of chiral smectics C: 'block' polarization screening of applied voltage and 'V-shaped' switching. *Liquid Crystals*, **2000**, 27, 985-990	2.3	79
120	Novel stripe textures in nonchiral hexatic liquid-crystal films. *Physical Review Letters*, **1992**, 69, 2082-2085	7.4	74
119	Spontaneous liquid crystal and ferromagnetic ordering of colloidal magnetic nanoplates. *Nature Communications*, **2016**, 7, 10394	17.4	73
118	Simultaneous Observation of Electric Field Coupling to Longitudinal and Transverse Ferroelectricity in a Chiral Liquid Crystal. *Physical Review Letters*, **1996**, 77, 2237-2240	7.4	68

117	Chirality-preserving growth of helical filaments in the B4 phase of bent-core liquid crystals. *Journal of the American Chemical Society*, **2011**, 133, 12656-63	16.4	67
116	Director orientation in chevron surface-stabilized ferroelectric liquid crystal cells. Verification of orientational binding at the chevron interface using visible polarized light transmission spectroscopy. *Liquid Crystals*, **1990**, 7, 753-785	2.3	57
115	Director reorientation dynamics in chevron ferroelectric liquid crystal cells. *Liquid Crystals*, **1990**, 7, 787-796	2.3	56
114	First-principles experimental demonstration of ferroelectricity in a thermotropic nematic liquid crystal: Polar domains and striking electro-optics. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 14021-14031	11.5	55
113	Orientational bias of carbonyl groups in the chiral smectic C phase. *Ferroelectrics*, **1996**, 180, 213-225	0.6	55
112	Electric-field-induced chirality flipping in smectic liquid crystals: the role of anisotropic viscosity. *Physical Review Letters*, **2006**, 96, 067802	7.4	53
111	Photo-reversible liquid crystal alignment using azobenzene-based self-assembled monolayers: comparison of the bare monolayer and liquid crystal reorientation dynamics. *Langmuir*, **2010**, 26, 17482-8	4	52
110	Nanoconfinement of guest materials by helical nanofilament networks of bent-core mesogens. *Soft Matter*, **2013**, 9, 462-471	3.6	48
109	Structure and dynamics of ferroelectric liquid crystal cells exhibiting thresholdless switching. *Physical Review E*, **2002**, 65, 021708	2.4	48
108	Method for characterizing self-assembled monolayers as antirelaxation wall coatings for alkali vapor cells. *Journal of Applied Physics*, **2008**, 104, 023534	2.5	44
107	Topographic-pattern-induced homeotropic alignment of liquid crystals. *Physical Review E*, **2009**, 79, 041701	2.4	43
106	Anticlinic Smectic- C Surfaces on Smectic- A Freely Suspended Liquid-Crystal Films. *Physical Review Letters*, **1999**, 82, 2508-2511	7.4	43
105	Spontaneous Director Rotation in Freely Suspended Ferroelectric Liquid-Crystal Films. *Europhysics Letters*, **1990**, 13, 435-440	1.6	43
104	Crossover between 2D and 3D fluid dynamics in the diffusion of islands in ultrathin freely suspended smectic films. *Physical Review Letters*, **2010**, 105, 268304	7.4	42
103	Giant-block twist grain boundary smectic phases. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 14191-6	11.5	39
102	Probing and controlling liquid crystal helical nanofilaments. *Nano Letters*, **2015**, 15, 3420-4	11.5	38
101	Interface structure of the dark conglomerate liquid crystal phase. *Soft Matter*, **2011**, 7, 1879-1883	3.6	37
100	Two-dimensional microrheology of freely suspended liquid crystal films. *Physical Review Letters*, **2011**, 107, 268301	7.4	37

99	Textures in hexatic films of nonchiral liquid crystals: Symmetry breaking and modulated phases. *Physical Review E*, **1994**, 49, 3207-3224	2.4	37
98	Creation and structural comparison of ultrathin film assemblies: transferred freely suspended films and Langmuir-Blodgett films of liquid crystals. *Thin Solid Films*, **1992**, 210-211, 504-507	2.2	37
97	Solitary waves in ferroelectric liquid crystals. *Physical Review A*, **1986**, 34, 3554-3557	2.6	36
96	Structure of the B4 liquid crystal phase near a glass surface. *ChemPhysChem*, **2012**, 13, 155-9	3.2	35
95	Nanophase segregation in binary mixtures of a bent-core and a rodlike liquid-crystal molecule. *Physical Review E*, **2010**, 81, 011704	2.4	33
94	Ring-pattern dynamics in smectic-C* and smectic-C*A freely suspended liquid crystal films. *Physical Review Letters*, **2000**, 84, 5772-5	7.4	31
93	Topological ferroelectric bistability in a polarization-modulated orthogonal smectic liquid crystal. *Journal of the American Chemical Society*, **2012**, 134, 9681-7	16.4	28
92	Pretransitional orientational ordering of a calamitic liquid crystal by helical nanofilaments of a bent-core mesogen. *Langmuir*, **2010**, 26, 15541-5	4	28
91	Self-organization of bouncing oil drops: two-dimensional lattices and spinning clusters. *Physical Review E*, **2007**, 75, 056308	2.4	28
90	Diastereomeric liquid crystal domains at the mesoscale. *Nature Communications*, **2015**, 6, 7763	17.4	27
89	Transition moment orientation and rotational bias of three carbonyl groups in large polarization FLCs observed by polarized FTIR. *Liquid Crystals*, **2002**, 29, 27-37	2.3	27
88	Manipulation of Disk-Shaped Islands on Freely Suspended Smectic Films and Bubbles Using Optical Tweezers. *Ferroelectrics*, **2004**, 310, 131-135	0.6	26
87	Organization of liquid crystals on submicron scale topographic patterns with fourfold symmetry prepared by thiolene photopolymerization-based nanoimprint lithography. *Journal of Applied Physics*, **2008**, 103, 093518	2.5	25
86	Giant surface electroclinic effect in a chiral smectic A liquid crystal. *Liquid Crystals*, **2001**, 28, 117-123	2.3	25
85	Unusual thickness-dependent thermal behavior and anticlinic coupling in chiral smectic free-standing liquid-crystal films. *Physical Review Letters*, **2001**, 86, 4048-51	7.4	25
84	Device Applications of Ferroelectric Liquid Crystals: Importance of Polarization Charge Interactions **1989**,		24
83	Effect of high spontaneous polarization on defect structures and orientational dynamics of tilted chiral smectic freely suspended films. *Physical Review E*, **2005**, 71, 021704	2.4	23
82	Generalized Langevin-Debye model of the field dependence of tilt, birefringence, and polarization current near the de Vries smectic-A* to smectic-C* liquid crystal phase transition. *Physical Review E*, **2013**, 88, 062504	2.4	22

81	Orientational order parameters of a de Vries-type ferroelectric liquid crystal obtained by polarized Raman spectroscopy and x-ray diffraction. *Physical Review E*, **2012**, 85, 061703	2.4	22
80	Sub 100 Nanosecond Pretilted Planar-to-Homeotropic Reorientation of Nematic Liquid Crystals under High Electric Field. *Japanese Journal of Applied Physics*, **1998**, 37, 2587-2589	1.4	22
79	Triclinic fluid order. *Physical Review Letters*, **2010**, 104, 067801	7.4	21
78	Unraveling the Mystery of Thresholdless Antiferroelectricity: High Contrast Analog Electro-Optics in Chiral Smectic Liquid Crystals. *Digest of Technical Papers SID International Symposium*, **1999**, 30, 409	0.5	21
77	Freely suspended liquid crystal film transfer: A new method of creating thin smectic films on solid substrates. *Applied Physics Letters*, **1991**, 59, 917-919	3.4	20
76	Influence of ions on the "V-shaped" electro-optic response of ferroelectric liquid crystals. *Physical Review E*, **2001**, 63, 031703	2.4	19
75	Control of molecular orientation in electrostatically stabilized ferroelectric liquid crystals. *Physical Review Letters*, **2003**, 91, 175505	7.4	18
74	Polar electro-optic switching in droplets of an achiral nematic liquid crystal. *Liquid Crystals*, **1999**, 26, 1555-1561	2.3	18
73	Mutual diffusion of inclusions in freely suspended smectic liquid crystal films. *Physical Review Letters*, **2014**, 113, 128304	7.4	17
72	Transitions between paraelectric and ferroelectric phases of bent-core smectic liquid crystals in the bulk and in thin freely suspended films. *Physical Review E*, **2012**, 86, 051701	2.4	17
71	Surface-Freezing Transitions and Novel Tilted Hexatic Phases in Smectic Liquid-Crystal Films. *Physical Review Letters*, **1997**, 78, 2581-2584	7.4	17
70	Chiral Incommensurate Helical Phase in a Smectic of Achiral Bent-Core Mesogens. *Physical Review Letters*, **2019**, 122, 107801	7.4	16
69	Orientation Field Fracture in a Liquid Crystal: Metastable Anticlinic Molecular Tilt in Adjacent Layers in Smectic- C DOBAMBC and TFMHPOBC. *Physical Review Letters*, **1999**, 83, 3665-3668	7.4	16
68	Visible polarized light transmission spectroscopy of the electro-optic switching behaviour of surface stabilized ferroelectric liquid crystal cells. *Liquid Crystals*, **1991**, 10, 409-417	2.3	16
67	Polar in-plane surface orientation of a ferroelectric nematic liquid crystal: Polar monodomains and twisted state electro-optics. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	15
66	Modeling dipolar and quadrupolar defect structures generated by chiral islands in freely suspended liquid crystal films. *Physical Review E*, **2009**, 80, 041708	2.4	14
65	Chiral random grain boundary phase of achiral hockey-stick liquid crystals. *Soft Matter*, **2014**, 10, 9105-9	3.6	13
64	de Gennes' triclinic smectics not so far-fetched after all. *Liquid Crystals*, **2009**, 36, 1309-1317	2.3	13

63	Solitary Waves in Ferroelectric Liquid Crystals. *Partially Ordered Systems*, **1992**, 151-190		13
62	Realization of hydrodynamic experiments on quasi-2D liquid crystal films in microgravity. *Advances in Space Research*, **2017**, 60, 737-751	2.4	12
61	Experimental realization of an incompressible Newtonian fluid in two dimensions. *Physical Review E* , **2016**, 93, 012706	2.4	12
60	Chiral isotropic sponge phase of hexatic smectic layers of achiral molecules. *ChemPhysChem*, **2014**, 15, 1502-7	3.2	12
59	Effect of concentration on the photo-orientation and relaxation dynamics of self-assembled monolayers of mixtures of an azobenzene-based triethoxysilane with octyltriethoxysilane. *Langmuir*, **2011**, 27, 3336-42	4	12
58	V -shaped switching ferroelectric liquid crystal structure stabilized by dielectric surface layers. *Physical Review E*, **2008**, 77, 031707	2.4	12
57	Electric-field-driven deracemization. *ChemPhysChem*, **2007**, 8, 170-4	3.2	12
56	Direct Measurement of Interaction Forces Between Islands on Freely Suspended Smectic C Films Using Multiple Optical Tweezers. *Ferroelectrics*, **2006**, 344, 71-80	0.6	12
55	Supermolecular stereochemistry in ferroelectric liquid crystals. *Journal of Physical Organic Chemistry*, **2000**, 13, 830-836	2.1	12
54	The hysteretic behavior of V-shaped switching smectic materials. *Ferroelectrics*, **2000**, 246, 21-33	0.6	12
53	Direct observation of two-dimensional nematic and smectic ordering in freely suspended films of a bolaamphiphilic liquid crystal. *Soft Matter*, **2011**, 7, 9978	3.6	11
52	Effect of Conformational Chirality on Optical Activity Observed in a Smectic of Achiral, Bent-Core Molecules. *Journal of Physical Chemistry B*, **2017**, 121, 6944-6950	3.4	10
51	Hydrodynamic interactions in freely suspended liquid crystal films. *Physical Review E*, **2016**, 94, 052701	2.4	10
50	Phase winding of a nematic liquid crystal by dynamic localized reorientation of an azo-based self-assembled monolayer. *Langmuir*, **2014**, 30, 9560-6	4	10
49	High extinction polarimeter for the precision measurement of the in-plane optical anisotropy of molecular monolayers. *Langmuir*, **2010**, 26, 11686-9	4	10
48	Field control of the surface electroclinic effect in chiral smectic-A liquid crystals. *Physical Review E*, **2004**, 69, 061716	2.4	10
47	Topography of bent-core liquid crystals at the air/liquid crystal interface. *Liquid Crystals*, **2013**, 40, 1730-1735	2.3	9
46	Spiral layer undulation defects in B7 liquid crystals. *Soft Matter*, **2013**, 9, 11303	3.6	9

45	Cooperative liquid-crystal alignment generated by overlaid topography. *Physical Review E*, **2011**, 83, 051708	2.4	9
44	Effective conductivity due to continuous polarization reorientation in fluid ferroelectrics. *Physical Review E*, **2011**, 84, 020701	2.4	9
43	Field alignment of bent-core smectic liquid crystals for analog optical phase modulation. *Applied Physics Letters*, **2015**, 106, 191101	3.4	8
42	A molecular-dynamics simulation study of the switching dynamics of a nematic liquid crystal under an applied electrical field. *Journal of Chemical Physics*, **2002**, 117, 9452-9459	3.9	8
41	Computer simulation of domain growth in ferroelectric liquid crystals. *Physical Review E*, **1995**, 52, 3904-3914	2.4	8
40	Preparation and Thermal Behavior of Freely-Suspended and Transferred Films Composed of a Single Compound, the Liquid Crystal 707PP. *Zeitschrift Fur Elektrotechnik Und Elektrochemie*, **1991**, 95, 1520-1525		8
39	Nanoparticle Aggregation and Fractal Growth in Fluid Smectic Membranes. *Molecular Crystals and Liquid Crystals*, **2015**, 611, 14-20	0.5	7
38	Photodegradation of azobenzene-based self-assembled monolayers characterized by in-plane birefringence. *Langmuir*, **2011**, 27, 10407-11	4	7
37	Director structures in achiral smectic C liquid crystal cells: field-induced twist domain nucleation. *Liquid Crystals*, **2006**, 33, 25-32	2.3	7
36	Biaxial model of the surface anchoring of bent-core smectic liquid crystals. *Physical Review E*, **2001**, 64, 031706	2.4	7
35	Thermal fluctuation effects in ferroelectric liquid-crystal polarization reversal: Light scattering from a transient domain-wall foam. *Physical Review A*, **1991**, 44, 2543-2557	2.6	7
34	Structure and dynamics of a two-dimensional colloid of liquid droplets. *Soft Matter*, **2019**, 15, 8156-8163	3.6	7
33	Electro-optic response of the anticlinic, antiferroelectric liquid-crystal phase of a biaxial bent-core molecule with tilt angle near 45?. *Physical Review E*, **2012**, 85, 031704	2.4	6
32	Phase behavior of liquid-crystal films exhibiting the surface smectic-L phase. *Physical Review E*, **1998**, 57, 6757-6760	2.4	6
31	Manipulating the twist sense of helical nanofilaments of bent-core liquid crystals using rod-shaped, chiral mesogenic dopants. *Liquid Crystals*, **2016**, 43, 1083-1091	2.3	5
30	Dynamics of cis isomers in highly sensitive amino-azobenzene monolayers: The effect of slow relaxation on photo-induced anisotropy. *Journal of Applied Physics*, **2011**, 109, 103521	2.5	5
29	Novel Stripe Textures in Nonchiral Hexatic Liquid-Crystal Films. *Physical Review Letters*, **1992**, 69, 3267-3267	7.4	5
28	The heliconical nematic twist-bend phase from classic bent-core benzylideneanilines with oligomethylene cores. *Molecular Crystals and Liquid Crystals*, **2017**, 647, 430-438	0.5	4

27	Freely suspended smectic films with in-plane temperature gradients. *New Journal of Physics*, **2019**, 21, 063033	2.9	4
26	Two-dimensional island emulsions in ultrathin, freely-suspended smectic liquid crystal films. *Soft Matter*, **2017**, 13, 6314-6321	3.6	4
25	Generalized dynamic domain shape calculation in ferroelectric liquid crystals. *Physical Review E*, **1996**, 53, 6074-6079	2.4	4
24	Optical Symmetry of Ferroelectric Liquid Crystal Cells. *Japanese Journal of Applied Physics*, **1990**, 29, L2239-L2242	1.4	4
23	Active microrheology of smectic membranes. *Physical Review E*, **2017**, 95, 022702	2.4	3
22	Aggregation-driven, re-entrant isotropic phase in a smectic liquid crystal material. *Liquid Crystals*, **2017**, 44, 769-783	2.3	3
21	Relating domain shape to growth velocity anisotropy: Inherent symmetry of the Wulff construction. *Physical Review E*, **1997**, 56, 1833-1837	2.4	3
20	Spontaneous formation of horizontal chevrons in smectic-C* liquid crystals. *Applied Physics Letters*, **2001**, 78, 1532-1534	3.4	3
19	New amphiphilic terphenyl liquid crystals for the preparation of highly ordered ultrathin films. *Makromolekulare Chemie Macromolecular Symposia*, **1991**, 46, 313-319		3
18	Switching Dynamics And Structures Of Ferroelectric Liquid Crystals In The Surface Stabilized Geometry **1988**,		3
17	New SmAP Mesogens Designed for Analog Electrooptics Applications. *Materials*, **2017**, 10,	3.5	2
16	Link, Maclennan, and Clark Reply:. *Physical Review Letters*, **2001**, 86, 4975-4975	7.4	2
15	Coalescence of islands in freely suspended smectic films. *Physical Review Research*, **2021**, 3,	3.9	2
14	A gas flow meter with linear sensitivity based on freely-suspended nanofilms of smectic liquid crystal. *Applied Physics Letters*, **2019**, 114, 163705	3.4	1
13	Unusual Thickness-Dependent Thermal Behavior in Chiral Smectic Free-Standing Liquid-Crystal Films. *Molecular Crystals and Liquid Crystals*, **2004**, 412, 393-400	0.5	1
12	Novel Thickness-Dependent Thermal Behavior and Anticlinic Coupling in Chiral Smectic Free-Standing Liquid-Crystal Films. *Ferroelectrics*, **2002**, 277, 197-206	0.6	1
11	Design of Smectic Liquid Crystal Phases Using Layer Interface Clinicity. *ACS Symposium Series*, **2001**, 268-281	2.4	1
10	Personal-computer-based programmable temperature controller for general laboratory applications. *Review of Scientific Instruments*, **1985**, 56, 775-775	1.7	1

9	Scanned conical illumination as a probe of electro-optic retro-reflection. *Optics Express*, **2019**, 27, 18383-18398	3.8	1
8	Ideal mixing of paraelectric and ferroelectric nematic phases in liquid crystals of distinct molecular species. *Liquid Crystals*,1-14	2.3	1
7	Transient hexagonal structures in sheared emulsions of isotropic inclusions on smectic bubbles in microgravity conditions. *Scientific Reports*, **2021**, 11, 19144	4.9	0
6	LCOPV Workshop Report. *Liquid Crystals Today*, **2011**, 20, 95-97	1.9	
5	Education Liquid Crystal Outreach: The human Nematic Experiment. *Liquid Crystals Today*, **1997**, 7, 11-11	1.9	
4	Surface-Freezing Transitions and Novel Tilted Hexatic Phases in Smectic Liquid-Crystal Thin Films. *Molecular Crystals and Liquid Crystals*, **1999**, 330, 251-258		
3	Ferroelectric smectic liquid crystals in the bent-core family: alignment for V-shaped analog switching **1999**, 3800, 21		
2	Antiferroelectric Liquid Crystals from Achiral Molecules And A Liquid Conglomerate. *Materials Research Society Symposia Proceedings*, **1999**, 559, 3		
1	Frustration between two- and three-dimensional smectic ordering leads to a biaxial nematic phase. *Soft Matter*, **2020**, 16, 747-753	3.6	