

# Matthew A Glaser

## List of Publications by Year in descending order

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108  
papers

4,678  
citations

126907

33  
h-index

110387

64  
g-index

115  
all docs

115  
docs citations

115  
times ranked

2959  
citing authors

#	ARTICLE	IF	CITATIONS
1	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, 15931-15936.	7.1	431
2	A Ferroelectric Liquid Crystal Conglomerate Composed of Racemic Molecules. Science, 2000, 288, 2181-2184.	12.6	328
3	Helical Nanofilament Phases. Science, 2009, 325, 456-460.	12.6	291
4	Chiral Isotropic Liquids from Achiral Molecules. Science, 2009, 325, 452-456.	12.6	250
5	Twist-bend heliconical chiral nematic liquid crystal phase of an achiral rigid bent-core mesogen. Physical Review E, 2014, 89, 022506.	2.1	212
6	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.	7.1	174
7	Spontaneous Ferroelectric Order in a Bent-Core Smectic Liquid Crystal of Fluid Orthorhombic Layers. Science, 2011, 332, 72-77.	12.6	141
8	Soft spheres make more mesophases. Europhysics Letters, 2007, 78, 46004.	2.0	135
9	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
10	Multiscale Polar Theory of Microtubule and Motor-Protein Assemblies. Physical Review Letters, 2015, 114, 048101.	7.8	119
11	Photocontrolled nanophase segregation in a liquid-crystal solvent. Nature, 1999, 398, 54-57.	27.8	118
12	Athermal photofluidization of glasses. Nature Communications, 2013, 4, 1521.	12.8	111
13	Spontaneous liquid crystal and ferromagnetic ordering of colloidal magnetic nanoplates. Nature Communications, 2016, 7, 10394.	12.8	94
14	Phase behavior of bent-core molecules. Physical Review E, 2003, 67, 011703.	2.1	89
15	Self-Assembly in Surfactant Oligomers: A Coarse-Grained Description through Molecular Dynamics Simulations. Langmuir, 2002, 18, 1908-1918.	3.5	75
16	Chirality-Preserving Growth of Helical Filaments in the B4 Phase of Bent-Core Liquid Crystals. Journal of the American Chemical Society, 2011, 133, 12656-12663.	13.7	75
17	Linear aggregation and liquid-crystalline order: comparison of Monte Carlo simulation and analytic theory. Journal of Materials Chemistry, 2010, 20, 10366.	6.7	63
18	Melting and Liquid Structure in two Dimensions. Advances in Chemical Physics, 2007, , 543-709.	0.3	59

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19	Physical determinants of bipolar mitotic spindle assembly and stability in fission yeast. <i>Science Advances</i> , 2017, 3, e1601603.	10.3	56
20	Nanoconfinement of guest materials by helical nanofilament networks of bent-core mesogens. <i>Soft Matter</i> , 2013, 9, 462-471.	2.7	51
21	Polar in-plane surface orientation of a ferroelectric nematic liquid crystal: Polar monodomains and twisted state electro-optics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	51
22	Coarse-grained simulation of polymer translocation through an artificial nanopore. <i>Polymer</i> , 2004, 45, 3099-3110.	3.8	47
23	Crossover between 2D and 3D Fluid Dynamics in the Diffusion of Islands in Ultrathin Freely Suspended Smectic Films. <i>Physical Review Letters</i> , 2010, 105, 268304.	7.8	46
24	Isodesmic self-assembly in lyotropic chromonic systems. <i>Liquid Crystals</i> , 2002, 29, 619-626.	2.2	44
25	Contributions of Microtubule Dynamic Instability and Rotational Diffusion to Kinetochores Capture. <i>Biophysical Journal</i> , 2017, 112, 552-563.	0.5	42
26	Nanophase segregation in binary mixtures of a bent-core and a rodlike liquid-crystal molecule. <i>Physical Review E</i> , 2010, 81, 011704.	2.1	41
27	Two-Dimensional Microrheology of Freely Suspended Liquid Crystal Films. <i>Physical Review Letters</i> , 2011, 107, 268301.	7.8	41
28	Microtubule Depolymerization by the Kinesin-8 Motor Kip3p: A Mathematical Model. <i>Biophysical Journal</i> , 2009, 96, 3050-3064.	0.5	40
29	Mechanisms of chromosome biorientation and bipolar spindle assembly analyzed by computational modeling. <i>ELife</i> , 2020, 9, .	6.0	40
30	Interface structure of the dark conglomerate liquid crystal phase. <i>Soft Matter</i> , 2011, 7, 1879-1883.	2.7	39
31	Biopolymers in nanopores: challenges and opportunities. <i>Soft Matter</i> , 2011, 7, 5898.	2.7	39
32	Microscopic origins of anisotropic active stress in motor-driven nematic liquid crystals. <i>Soft Matter</i> , 2016, 12, 2676-2687.	2.7	39
33	Microscopic structure and dynamics of a partial bilayer smectic liquid crystal. <i>Physical Review E</i> , 2001, 64, 051703.	2.1	38
34	Structure of the B4 Liquid Crystal Phase near a Glass Surface. <i>ChemPhysChem</i> , 2012, 13, 155-159.	2.1	38
35	Effects of finite laser coherence in quasielastic multiple scattering. <i>Physical Review A</i> , 1991, 44, 5215-5223.	2.5	36
36	Theory of Cytoskeletal Reorganization during Cross-Linker-Mediated Mitotic Spindle Assembly. <i>Biophysical Journal</i> , 2019, 116, 1719-1731.	0.5	34

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37	Topological Ferroelectric Bistability in a Polarization-Modulated Orthogonal Smectic Liquid Crystal. <i>Journal of the American Chemical Society</i> , 2012, 134, 9681-9687.	13.7	33
38	Multiscale modeling and simulation of microtubule-“motor-protein assemblies. <i>Physical Review E</i> , 2015, 92, 062709.	2.1	33
39	Diastereomeric liquid crystal domains at the mesoscale. <i>Nature Communications</i> , 2015, 6, 7763.	12.8	33
40	Fluctuations and clinicity in tilted smectic liquid crystals. <i>Physical Review E</i> , 2002, 66, 021711.	2.1	30
41	Pretransitional Orientational Ordering of a Calamitic Liquid Crystal by Helical Nanofilaments of a Bent-Core Mesogen. <i>Langmuir</i> , 2010, 26, 15541-15545.	3.5	30
42	Atomistic Simulation of Stacked Nucleosome Core Particles: Tail Bridging, the H4 Tail, and Effect of Hydrophobic Forces. <i>Journal of Physical Chemistry B</i> , 2016, 120, 3048-3060.	2.6	30
43	Transition moment orientation and rotational bias of three carbonyl groups in large polarization FLCs observed by polarized FTIR. <i>Liquid Crystals</i> , 2002, 29, 27-37.	2.2	27
44	Ferroelectric Liquid Crystals Induced by Atropisomeric Biphenyl Dopants: Dependence of the Polarization Power on the Nature of the Symmetry-Breaking Groups. <i>Chemistry of Materials</i> , 2001, 13, 1692-1699.	6.7	26
45	Ideal mixing of paraelectric and ferroelectric nematic phases in liquid crystals of distinct molecular species. <i>Liquid Crystals</i> , 2022, 49, 1531-1544.	2.2	25
46	Statistical geometry of simple liquids in two dimensions. <i>Physical Review A</i> , 1990, 41, 4585-4588.	2.5	24
47	Liquid crystal phase diagram of the Gay-Berne fluid by density functional theory. <i>Liquid Crystals</i> , 1997, 23, 227-234.	2.2	24
48	Induced Anticlinic Ordering and Nanophase Segregation of Bow-Shaped Molecules in a Smectic Solvent. <i>Physical Review Letters</i> , 2002, 88, 065504.	7.8	24
49	Entropy-Stabilized Smectic C Phase in a System of Zigzag-Shaped Molecules. <i>Physical Review Letters</i> , 2004, 92, 025501.	7.8	23
50	End-to-end machine learning for experimental physics: using simulated data to train a neural network for object detection in video microscopy. <i>Soft Matter</i> , 2020, 16, 1751-1759.	2.7	23
51	Photoinduced and Thermal Relaxation in Surface-Grafted Azobenzene-Based Monolayers: A Molecular Dynamics Simulation Study. <i>Langmuir</i> , 2016, 32, 4004-4015.	3.5	21
52	Chiral Incommensurate Helical Phase in a Smectic of Achiral Bent-Core Mesogens. <i>Physical Review Letters</i> , 2019, 122, 107801.	7.8	21
53	A molecular dynamics simulation study of the phase behavior of an ensemble of rigid bead-necklace molecules. <i>Journal of Chemical Physics</i> , 2001, 115, 9055-9064.	3.0	20
54	Mutual Diffusion of Inclusions in Freely Suspended Smectic Liquid Crystal Films. <i>Physical Review Letters</i> , 2014, 113, 128304.	7.8	20

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55	Molecular structure of the discotic liquid crystalline phase of hexa-peri-hexabenzocoronene/oligothiophene hybrid and their charge transport properties. <i>Journal of Chemical Physics</i> , 2015, 143, 144505.	3.0	20
56	Studies of nematic-isotropic transition for a Gay-Berne fluid using the second virial approximation. <i>Liquid Crystals</i> , 1996, 21, 265-271.	2.2	19
57	Discrete elastic model for two-dimensional melting. <i>Physical Review E</i> , 2006, 73, 041501.	2.1	19
58	Atomic-detail simulation studies of tilted smectics. <i>Journal of Physics Condensed Matter</i> , 1994, 6, A261-A268.	1.8	18
59	Atomic-Detail Simulation Studies of Smectic Liquid Crystals. <i>Molecular Simulation</i> , 1995, 14, 343-360.	2.0	18
60	Quantum chemistry based force fields for soft matter. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 1997, 53, 1325-1346.	3.9	18
61	Phase behavior of polarizable spherocylinders in external fields. <i>Journal of Chemical Physics</i> , 2004, 121, 5541-5549.	3.0	17
62	Realization of hydrodynamic experiments on quasi-2D liquid crystal films in microgravity. <i>Advances in Space Research</i> , 2017, 60, 737-751.	2.6	17
63	Collective motion of driven semiflexible filaments tuned by soft repulsion and stiffness. <i>Soft Matter</i> , 2020, 16, 9436-9442.	2.7	17
64	Ferroelectric liquid crystal induced by a bridged biphenyl dopant with helical topography. <i>Journal of Materials Chemistry</i> , 2002, 12, 586-592.	6.7	16
65	Experimental realization of an incompressible Newtonian fluid in two dimensions. <i>Physical Review E</i> , 2016, 93, 012706.	2.1	15
66	Understanding the origin of liquid crystal ordering of ultrashort double-stranded DNA. <i>Physical Review E</i> , 2017, 95, 032702.	2.1	15
67	Supramolecular stereochemistry in ferroelectric liquid crystals. <i>Journal of Physical Organic Chemistry</i> , 2000, 13, 830-836.	1.9	14
68	Chiral random grain boundary phase of achiral hockey-stick liquid crystals. <i>Soft Matter</i> , 2014, 10, 9105-9109.	2.7	14
69	Hysteresis, reentrance, and glassy dynamics in systems of self-propelled rods. <i>Physical Review E</i> , 2015, 92, 060501.	2.1	14
70	Shear-induced melting of two-dimensional solids. <i>Physical Review B</i> , 1993, 47, 5622-5628.	3.2	13
71	Chiral Isotropic Sponge Phase of Hexatic Smectic Layers of Achiral Molecules. <i>ChemPhysChem</i> , 2014, 15, 1502-1507.	2.1	13
72	Evidence from infrared dichroism, x-ray diffraction, and atomistic computer simulation for a $\alpha$ -zigzag molecular shape in tilted smectic liquid crystal phases. <i>Physical Review E</i> , 2001, 64, 051712.	2.1	12

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73	Molecular dynamics simulation study of spherical nanoparticles in a nematogenic matrix: Anchoring, interactions, and phase behavior. <i>Physical Review E</i> , 2009, 79, 011704.	2.1	12
74	Effect of Concentration on the Photo-Orientation and Relaxation Dynamics of Self-Assembled Monolayers of Mixtures of an Azobenzene-Based Triethoxysilane with Octyltriethoxysilane. <i>Langmuir</i> , 2011, 27, 3336-3342.	3.5	12
75	Hydrodynamic interactions in freely suspended liquid crystal films. <i>Physical Review E</i> , 2016, 94, 052701.	2.1	12
76	Effect of Conformational Chirality on Optical Activity Observed in a Smectic of Achiral, Bent-Core Molecules. <i>Journal of Physical Chemistry B</i> , 2017, 121, 6944-6950.	2.6	12
77	Mean field theory-based calculation of FLC polarization. <i>Liquid Crystals</i> , 2002, 29, 1073-1085.	2.2	11
78	Phase Winding of a Nematic Liquid Crystal by Dynamic Localized Reorientation of an Azo-Based Self-Assembled Monolayer. <i>Langmuir</i> , 2014, 30, 9560-9566.	3.5	11
79	Understanding the Nanoscale Structure of Inverted Hexagonal Phase Lyotropic Liquid Crystal Polymer Membranes. <i>Journal of Physical Chemistry B</i> , 2019, 123, 289-309.	2.6	11
80	Infrared spectroscopic study of molecular hydrogen bonding in chiral smectic liquid crystals. <i>Physical Review E</i> , 2000, 62, 5027-5035.	2.1	10
81	Topography of bent-core liquid crystals at the air/liquid crystal interface. <i>Liquid Crystals</i> , 2013, 40, 1730-1735.	2.2	10
82	Chiral self-sorting of active semiflexible filaments with intrinsic curvature. <i>Soft Matter</i> , 2021, 17, 4559-4565.	2.7	10
83	Atomistic Simulation and Modeling of Smectic Liquid Crystals. , 2000, , 263-331.		10
84	A new potential for the description of intermolecular interactions for rigid biaxial molecules. <i>Chemical Physics</i> , 1997, 214, 253-260.	1.9	9
85	HFF: a force field for liquid crystal molecules. <i>Computational and Theoretical Chemistry</i> , 1999, 464, 39-48.	1.5	9
86	A molecular-dynamics simulation study of the switching dynamics of a nematic liquid crystal under an applied electrical field. <i>Journal of Chemical Physics</i> , 2002, 117, 9452-9459.	3.0	9
87	Spiral layer undulation defects in B7 liquid crystals. <i>Soft Matter</i> , 2013, 9, 11303.	2.7	9
88	Toward the cellular-scale simulation of motor-driven cytoskeletal assemblies. <i>ELife</i> , 0, 11, .	6.0	9
89	Molecular dynamics simulations studies of nanoparticles in an isotropic liquid crystal matrix: Single particle behavior and pairwise interactions. <i>Journal of Chemical Physics</i> , 2006, 124, 161101.	3.0	8
90	Nanoparticle Aggregation and Fractal Growth in Fluid Smectic Membranes. <i>Molecular Crystals and Liquid Crystals</i> , 2015, 611, 14-20.	0.9	8

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91	Two-dimensional island emulsions in ultrathin, freely-suspended smectic liquid crystal films. <i>Soft Matter</i> , 2017, 13, 6314-6321.	2.7	8
92	Coalescence of islands in freely suspended smectic films. <i>Physical Review Research</i> , 2021, 3, .	3.6	8
93	Reliability of Orientational Order Parameters Determined from Two-dimensional X-ray Diffraction Patterns: A Simulation Study. <i>ChemPhysChem</i> , 2016, 17, 1568-1572.	2.1	7
94	Microscopic origins of first-order $S_m$ - $A$ phase behavior in de Vries smectic liquid crystals. <i>Physical Review E</i> , 2013, 87, 050502.	2.1	6
95	Manipulating the twist sense of helical nanofilaments of bent-core liquid crystals using rod-shaped, chiral mesogenic dopants. <i>Liquid Crystals</i> , 2016, 43, 1083-1091.	2.2	6
96	Active microrheology of smectic membranes. <i>Physical Review E</i> , 2017, 95, 022702.	2.1	6
97	A gas flow meter with linear sensitivity based on freely-suspended nanofilms of smectic liquid crystal. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	6
98	Comparison of explicit and mean-field models of cytoskeletal filaments with crosslinking motors. <i>European Physical Journal E</i> , 2021, 44, 45.	1.6	5
99	Geometrical Quasiparticle Condensation Model of Melting in Two Dimensions. <i>Springer Proceedings in Physics</i> , 1990, , 141-152.	0.2	5
100	Aggregation-driven, re-entrant isotropic phase in a smectic liquid crystal material. <i>Liquid Crystals</i> , 2017, 44, 769-783.	2.2	4
101	New $S_m$ APF Mesogens Designed for Analog Electrooptics Applications. <i>Materials</i> , 2017, 10, 1284.	2.9	4
102	The Tiling Structure of Simple Liquids Squares and Triangles in Two Dimensions. <i>NATO ASI Series Series B: Physics</i> , 1990, , 193-204.	0.2	4
103	Design of Smectic Liquid Crystal Phases Using Layer Interface Clonicity. <i>ACS Symposium Series</i> , 2001, , 268-281.	0.5	1
104	Design and synthesis of an achiral ferroelectric smectic liquid crystal. , 2011, , .		0
105	$S_m$ APf phase, its properties and potential dye alignment (Conference Presentation). , 2016, , .		0
106	Physical Determinants of Bipolar Mitotic Spindle Assembly and Stability in Fission Yeast. <i>Biophysical Journal</i> , 2017, 112, 432a.	0.5	0
107	Frustration between two- and three-dimensional smectic ordering leads to a biaxial nematic phase. <i>Soft Matter</i> , 2020, 16, 747-753.	2.7	0
108	Active Condensation of Filaments Under Spatial Confinement. <i>Frontiers in Physics</i> , 0, 10, .	2.1	0