

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	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
2	Chiral self-sorting of active semiflexible filaments with intrinsic curvature. <i>Soft Matter</i> , 2021, 17, 4559-4565.	2.7	10
3	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
4	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
5	Coalescence of islands in freely suspended smectic films. <i>Physical Review Research</i> , 2021, 3, .	3.6	8
6	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
7	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
8	Collective motion of driven semiflexible filaments tuned by soft repulsion and stiffness. <i>Soft Matter</i> , 2020, 16, 9436-9442.	2.7	17
9	First-principles experimental demonstration of ferroelectricity in a thermotropic nematic liquid crystal: Polar domains and striking electro-optics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 14021-14031.	7.1	174
10	Mechanisms of chromosome biorientation and bipolar spindle assembly analyzed by computational modeling. <i>ELife</i> , 2020, 9, .	6.0	40
11	Theory of Cytoskeletal Reorganization during Cross-Linker-Mediated Mitotic Spindle Assembly. <i>Biophysical Journal</i> , 2019, 116, 1719-1731.	0.5	34
12	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
13	Chiral Incommensurate Helical Phase in a Smectic of Achiral Bent-Core Mesogens. <i>Physical Review Letters</i> , 2019, 122, 107801.	7.8	21
14	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
15	Active microrheology of smectic membranes. <i>Physical Review E</i> , 2017, 95, 022702.	2.1	6
16	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
17	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
18	Physical Determinants of Bipolar Mitotic Spindle Assembly and Stability in Fission Yeast. <i>Biophysical Journal</i> , 2017, 112, 432a.	0.5	0

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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	Understanding the origin of liquid crystal ordering of ultrashort double-stranded DNA. <i>Physical Review E</i> , 2017, 95, 032702.	2.1	15
21	Aggregation-driven, re-entrant isotropic phase in a smectic liquid crystal material. <i>Liquid Crystals</i> , 2017, 44, 769-783.	2.2	4
22	Two-dimensional island emulsions in ultrathin, freely-suspended smectic liquid crystal films. <i>Soft Matter</i> , 2017, 13, 6314-6321.	2.7	8
23	Contributions of Microtubule Dynamic Instability and Rotational Diffusion to Kinetochores Capture. <i>Biophysical Journal</i> , 2017, 112, 552-563.	0.5	42
24	New SmAPF Mesogens Designed for Analog Electrooptics Applications. <i>Materials</i> , 2017, 10, 1284.	2.9	4
25	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
26	SmAPf phase, its properties and potential dye alignment (Conference Presentation). , 2016, , .		0
27	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
28	Spontaneous liquid crystal and ferromagnetic ordering of colloidal magnetic nanoplates. <i>Nature Communications</i> , 2016, 7, 10394.	12.8	94
29	Experimental realization of an incompressible Newtonian fluid in two dimensions. <i>Physical Review E</i> , 2016, 93, 012706.	2.1	15
30	Hydrodynamic interactions in freely suspended liquid crystal films. <i>Physical Review E</i> , 2016, 94, 052701.	2.1	12
31	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
32	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
33	Microscopic origins of anisotropic active stress in motor-driven nematic liquid crystals. <i>Soft Matter</i> , 2016, 12, 2676-2687.	2.7	39
34	Hysteresis, reentrance, and glassy dynamics in systems of self-propelled rods. <i>Physical Review E</i> , 2015, 92, 060501.	2.1	14
35	Multiscale modeling and simulation of microtubule-motor-protein assemblies. <i>Physical Review E</i> , 2015, 92, 062709.	2.1	33
36	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

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37	Diastereomeric liquid crystal domains at the mesoscale. <i>Nature Communications</i> , 2015, 6, 7763.	12.8	33
38	Nanoparticle Aggregation and Fractal Growth in Fluid Smectic Membranes. <i>Molecular Crystals and Liquid Crystals</i> , 2015, 611, 14-20.	0.9	8
39	Multiscale Polar Theory of Microtubule and Motor-Protein Assemblies. <i>Physical Review Letters</i> , 2015, 114, 048101.	7.8	119
40	Mutual Diffusion of Inclusions in Freely Suspended Smectic Liquid Crystal Films. <i>Physical Review Letters</i> , 2014, 113, 128304.	7.8	20
41	Chiral random grain boundary phase of achiral hockey-stick liquid crystals. <i>Soft Matter</i> , 2014, 10, 9105-9109.	2.7	14
42	Chiral Isotropic Sponge Phase of Hexatic Smectic Layers of Achiral Molecules. <i>ChemPhysChem</i> , 2014, 15, 1502-1507.	2.1	13
43	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
44	Twist-bend heliconical chiral nematic liquid crystal phase of an achiral rigid bent-core mesogen. <i>Physical Review E</i> , 2014, 89, 022506.	2.1	212
45	Topography of bent-core liquid crystals at the air/liquid crystal interface. <i>Liquid Crystals</i> , 2013, 40, 1730-1735.	2.2	10
46	Spiral layer undulation defects in B7 liquid crystals. <i>Soft Matter</i> , 2013, 9, 11303.	2.7	9
47	Nanoconfinement of guest materials by helical nanofilament networks of bent-core mesogens. <i>Soft Matter</i> , 2013, 9, 462-471.	2.7	51
48	Athermal photofluidization of glasses. <i>Nature Communications</i> , 2013, 4, 1521.	12.8	111
49	Microscopic origins of first-order Sm- A phase behavior in de Vries smectic liquid crystals. <i>Physical Review E</i> , 2013, 87, 050502.	2.1	6
50	Chiral heliconical ground state of nanoscale pitch in a nematic liquid crystal of achiral molecular dimers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 15931-15936.	7.1	431
51	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
52	Structure of the B4 Liquid Crystal Phase near a Glass Surface. <i>ChemPhysChem</i> , 2012, 13, 155-159.	2.1	38
53	Chirality-Preserving Growth of Helical Filaments in the B4 Phase of Bent-Core Liquid Crystals. <i>Journal of the American Chemical Society</i> , 2011, 133, 12656-12663.	13.7	75
54	Effect of Concentration on the Photo-Oriented 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

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55	Interface structure of the dark conglomerate liquid crystal phase. <i>Soft Matter</i> , 2011, 7, 1879-1883.	2.7	39
56	Spontaneous Ferroelectric Order in a Bent-Core Smectic Liquid Crystal of Fluid Orthorhombic Layers. <i>Science</i> , 2011, 332, 72-77.	12.6	141
57	Biopolymers in nanopores: challenges and opportunities. <i>Soft Matter</i> , 2011, 7, 5898.	2.7	39
58	Design and synthesis of an achiral ferroelectric smectic liquid crystal. , 2011, , .		0
59	Two-Dimensional Microrheology of Freely Suspended Liquid Crystal Films. <i>Physical Review Letters</i> , 2011, 107, 268301.	7.8	41
60	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
61	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
62	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
63	Linear aggregation and liquid-crystalline order: comparison of Monte Carlo simulation and analytic theory. <i>Journal of Materials Chemistry</i> , 2010, 20, 10366.	6.7	63
64	Chiral Isotropic Liquids from Achiral Molecules. <i>Science</i> , 2009, 325, 452-456.	12.6	250
65	Helical Nanofilament Phases. <i>Science</i> , 2009, 325, 456-460.	12.6	291
66	Microtubule Depolymerization by the Kinesin-8 Motor Kip3p: A Mathematical Model. <i>Biophysical Journal</i> , 2009, 96, 3050-3064.	0.5	40
67	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
68	Melting and Liquid Structure in two Dimensions. <i>Advances in Chemical Physics</i> , 2007, , 543-709.	0.3	59
69	Soft spheres make more mesophases. <i>Europhysics Letters</i> , 2007, 78, 46004.	2.0	135
70	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
71	Discrete elastic model for two-dimensional melting. <i>Physical Review E</i> , 2006, 73, 041501.	2.1	19
72	Phase behavior of polarizable spherocylinders in external fields. <i>Journal of Chemical Physics</i> , 2004, 121, 5541-5549.	3.0	17

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73	Entropy-Stabilized Smectic C Phase in a System of Zigzag-Shaped Molecules. <i>Physical Review Letters</i> , 2004, 92, 025501.	7.8	23
74	Coarse-grained simulation of polymer translocation through an artificial nanopore. <i>Polymer</i> , 2004, 45, 3099-3110.	3.8	47
75	Phase behavior of bent-core molecules. <i>Physical Review E</i> , 2003, 67, 011703.	2.1	89
76	Fluctuations and clinicity in tilted smectic liquid crystals. <i>Physical Review E</i> , 2002, 66, 021711.	2.1	30
77	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
78	Mean field theory-based calculation of FLC polarization. <i>Liquid Crystals</i> , 2002, 29, 1073-1085.	2.2	11
79	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
80	Self-Assembly in Surfactant Oligomers: A Coarse-Grained Description through Molecular Dynamics Simulations. <i>Langmuir</i> , 2002, 18, 1908-1918.	3.5	75
81	Isodesmic self-assembly in lyotropic chromonic systems. <i>Liquid Crystals</i> , 2002, 29, 619-626.	2.2	44
82	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
83	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
84	Ferroelectric Liquid Crystals Induced by Atropisomeric Biphenyl Dopants: A 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
85	Design of Smectic Liquid Crystal Phases Using Layer Interface Clinicity. <i>ACS Symposium Series</i> , 2001, , 268-281.	0.5	1
86	Microscopic structure and dynamics of a partial bilayer smectic liquid crystal. <i>Physical Review E</i> , 2001, 64, 051703.	2.1	38
87	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
88	Evidence from infrared dichroism, x-ray diffraction, and atomistic computer simulation for a zigzag molecular shape in tilted smectic liquid crystal phases. <i>Physical Review E</i> , 2001, 64, 051712.	2.1	12
89	Supermolecular stereochemistry in ferroelectric liquid crystals. <i>Journal of Physical Organic Chemistry</i> , 2000, 13, 830-836.	1.9	14
90	Infrared spectroscopic study of molecular hydrogen bonding in chiral smectic liquid crystals. <i>Physical Review E</i> , 2000, 62, 5027-5035.	2.1	10

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91	A Ferroelectric Liquid Crystal Conglomerate Composed of Racemic Molecules. <i>Science</i> , 2000, 288, 2181-2184.	12.6	328
92	Atomistic Simulation and Modeling of Smectic Liquid Crystals. , 2000, , 263-331.		10
93	Photocontrolled nanophase segregation in a liquid-crystal solvent. <i>Nature</i> , 1999, 398, 54-57.	27.8	118
94	HFF: a force field for liquid crystal molecules. <i>Computational and Theoretical Chemistry</i> , 1999, 464, 39-48.	1.5	9
95	The case of thresholdless antiferroelectricity: polarization-stabilized twisted SmC* liquid crystals give V-shaped electro-optic response. <i>Journal of Materials Chemistry</i> , 1999, 9, 1257-1261.	6.7	125
96	Liquid crystal phase diagram of the Gay-Berne fluid by density functional theory. <i>Liquid Crystals</i> , 1997, 23, 227-234.	2.2	24
97	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
98	A new potential for the description of intermolecular interactions for rigid biaxial molecules. <i>Chemical Physics</i> , 1997, 214, 253-260.	1.9	9
99	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
100	Atomic-Detail Simulation Studies of Smectic Liquid Crystals. <i>Molecular Simulation</i> , 1995, 14, 343-360.	2.0	18
101	Atomic-detail simulation studies of tilted smectics. <i>Journal of Physics Condensed Matter</i> , 1994, 6, A261-A268.	1.8	18
102	Shear-induced melting of two-dimensional solids. <i>Physical Review B</i> , 1993, 47, 5622-5628.	3.2	13
103	Effects of finite laser coherence in quasielastic multiple scattering. <i>Physical Review A</i> , 1991, 44, 5215-5223.	2.5	36
104	Statistical geometry of simple liquids in two dimensions. <i>Physical Review A</i> , 1990, 41, 4585-4588.	2.5	24
105	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
106	Geometrical Quasiparticle Condensation Model of Melting in Two Dimensions. <i>Springer Proceedings in Physics</i> , 1990, , 141-152.	0.2	5
107	Toward the cellular-scale simulation of motor-driven cytoskeletal assemblies. <i>ELife</i> , 0, 11, .	6.0	9
108	Active Condensation of Filaments Under Spatial Confinement. <i>Frontiers in Physics</i> , 0, 10, .	2.1	0