

# Robert A Pelcovits

## List of Publications by Year in descending order

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79  
papers

6,009  
citations

196777

29  
h-index

84171

75  
g-index

80  
all docs

80  
docs citations

80  
times ranked

3694  
citing authors

#	ARTICLE	IF	CITATIONS
1	Axisymmetric membranes with edges under external force: buckling, minimal surfaces, and tethers. <i>Soft Matter</i> , 2021, 17, 7268-7286.	1.2	4
2	Deformation and orientational order of chiral membranes with free edges. <i>Soft Matter</i> , 2021, 17, 6580-6588.	1.2	1
3	Shapes of fluid membranes with chiral edges. <i>Physical Review E</i> , 2020, 102, 032608.	0.8	2
4	Topological structure and dynamics of three-dimensional active nematics. <i>Science</i> , 2020, 367, 1120-1124.	6.0	135
5	Force-Induced Formation of Twisted Chiral Ribbons. <i>Physical Review Letters</i> , 2020, 125, 018002.	2.9	5
6	Stability of the interface of an isotropic active fluid. <i>Soft Matter</i> , 2019, 15, 6318-6330.	1.2	5
7	Enhancement of Microorganism Swimming Speed in Active Matter. <i>Physical Review Letters</i> , 2018, 121, 178002.	2.9	6
8	Chiral edge fluctuations of colloidal membranes. <i>Physical Review E</i> , 2017, 95, 060701.	0.8	13
9	Interaction of chiral rafts in self-assembled colloidal membranes. <i>Physical Review E</i> , 2016, 93, 032706.	0.8	8
10	Probing a self-assembled fd virus membrane with a microtubule. <i>Physical Review E</i> , 2016, 93, 062608.	0.8	3
11	Wrinkling of a thin film on a nematic liquid-crystal elastomer. <i>Physical Review E</i> , 2016, 94, 012701.	0.8	14
12	Creating arbitrary arrays of two-dimensional topological defects. <i>Physical Review E</i> , 2014, 90, 052501.	0.8	67
13	Theory of self-assembled smectic-A crenellated disks: Membranes with cusped edges. <i>Physical Review E</i> , 2013, 87, .	0.8	10
14	Instability of flat disks with respect to the formation of twisted ribbons in smectic-A* monolayers. <i>Physical Review E</i> , 2013, 87, 042505.	0.8	5
15	Theory of depletion-induced phase transition from chiral smectic-A twisted ribbons to semi-infinite flat membranes. <i>Physical Review E</i> , 2010, 82, 021701.	0.8	26
16	Nematic cells with quasicrystalline-patterned alignment layers. <i>Physical Review E</i> , 2009, 79, 022701.	0.8	2
17	Direct Measurement of the Twist Penetration Length in a Single Smectic A Layer of Colloidal Virus Particles. <i>Journal of Physical Chemistry B</i> , 2009, 113, 3910-3913.	1.2	37
18	Tensor Visualization and Defect Detection for Nematic Liquid Crystals using Shape Characteristics. <i>Mathematics and Visualization</i> , 2009, , 213-238.	0.4	2

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19	Twist penetration in single-layer smectic A discs of colloidal virus particles. <i>Liquid Crystals</i> , 2009, 36, 1157-1160.	0.9	17
20	Nematic cells with defect-patterned alignment layers. <i>Physical Review E</i> , 2008, 77, 021701.	0.8	12
21	Unwinding of a strained cholesteric elastomer by disclination loop nucleation. <i>Physical Review E</i> , 2007, 75, 011701.	0.8	8
22	Role of electrostatics in the texture of islands in free-standing ferroelectric liquid crystal films. <i>Physical Review E</i> , 2007, 75, 051701.	0.8	39
23	Vesicle shape, molecular tilt, and the suppression of necks. <i>Physical Review E</i> , 2007, 76, 031908.	0.8	31
24	Dynamics of the molecular orientation field coupled to ions in two-dimensional ferroelectric liquid crystals. <i>Physical Review E</i> , 2007, 76, 021704.	0.8	8
25	Stable polarization gratings recorded in azo-dye-doped liquid crystals. <i>Applied Physics Letters</i> , 2006, 88, 251113.	1.5	43
26	Techniques for the Visualization of Topological Defect Behavior in Nematic Liquid Crystals. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2006, 12, 1323-1328.	2.9	15
27	Simulation and visualization of topological defects in nematic liquid crystals. <i>Physical Review E</i> , 2006, 74, 061701.	0.8	53
28	Liquid-crystal diffraction gratings using polarization holography alignment techniques. <i>Journal of Applied Physics</i> , 2005, 98, 123102.	1.1	282
29	Polarization Holographic Patterned Alignment of Nematic Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 2005, 438, 185/[1749]-193/[1757].	0.4	2
30	Liquid crystals in random porous media: Disorder is stronger in low-density aerosils. <i>Physical Review E</i> , 2004, 70, 040702.	0.8	25
31	Zero voltage Freedericksz transition in periodically aligned liquid crystals. <i>Applied Physics Letters</i> , 2004, 85, 1671-1673.	1.5	74
32	LP-9: Late News Poster: Patterned Alignment Layers Using Holographic Exposure Technique. <i>Digest of Technical Papers SID International Symposium</i> , 2004, 35, 578.	0.1	2
33	Optomechanical properties of stretched polymer dispersed liquid crystal films for scattering polarizer applications. <i>Journal of Applied Physics</i> , 2003, 93, 3248-3252.	1.1	47
34	Virtual surfaces, director domains, and the Freedericksz transition in polymer-stabilized nematic liquid crystals. <i>Applied Physics Letters</i> , 2002, 81, 2986-2988.	1.5	51
35	P-79: Model of Freedericksz Transition and Hysteresis Effect in Polymer Stabilized Nematic Liquid Crystal Configurations for Display Applications. <i>Digest of Technical Papers SID International Symposium</i> , 2002, 33, 506.	0.1	3
36	Coarsening dynamics of biaxial nematic liquid crystals. <i>Physical Review E</i> , 2002, 66, 051705.	0.8	19

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37	Electroclinic effect and modulated phases in smectic liquid crystals. <i>Physical Review E</i> , 2002, 65, 061704.	0.8	36
38	Isotropic-cholesteric transition in liquid-crystalline gels. <i>Physical Review E</i> , 2002, 66, 031706.	0.8	4
39	24.3: Optical and Mechanical Properties of Stretched PDLC Films for Scattering Polarizers. <i>Digest of Technical Papers SID International Symposium</i> , 2002, 33, 834.	0.1	3
40	Disclination loop behavior near the nematic-isotropic transition. <i>Physical Review E</i> , 2001, 64, 031710.	0.8	19
41	Cluster Monte Carlo simulations of the nematic-isotropic transition. <i>Physical Review E</i> , 2001, 63, 062702.	0.8	28
42	Defect configurations and dynamical behavior in a Gay-Berne nematic emulsion. <i>Physical Review E</i> , 2000, 62, 711-717.	0.8	51
43	Surface extrapolation length and director structures in confined nematics. <i>Physical Review E</i> , 2000, 62, 6734-6738.	0.8	25
44	Molecular shape and flexoelectricity. <i>Liquid Crystals</i> , 2000, 27, 1151-1160.	0.9	23
45	Phase-ordering dynamics of the Gay-Berne nematic liquid crystal. <i>Physical Review E</i> , 1999, 60, 6831-6840.	0.8	44
46	Simulations of Liquid Crystals. <i>Computers in Physics</i> , 1998, 12, 440.	0.6	8
47	Glass formation in the Gay-Berne nematic liquid crystal. <i>Liquid Crystals</i> , 1997, 23, 205-212.	0.9	4
48	Cholesteric pitch of rigid and semi-flexible chiral liquid crystals. <i>Liquid Crystals</i> , 1996, 21, 361-364.	0.9	23
49	Viscosities of the Gay-Berne Nematic Liquid Crystal. <i>Physical Review Letters</i> , 1995, 75, 2340-2343.	2.9	46
50	Piezoelectricity of Cholesteric Elastomers. <i>Journal De Physique II</i> , 1995, 5, 877-882.	0.9	18
51	Supercooling of a nematic liquid crystal. <i>Physical Review E</i> , 1993, 47, 1824-1835.	0.8	3
52	Dynamics and thermal fluctuations in high-Tc superconductors. <i>Physical Review B</i> , 1991, 44, 2767-2777.	1.1	9
53	Ising model in a time-dependent magnetic field. <i>Physical Review A</i> , 1990, 42, 7471-7474.	1.0	170
54	Dynamical behavior of thin ferroelectric liquid-crystal films in ac electric fields. <i>Physical Review A</i> , 1990, 42, 3630-3633.	1.0	7

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55	Nonlocal elasticity theory of polymeric liquid crystals. Physical Review A, 1990, 42, 4756-4763.	1.0	8
56	Elastic modes, phase fluctuations, and long-range order in type-II superconductors. Physical Review B, 1990, 42, 906-908.	1.1	25
57	Flux lattice melting in high-T <sub>c</sub> superconductors. Physical Review B, 1989, 40, 6763-6770.	1.1	694
58	Modulated phases in thin ferroelectric liquid-crystal films. Physical Review Letters, 1988, 60, 1864-1867.	2.9	63
59	Interaction energy of disclinations in pentagonal quasicrystals. Physical Review B, 1988, 38, 5042-5044.	1.1	9
60	Linear elasticity theory of pentagonal quasicrystals. Physical Review B, 1987, 35, 8609-8620.	1.1	94
61	Disclinations in pentagonal quasicrystals. Physical Review B, 1987, 36, 9304-9307.	1.1	16
62	Structure factor for dilute magnetic systems. Physical Review B, 1985, 31, 350-357.	1.1	31
63	Spin-correlation function in the two-dimensionalXYmodel. Physical Review B, 1985, 32, 4528-4538.	1.1	17
64	Two-dimensionalXYmodel in a random uniaxial field. Physical Review B, 1985, 32, 3081-3087.	1.1	40
65	Dynamics of the smecticC <sub>0</sub> toAtransition in freely suspended thin films. Physical Review A, 1985, 32, 2506-2509.	1.0	6
66	Lower bounds for the width of domain walls in the random-field Ising model. Physical Review B, 1984, 29, 5069-5073.	1.1	3
67	Dynamics of charge-density waves pinned by impurities. Physical Review B, 1984, 29, 5972-5975.	1.1	3
68	Glauber Dynamics for One-dimensional Spin Models with Random Fields. Physical Review B, 1984, 30, 205-208.	1.1	22
69	Smectic-C*to Smectic-ATransition in Variable-Thickness Liquid-Crystal Films: Order-Parameter Measurements and Theory. Physical Review Letters, 1984, 52, 1017-1020.	2.9	163
70	Gauge transformations and anharmonic effects in smectic liquid crystals. Physical Review B, 1982, 25, 6022-6025.	1.1	7
71	Nonlinear elastic theory of smectic liquid crystals. Physical Review A, 1982, 26, 915-925.	1.0	99
72	Spin-Glass and Ferromagnetic Behavior Induced by Random Uniaxial Anisotropy.. Physical Review Letters, 1982, 48, 1297-1297.	2.9	21

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73	Anharmonic Effects in Bulk Smectic Liquid Crystals and Other "One-Dimensional Solids". Physical Review Letters, 1981, 47, 856-859.	2.9	154
74	Low-temperature renormalization-group study of the random-axis model. Physical Review B, 1979, 19, 465-473.	1.1	68
75	Two-dimensional ferroelectric liquid crystals. Journal of Applied Physics, 1979, 50, 1796-1798.	1.1	1
76	Two-dimensional ferroelectric liquid crystals. Physical Review B, 1979, 19, 4614-4620.	1.1	44
77	Spin-Glass and Ferromagnetic Behavior Induced by Random Uniaxial Anisotropy. Physical Review Letters, 1978, 40, 476-479.	2.9	195
78	Momentum-shell recursion relations, anisotropic spins, and liquid crystals in $2 + \epsilon$ dimensions. Physical Review B, 1977, 16, 2191-2199.	1.1	252
79	Bicritical points in $2 + \epsilon$ dimensions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1976, 57, 23-25.	0.9	82