

# Mark J Bowick

## List of Publications by Citations

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65  
papers

3,577  
citations

26  
h-index

59  
g-index

66  
ext. papers

3,997  
ext. citations

6.8  
avg, IF

5.27  
L-index

#	Paper	IF	Citations
65	Topology and dynamics of active nematic vesicles. <i>Science</i> , <b>2014</b> , 345, 1135-9	33.3	336
64	Spontaneous chiral-symmetry breaking in three-dimensional QED. <i>Physical Review D</i> , <b>1986</b> , 33, 3704-3714	7.9	303
63	The cosmological kibble mechanism in the laboratory: string formation in liquid crystals. <i>Science</i> , <b>1994</b> , 263, 943-5	33.3	278
62	Two-dimensional matter: order, curvature and defects. <i>Advances in Physics</i> , <b>2009</b> , 58, 449-563	18.4	232
61	Defect annihilation and proliferation in active nematics. <i>Physical Review Letters</i> , <b>2013</b> , 110, 228101	7.4	196
60	Interacting topological defects on frozen topographies. <i>Physical Review B</i> , <b>2000</b> , 62, 8738-8751	3.3	170
59	The statistical mechanics of membranes. <i>Physics Reports</i> , <b>2001</b> , 344, 255-308	27.7	163
58	Superstrings at high temperature. <i>Physical Review Letters</i> , <b>1985</b> , 54, 2485-2488	7.4	143
57	Axionic black holes and an Aharonov-Bohm effect for strings. <i>Physical Review Letters</i> , <b>1988</b> , 61, 2823-2826	6.4	141
56	TOPOLOGICAL MASS GENERATION IN 3+1 DIMENSIONS. <i>Modern Physics Letters A</i> , <b>1991</b> , 06, 559-571	1.3	137
55	Direct visualization of dislocation dynamics in grain-boundary scars. <i>Nature Materials</i> , <b>2005</b> , 4, 407-11	27	131
54	Defect dynamics in active nematics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2014</b> , 372,	3	123
53	Topological defects in spherical nematics. <i>Physical Review Letters</i> , <b>2008</b> , 101, 037802	7.4	115
52	Spontaneous breaking of parity in (2+1)-dimensional QED. <i>Physical Review D</i> , <b>1986</b> , 33, 3774-3776	4.9	86
51	Smectic polymer vesicles. <i>Soft Matter</i> , <b>2009</b> , 5, 3446	3.6	80
50	The Flat Phase of Crystalline Membranes. <i>Journal De Physique, I</i> , <b>1996</b> , 6, 1321-1345		74
49	Morphology of nematic and smectic vesicles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 5202-6	11.5	65

48	Crystalline particle packings on a sphere with long-range power-law potentials. <i>Physical Review B</i> , <b>2006</b> , 73,	3.3	60
47	Curvature-induced defect unbinding in toroidal geometries. <i>Physical Review E</i> , <b>2004</b> , 69, 041102	2.4	60
46	Chiral-symmetry breaking in 2+1 dimensions. <i>Physical Review Letters</i> , <b>1985</b> , 55, 1715-1718	7.4	59
45	Grain boundary scars on spherical crystals. <i>Langmuir</i> , <b>2005</b> , 21, 12076-9	4	58
44	Defect Unbinding in Active Nematics. <i>Physical Review Letters</i> , <b>2018</b> , 121, 108002	7.4	56
43	Breaking of isospin symmetry in theories with a dynamical Higgs mechanism. <i>Physical Review D</i> , <b>1985</b> , 31, 1676-1684	4.9	42
42	Non-Hookean statistical mechanics of clamped graphene ribbons. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	40
41	Numerical Observation of a Tubular Phase in Anisotropic Membranes. <i>Physical Review Letters</i> , <b>1997</b> , 79, 885-888	7.4	36
40	Topological Sound and Flocking on Curved Surfaces. <i>Physical Review X</i> , <b>2017</b> , 7,	9.1	35
39	Bubble-raft model for a paraboloidal crystal. <i>Physical Review E</i> , <b>2008</b> , 77, 021602	2.4	26
38	Geometric Frustration and Solid-Solid Transitions in Model 2D Tissue. <i>Physical Review Letters</i> , <b>2018</b> , 120, 268105	7.4	24
37	Pathways to faceting of vesicles. <i>Soft Matter</i> , <b>2013</b> , 9, 8088	3.6	24
36	Dynamics and instabilities of defects in two-dimensional crystals on curved backgrounds. <i>Physical Review E</i> , <b>2007</b> , 75, 021404	2.4	21
35	Superstring gravity and the early universe. <i>General Relativity and Gravitation</i> , <b>1986</b> , 18, 59-66	2.3	19
34	Kirigami Mechanics as Stress Relief by Elastic Charges. <i>Physical Review Letters</i> , <b>2019</b> , 122, 048001	7.4	18
33	Interstitial fractionalization and spherical crystallography. <i>Physical Chemistry Chemical Physics</i> , <b>2007</b> , 9, 6304-12	3.6	18
32	Curiosities of arithmetic gases. <i>Journal of Mathematical Physics</i> , <b>1991</b> , 32, 1881-1884	1.2	17
31	Isospin-Symmetry Breaking in Electroweak Theories. <i>Physical Review Letters</i> , <b>1984</b> , 53, 1523-1526	7.4	17

30	Thermal crumpling of perforated two-dimensional sheets. <i>Nature Communications</i> , <b>2017</b> , 8, 1381	17.4	16
29	Crystalline order on catenoidal capillary bridges. <i>Europhysics Letters</i> , <b>2011</b> , 93, 36001	1.6	16
28	Defect driven shapes in nematic droplets: analogies with cell division. <i>Soft Matter</i> , <b>2017</b> , 13, 1257-1266	3.6	14
27	Thermal stiffening of clamped elastic ribbons. <i>Physical Review B</i> , <b>2017</b> , 96,	3.3	13
26	Nonlinear mechanics of thin frames. <i>Physical Review E</i> , <b>2019</b> , 99, 013002	2.4	12
25	Self-propulsion of droplets by spatially-varying surface topography. <i>Soft Matter</i> , <b>2012</b> , 8, 1142-1145	3.6	11
24	Non-uniform curvature and anisotropic deformation control wrinkling patterns on tori. <i>Soft Matter</i> , <b>2019</b> , 15, 5204-5210	3.6	10
23	Planar sheets meet negative-curvature liquid interfaces. <i>Europhysics Letters</i> , <b>2013</b> , 101, 44007	1.6	8
22	Axionic black holes and wormholes. <i>General Relativity and Gravitation</i> , <b>1990</b> , 22, 137-144	2.3	8
21	Effects of scars on icosahedral crystalline shell stability under external pressure. <i>Physical Review E</i> , <b>2015</b> , 91, 033205	2.4	7
20	The solution space of the unitary matrix model string equation and the Sato Grassmannian. <i>Communications in Mathematical Physics</i> , <b>1992</b> , 148, 469-485	2	7
19	Topological active matter. <i>Nature Reviews Physics</i> ,	23.6	7
18	Thermal buckling and symmetry breaking in thin ribbons under compression. <i>Extreme Mechanics Letters</i> , <b>2021</b> , 44, 101270	3.9	6
17	Tubular phase of self-avoiding anisotropic crystalline membranes. <i>Physical Review E</i> , <b>1999</b> , 59, 5659-75	2.4	5
16	Symmetry, Thermodynamics, and Topology in Active Matter. <i>Physical Review X</i> , <b>2022</b> , 12,	9.1	5
15	Colloidal crystals: Stresses come to light. <i>Nature Materials</i> , <b>2016</b> , 15, 1151-1152	27	4
14	Stiffening thermal membranes by cutting. <i>Physical Review E</i> , <b>2017</b> , 96, 013002	2.4	4
13	FIXED-CONNECTIVITY MEMBRANES <b>2004</b> , 323-357		4

12	Topology and ground-state degeneracy of tetrahedral smectic vesicles. <i>European Physical Journal E</i> , <b>2018</b> , 41, 143	1.5	4
11	The role of fluid flow in the dynamics of active nematic defects. <i>New Journal of Physics</i> , <b>2021</b> , 23, 033009	2.9	3
10	STRING EQUATIONS OF MOTION FROM VANISHING CURVATURE. <i>International Journal of Modern Physics A</i> , <b>1991</b> , 06, 1319-1333	1.2	2
9	gamma Z kinetic mixing as signal of a higher scale. <i>Physical Review Letters</i> , <b>1985</b> , 54, 392-395	7.4	2
8	Fluctuations can induce local nematic order and extensile stress in monolayers of motile cells. <i>Soft Matter</i> , <b>2021</b> , 17, 3068-3073	3.6	2
7	Shape and size changes of adherent elastic epithelia. <i>Soft Matter</i> , <b>2020</b> , 16, 5282-5293	3.6	1
6	Formation of vortex loops (strings) in continuous phase transitions. <i>Physical Review E</i> , <b>2002</b> , 65, 026133	2.4	1
5	Flow around topological defects in active nematic films.. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2022</b> , 478, 20210879	2.4	1
4	Shapes and singularities in triatic liquid-crystal vesicles. <i>Europhysics Letters</i> , <b>2017</b> , 117, 26001	1.6	0
3	Spontaneous Tilt of Single-Clamped Thermal Elastic Sheets.. <i>Physical Review Letters</i> , <b>2022</b> , 128, 028006	7.4	0
2	Quantum gravity, random geometry and critical phenomena. <i>General Relativity and Gravitation</i> , <b>1992</b> , 24, 1209-1221	2.3	
1	Planar and curved droplet networks. <i>Europhysics Letters</i> , <b>2016</b> , 113, 16003	1.6	