John Toner

List of Publications by Year in descending order

45 papers	4,373 citations	304368 22 h-index	253896 43 g-index
45 all docs	45 docs citations	45 times ranked	2271 citing authors

#	Article	IF	Citations
1	Flocks, herds, and schools: A quantitative theory of flocking. Physical Review E, 1998, 58, 4828-4858.	0.8	1,198
2	Long-Range Order in a Two-Dimensional DynamicalXYModel: How Birds Fly Together. Physical Review Letters, 1995, 75, 4326-4329.	2.9	917
3	Hydrodynamics and phases of flocks. Annals of Physics, 2005, 318, 170-244.	1.0	746
4	Smectic, cholesteric, and Rayleigh-Benard order in two dimensions. Physical Review B, 1981, 23, 316-334.	1.1	210
5	Nonequilibrium Fluctuations, Traveling Waves, and Instabilities in Active Membranes. Physical Review Letters, 2000, 84, 3494-3497.	2.9	205
6	Sound Waves and the Absence of Galilean Invariance in Flocks. Physical Review Letters, 1998, 80, 4819-4822.	2.9	116
7	Reanalysis of the hydrodynamic theory of fluid, polar-ordered flocks. Physical Review E, 2012, 86, 031918.	0.8	106
8	Breakdown of conventional hydrodynamics for smectic-A, hexatic-B, and cholesteric liquid crystals. Physical Review A, 1983, 28, 1618-1636.	1.0	90
9	Renormalization-group treatment of the dislocation loop model of the smectic-Aâ€"nematic transition. Physical Review B, 1982, 26, 462-465.	1.1	88
10	Viscosities Diverge as1Ï‰in Smectic-ALiquid Crystals. Physical Review Letters, 1982, 49, 51-53.	2.9	66
11	Birth, Death, and Flight: A Theory of Malthusian Flocks. Physical Review Letters, 2012, 108, 088102.	2.9	58
12	Critical phenomenon of the orderâ€"disorder transition in incompressible active fluids. New Journal of Physics, 2015, 17, 042002.	1.2	45
13	Mapping two-dimensional polar active fluids to two-dimensional soap and one-dimensional sandblasting. Nature Communications, 2016, 7, 12215.	5.8	45
14	Quenched Dislocation Enhanced Supersolid Ordering. Physical Review Letters, 2008, 100, 035302.	2.9	39
15	Universality for Moving Stripes: A Hydrodynamic Theory of Polar Active Smectics. Physical Review Letters, 2013, 111, 088701.	2.9	39
16	Swarming in the Dirt: Ordered Flocks with Quenched Disorder. Physical Review Letters, 2018, 121, 248002.	2.9	36
17	Geometry of thresholdless active flow in nematic microfluidics. Physical Review Fluids, 2017, 2, .	1.0	33
18	Live Soap: Stability, Order, and Fluctuations in Apolar Active Smectics. Physical Review Letters, 2013, 110, 118102.	2.9	32

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19	Hydrodynamic theory of flocking in the presence of quenched disorder. Physical Review E, 2018, 98, .	0.8	32
20	Two New Topologically Ordered Glass Phases of Smectics Confined in Anisotropic Random Media. Physical Review Letters, 1999, 83, 1363-1366.	2.9	27
21	Emergent smectic order in simple active particle models. New Journal of Physics, 2016, 18, 063015.	1.2	26
22	New phase of matter in lamellar phases of tethered, crystalline membranes. Physical Review Letters, 1990, 64, 1741-1744.	2.9	23
23	â€œSoftâ€•Anharmonic Vortex Glass in Ferromagnetic Superconductors. Physical Review Letters, 2001, 87, .	2.9	22
24	Incompressible polar active fluids in the moving phase in dimensions d > 2. New Journal of Physics, 2018, 20, 113035.	1.2	19
25	A Discotic Disguised as a Smectic: A Hybrid Columnar Bragg Glass. Physical Review Letters, 2000, 85, 4309-4312.	2.9	17
26	Following fluctuating signs: Anomalous active superdiffusion of swimmers in anisotropic media. Physical Review E, 2016, 93, 062610.	0.8	17
27	Skyrmion versus vortex flux lattices inp-wave superconductors. Physical Review B, 2009, 79, .	1.1	16
28	Long-time anomalous swimmer diffusion in smectic liquid crystals. Physical Review E, 2018, 97, 062606.	0.8	13
29	Susceptibility of Polar Flocks to Spatial Anisotropy. Physical Review Letters, 2022, 128, .	2.9	13
30	Moving, Reproducing, and Dying Beyond Flatland: Malthusian Flocks in Dimensions <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>d</mml:mi><mml:mo>></mml:mo><mml:mn>2</mml:mn></mml:math>. Physical Review Letters, 2020, 125, 098003.	2.9	12
31	Universality class for a nonequilibrium state of matter: A <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>d</mml:mi><mml:mo>=</mml:mo><mml:mn>2</mml:mn></mml:mr expansion study of Malthusian flocks. Physical Review E, 2020, 102, 022610.	0.8	11
32	Goldstone modes and electromagnon fluctuations in the conical cycloid state of a multiferroic. Physical Review B, 2008, 78, .	1.1	9
33	Rolled Up or Crumpled: Phases of Asymmetric Tethered Membranes. Physical Review Letters, 2019, 122, 218002.	2.9	7
34	Giant number fluctuations in dry active polar fluids: A shocking analogy with lightning rods. Journal of Chemical Physics, 2019, 150, 154120.	1.2	7
35	Fluctuation-induced first-order transition inp-wave superconductors. Physical Review B, 2009, 79, .	1.1	6
36	Darcyâ€™s Law without Friction in Active Nematic Rheology. Physical Review Letters, 2020, 124, 187801.	2.9	6

#	Article	IF	Citations
37	Ginzburg-Landau theory for the conical cycloid state in multiferroics: Applications toCoCr2O4. Physical Review B, 2008, 78, .	1.1	5
38	Statistical mechanics of asymmetric tethered membranes: Spiral and crumpled phases. Physical Review E, 2019, 99, 053004.	0.8	4
39	Elasticity, fluctuations, and vortex pinning in ferromagnetic superconductors: A columnar elastic glass. Physical Review B, 2005, 71, .	1.1	3
40	Macroscopic traveling packet and soliton states of quasi-one-dimensional flocks. Physical Review E, 2014, 89, 052711.	0.8	3
41	Squeezed in three dimensions, moving in two: Hydrodynamic theory of three-dimensional incompressible easy-plane polar active fluids. Physical Review E, 2018, 98, .	0.8	3
42	Hydrodynamic theory of flocking at a solid-liquid interface: Long-range order and giant number fluctuations. Physical Review E, 2021, 104, 064611.	0.8	2
43	Swarming Bottom Feeders: Flocking at Solid-Liquid Interfaces. Physical Review Letters, 2021, 127, 268004.	2.9	2
44	Fast wandering of slow birds. Physical Review E, 2011, 84, 061913.	0.8	0
45	Reply to â€œComment on â€˜Fluctuation-induced first-order transition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-wave superconductorsâ€™â€‰â€. Physical Review B, 2013, 87, .	1.1	0