

Gregory M Grason

List of Publications by Year in descending order

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64
papers

2,306
citations

218677

26
h-index

223800

46
g-index

65
all docs

65
docs citations

65
times ranked

2388
citing authors

#	ARTICLE	IF	CITATIONS
1	New frontiers for the materials genome initiative. <i>Npj Computational Materials</i> , 2019, 5, .	8.7	312
2	Geometric Theory of Diblock Copolymer Phases. <i>Physical Review Letters</i> , 2003, 91, 058304.	7.8	174
3	Interfaces in Diblocks: A Study of Miktoarm Star Copolymers. <i>Macromolecules</i> , 2004, 37, 7371-7380.	4.8	129
4	Chirality and Equilibrium Biopolymer Bundles. <i>Physical Review Letters</i> , 2007, 99, 098101.	7.8	112
5	Stable Frank-Kasper phases of self-assembled, soft matter spheres. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 10233-10238.	7.1	111
6	Perspective: Geometrically frustrated assemblies. <i>Journal of Chemical Physics</i> , 2016, 145, .	3.0	96
7	Seeing mesoatomic distortions in soft-matter crystals of a double-gyroid block copolymer. <i>Nature</i> , 2019, 575, 175-179.	27.8	78
8	Morphology selection via geometric frustration in chiral filament bundles. <i>Nature Materials</i> , 2016, 15, 727-732.	27.5	59
9	Measuring Cohesion between Macromolecular Filaments One Pair at a Time: Depletion-Induced Microtubule Bundling. <i>Physical Review Letters</i> , 2015, 114, 138102.	7.8	58
10	Universal collapse of stress and wrinkle-to-scar transition in spherically confined crystalline sheets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 12893-12898.	7.1	54
11	Braided bundles and compact coils: The structure and thermodynamics of hexagonally packed chiral filament assemblies. <i>Physical Review E</i> , 2009, 79, 041919.	2.1	48
12	Cooperativity and Frustration in Protein-Mediated Parallel Actin Bundles. <i>Physical Review Letters</i> , 2009, 103, 238102.	7.8	48
13	<i>Colloquium</i> : Geometry and optimal packing of twisted columns and filaments. <i>Reviews of Modern Physics</i> , 2015, 87, 401-419.	45.6	47
14	Equilibrium mechanisms of self-limiting assembly. <i>Reviews of Modern Physics</i> , 2021, 93, .	45.6	46
15	Geometrically incompatible confinement of solids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 1483-1488.	7.1	45
16	Self-consistent field theory of multiply branched block copolymer melts. <i>Physical Review E</i> , 2005, 71, 051801.	2.1	44
17	Non-Euclidean geometry of twisted filament bundle packing. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 10781-10786.	7.1	43
18	Mesophases of soft-sphere aggregates. <i>Soft Matter</i> , 2009, 5, 3629.	2.7	42

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19	Chirality Transfer in Block Copolymer Melts: Emerging Concepts. ACS Macro Letters, 2015, 4, 526-532.	4.8	38
20	Chirality in Block Copolymer Melts: Mesoscopic Helicity from Intersegment Twist. Physical Review Letters, 2013, 110, 058301.	7.8	37
21	Generalizing the effects of chirality on block copolymer assembly. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4080-4089.	7.1	37
22	Emergent Structure of Multidislocation Ground States in Curved Crystals. Physical Review Letters, 2014, 112, 225502.	7.8	35
23	Defects in crystalline packings of twisted filament bundles. I. Continuum theory of disclinations. Physical Review E, 2012, 85, 031603.	2.1	34
24	Topological Defects in Twisted Bundles of Two-Dimensionally Ordered Filaments. Physical Review Letters, 2010, 105, 045502.	7.8	32
25	Ordered phases of diblock copolymers in selective solvent. Journal of Chemical Physics, 2007, 126, 114904.	3.0	29
26	Anatomy of triply-periodic network assemblies: characterizing skeletal and inter-domain surface geometry of block copolymer gyroids. Soft Matter, 2018, 14, 3612-3623.	2.7	29
27	Neutral versus charged defect patterns in curved crystals. Physical Review E, 2016, 94, 013003.	2.1	28
28	Ground States of Crystalline Caps: Generalized Jellium on Curved Space. Physical Review Letters, 2019, 123, 145501.	7.8	28
29	Block Copolymers beneath the Surface: Measuring and Modeling Complex Morphology at the Subdomain Scale. Macromolecules, 2021, 54, 9223-9257.	4.8	27
30	Topological defects, surface geometry and cohesive energy of twisted filament bundles. Soft Matter, 2013, 9, 8327.	2.7	25
31	Chiral twisting in a bacterial cytoskeletal polymer affects filament size and orientation. Nature Communications, 2020, 11, 1408.	12.8	24
32	Oriental interactions in block copolymer melts: Self-consistent field theory. Journal of Chemical Physics, 2012, 137, 104911.	3.0	23
33	How geometric frustration shapes twisted fibres, inside and out: competing morphologies of chiral filament assembly. Interface Focus, 2017, 7, 20160140.	3.0	23
34	Chiral and achiral mechanisms of self-limiting assembly of twisted bundles. Soft Matter, 2020, 16, 1102-1116.	2.7	22
35	Subjamming transition in binary sphere mixtures. Physical Review E, 2017, 96, 052905.	2.1	19
36	Intradomain Textures in Block Copolymers: Multizone Alignment and Biaxiality. Physical Review Letters, 2017, 118, 247801.	7.8	19

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37	Theory of crosslinked bundles of helical filaments: Intrinsic torques in self-limiting biopolymer assemblies. <i>Journal of Chemical Physics</i> , 2011, 135, 035104.	3.0	18
38	Frustrated Polyelectrolyte Bundles and $T=0$ Josephson-Junction Arrays. <i>Physical Review Letters</i> , 2006, 97, 027802.	7.8	17
39	Defects in crystalline packings of twisted filament bundles. II. Dislocations and grain boundaries. <i>Physical Review E</i> , 2012, 85, 031604.	2.1	16
40	Shape Selection of Surface-Bound Helical Filaments: Biopolymers on Curved Membranes. <i>Biophysical Journal</i> , 2016, 111, 1575-1585.	0.5	15
41	Persistence of Perfect Packing in Twisted Bundles of Elastic Filaments. <i>Physical Review Letters</i> , 2018, 120, 248002.	7.8	15
42	Formation of H* Phase in Chiral Block Copolymers: Morphology Evolution As Revealed by Time-Resolved X-ray Scattering. <i>Macromolecules</i> , 2013, 46, 474-483.	4.8	14
43	Structural reorganization of parallel actin bundles by crosslinking proteins: Incommensurate states of twist. <i>Physical Review E</i> , 2010, 82, 051919.	2.1	13
44	A cornerstone of complex crystals. <i>Nature Chemistry</i> , 2019, 11, 865-867.	13.6	13
45	Medial packing and elastic asymmetry stabilize the double-gyroid in block copolymers. <i>Nature Communications</i> , 2022, 13, 2629.	12.8	12
46	Conformational collapse of surface-bound helical filaments. <i>Soft Matter</i> , 2012, 8, 9460.	2.7	11
47	Thermodynamic Size Control in Curvature-Frustrated Tubules: Self-Limitation with Open Boundaries. <i>ACS Nano</i> , 2022, 16, 9077-9085.	14.6	11
48	Tensorial conservation law for nematic polymers. <i>Physical Review E</i> , 2013, 88, 052603.	2.1	10
49	Measuring geometric frustration in twisted inextensible filament bundles. <i>Physical Review E</i> , 2017, 95, 052503.	2.1	10
50	Frustration and packing in curved-filament assemblies: from isometric to isomorphic bundles. <i>Soft Matter</i> , 2013, 9, 6761.	2.7	8
51	Phase diagram of chiral biopolymer Wigner crystals. <i>Physical Review E</i> , 2007, 76, 021924.	2.1	7
52	Constant spacing in filament bundles. <i>New Journal of Physics</i> , 2019, 21, 062001.	2.9	7
53	Conformational switching of chiral colloidal rafts regulates raft-raft attractions and repulsions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 15792-15801.	7.1	7
54	All twist and no bend makes raft edges splay: Spontaneous curvature of domain edges in colloidal membranes. <i>Science Advances</i> , 2020, 6, eaba2331.	10.3	6

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55	End-exclusion zones in strongly stretched, molten polymer brushes of arbitrary shape. <i>Journal of Chemical Physics</i> , 2021, 155, 224901.	3.0	5
56	Breaking Mirror Symmetry of Double Gyroids via Self-Assembly of Chiral Block Copolymers. <i>ACS Macro Letters</i> , 2022, 11, 930-934.	4.8	5
57	Focusing frustration for self-limiting assembly of flexible, curved particles. <i>Physical Review Research</i> , 2022, 4, .	3.6	5
58	Continuous Crystallization in Hexagonally Ordered Materials. <i>Physical Review Letters</i> , 2008, 101, 105702.	7.8	4
59	Geometry of flexible filament cohesion: Better contact through twist?. <i>Journal of Chemical Physics</i> , 2014, 141, 174904.	3.0	4
60	Intradomain phase transitions in flexible block copolymers with self-aligning segments. <i>Journal of Chemical Physics</i> , 2018, 148, 174905.	3.0	4
61	Switchable positioning of plate-like inclusions in lipid membranes: Elastically mediated interactions of planar colloids in 2D fluids. <i>Science Advances</i> , 2021, 7, .	10.3	4
62	Stress accumulation versus shape flattening in frustrated, warped-jigsaw particle assemblies. <i>New Journal of Physics</i> , 2022, 24, 063023.	2.9	4
63	Defects in conformal crystals: Discrete versus continuous disclination models. <i>Physical Review E</i> , 2021, 104, 034614.	2.1	3
64	Mechanics of Metric Frustration in Contorted Filament Bundles: From Local Symmetry to Columnar Elasticity. <i>Physical Review Letters</i> , 2021, 127, 218002.	7.8	2