Bo Li

List of Publications by Year
in descending order

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116 papers	3,759 citations	185998 28 h-index	155451 55 g-index
118 all docs	118 docs citations	118 times ranked	3726 citing authors

#	Article	IF	Citations
1	Mechanics of morphological instabilities and surface wrinkling in soft materials: a review. Soft Matter, 2012, 8, 5728.	1.2	620
2	Surface Wrinkling Patterns on a Core-Shell Soft Sphere. Physical Review Letters, 2011, 106, 234301.	2.9	207
3	Surface wrinkling of mucosa induced by volumetric growth: Theory, simulation and experiment. Journal of the Mechanics and Physics of Solids, 2011, 59, 758-774.	2.3	196
4	Polarity mechanisms such as contact inhibition of locomotion regulate persistent rotational motion of mammalian cells on micropatterns. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14770-14775.	3.3	131
5	Coherent Motions in Confluent Cell Monolayer Sheets. Biophysical Journal, 2014, 107, 1532-1541.	0.2	105
6	Volume regulation and shape bifurcation in the cell nucleus. Journal of Cell Science, 2015, 128, 3375-85.	1.2	104
7	Surface effects on the elastic modulus of nanoporous materials. Applied Physics Letters, 2009, 94, .	1.5	96
8	Deep neural network method for predicting the mechanical properties of composites. Applied Physics Letters, 2019, 115, .	1.5	88
9	A multiscale crack-bridging model of cellulose nanopaper. Journal of the Mechanics and Physics of Solids, 2017, 103, 22-39.	2.3	75
10	Growth and surface folding of esophageal mucosa: A biomechanical model. Journal of Biomechanics, 2011, 44, 182-188.	0.9	70
11	Programmable and robust static topological solitons in mechanical metamaterials. Nature Communications, 2019, 10, 5605.	5.8	69
12	Surface wrinkling and folding of coreâ€“shell soft cylinders. Soft Matter, 2012, 8, 556-562.	1.2	68
13	A Tensegrity Model of Cell Reorientation on Cyclically Stretched Substrates. Biophysical Journal, 2016, 111, 1478-1486.	0.2	65
14	Dynamic Migration Modes of Collective Cells. Biophysical Journal, 2018, 115, 1826-1835.	0.2	63
15	Biochemomechanical poroelastic theory of avascular tumor growth. Journal of the Mechanics and Physics of Solids, 2016, 94, 409-432.	2.3	61
16	Effects of tensionâ€“compression asymmetry on the surface wrinkling of filmâ€“substrate systems. Journal of the Mechanics and Physics of Solids, 2016, 94, 88-104.	2.3	57
17	Activation and synchronization of the oscillatory morphodynamics in multicellular monolayer. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8157-8162.	3.3	57
18	Bacterial growth and form under mechanical compression. Scientific Reports, 2015, 5, 11367.	1.6	52

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19	Surface effects in various bending-based test methods for measuring the elastic property of nanowires. Nanotechnology, 2010, 21, 205702.	1.3	47
20	Effects of nanofiber orientations on the fracture toughness of cellulose nanopaper. Engineering Fracture Mechanics, 2018, 194, 350-361.	2.0	47
21	Revisiting the Critical Condition for the Cassieâ€“Wenzel Transition on Micropillar-Structured Surfaces. Langmuir, 2018, 34, 3838-3844.	1.6	45
22	Efficient Navigation of Colloidal Robots in an Unknown Environment via Deep Reinforcement Learning. Advanced Intelligent Systems, 2020, 2, 1900106.	3.3	40
23	Friction of Droplets Sliding on Microstructured Superhydrophobic Surfaces. Langmuir, 2017, 33, 13480-13489.	1.6	39
24	Cell density and actomyosin contractility control the organization of migrating collectives within an epithelium. Molecular Biology of the Cell, 2016, 27, 3459-3470.	0.9	36
25	Wrinkling micropatterns regulated by a hard skin layer with a periodic stiffness distribution on a soft material. Applied Physics Letters, 2016, 108, 021903.	1.5	34
26	Energetics of mesoscale cell turbulence in two-dimensional monolayers. Communications Physics, 2021, 4, .	2.0	34
27	Biomechanical modeling of surface wrinkling of soft tissues with growth-dependent mechanical properties. Acta Mechanica Solida Sinica, 2012, 25, 483-492.	1.0	32
28	A non-equilibrium thermodynamic model for tumor extracellular matrix with enzymatic degradation. Journal of the Mechanics and Physics of Solids, 2017, 104, 32-56.	2.3	32
29	Morphomechanics of bacterial biofilms undergoing anisotropic differential growth. Applied Physics Letters, 2016, 109, .	1.5	31
30	Buckling and postbuckling of a compressed thin film bonded on a soft elastic layer: a three-dimensional analysis. Archive of Applied Mechanics, 2010, 80, 175-188.	1.2	30
31	Collective dynamics of cancer cells confined in a confluent monolayer of normal cells. Journal of Biomechanics, 2017, 52, 140-147.	0.9	30
32	Experimental and theoretical studies on the morphogenesis of bacterial biofilms. Soft Matter, 2017, 13, 7389-7397.	1.2	30
33	Disentangling longitudinal and shear elastic waves by neo-Hookean soft devices. Applied Physics Letters, 2015, 106, .	1.5	28
34	How do changes at the cell level affect the mechanical properties of epithelial monolayers?. Soft Matter, 2015, 11, 8782-8788.	1.2	28
35	Mechanical Roles of F-Actin in the Differentiation of Stem Cells: A Review. ACS Biomaterials Science and Engineering, 2019, 5, 3788-3801.	2.6	28
36	Surface Wrinkling Patterns of Filmâ€“Substrate Systems With a Structured Interface. Journal of Applied Mechanics, Transactions ASME, 2015, 82, .	1.1	27

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37	Stability of Cassie-Baxter wetting states on microstructured surfaces. Physical Review E, 2016, 94, 042801.	0.8	27
38	Handedness-dependent hyperelasticity of biological soft fibers with multilayered helical structures. International Journal of Non-Linear Mechanics, 2016, 81, 19-29.	1.4	26
39	Micro/Nano Motor Navigation and Localization via Deep Reinforcement Learning. Advanced Theory and Simulations, 2020, 3, 2000034.	1.3	26
40	Quantum dots-reinforced luminescent silkworm silk with superior mechanical properties and highly stable fluorescence. Journal of Materials Science, 2019, 54, 9945-9957.	1.7	25
41	A nonlinear poroelastic theory of solid tumors with glycosaminoglycan swelling. Journal of Theoretical Biology, 2017, 433, 49-56.	0.8	24
42	Engineering Surface Patterns with Shape Memory Polymers: Multiple Design Dimensions for Diverse and Hierarchical Structures. ACS Applied Materials & Interfaces, 2019, 11, 1563-1570.	4.0	23
43	Collective dynamics of coherent motile cells on curved surfaces. Soft Matter, 2020, 16, 2941-2952.	1.2	23
44	Biochemomechanical modeling of vascular collapse in growing tumors. Journal of the Mechanics and Physics of Solids, 2018, 121, 463-479.	2.3	22
45	Fracture toughness analysis of helical fiber-reinforced biocomposites. Journal of the Mechanics and Physics of Solids, 2021, 146, 104206.	2.3	22
46	A molecular mechanisms-based biophysical model for two-phase cell spreading. Applied Physics Letters, 2010, 96, 043703.	1.5	21
47	Wrinkling pattern evolution of cylindrical biological tissues with differential growth. Physical Review E, 2015, 91, 012403.	0.8	21
48	Surface wrinkling of anisotropic films bonded on a compliant substrate. International Journal of Solids and Structures, 2018, 141-142, 219-231.	1.3	21
49	Functional gradient effects on the energy absorption of spider orb webs. Applied Physics Letters, 2018, 113, .	1.5	21
50	Ultrastructural organization of NompC in the mechanoreceptive organelle of Drosophila campaniform mechanoreceptors. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7343-7352.	3.3	21
51	Mechanisms of electromechanical wrinkling for highly stretched substrate-free dielectric elastic membrane. Journal of the Mechanics and Physics of Solids, 2019, 122, 520-537.	2.3	21
52	Theoretical study of the competition between cell-cell and cell-matrix adhesions. Physical Review E, 2009, 80, 011921.	0.8	20
53	Self-assembled lipid nanostructures encapsulating nanoparticles in aqueous solution. Soft Matter, 2009, 5, 3977.	1.2	19
54	Effects of internal pressure and surface tension on the growth-induced wrinkling of mucosae. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 594-601.	1.5	19

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55	A dynamic cellular vertex model of growing epithelial tissues. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 250-259.	1.5	19
56	Spontaneous instability of soft thin films on curved substrates due to van der Waals interaction. Journal of the Mechanics and Physics of Solids, 2011, 59, 610-624.	2.3	18
57	Buckling and postbuckling of stiff lamellae in a compliant matrix. Composites Science and Technology, 2014, 99, 89-95.	3.8	18
58	Dynamic instability and migration modes of collective cells in channels. Journal of the Royal Society Interface, 2019, 16, 20190258.	1.5	18
59	Bio-chemo-mechanical theory of active shells. Journal of the Mechanics and Physics of Solids, 2021, 152, 104419.	2.3	18
60	Mechanical instability generated by Myosin 19 contributes to mitochondria cristae architecture and OXPHOS. Nature Communications, 2022, 13, 2673.	5.8	18
61	Three-dimensional analysis of spontaneous surface instability and pattern formation of thin soft films. Journal of Applied Physics, 2008, 103, 083501.	1.1	16
62	Determination of the elastic modulus of micro- and nanowires/tubes using a buckling-based metrology. Scripta Materialia, 2009, 61, 1044-1047.	2.6	16
63	An oscillating dynamic model of collective cells in a monolayer. Journal of the Mechanics and Physics of Solids, 2018, 112, 650-666.	2.3	16
64	Ciona embryonic tail bending is driven by asymmetrical notochord contractility and coordinated by epithelial proliferation. Development (Cambridge), 2020, 147, .	1.2	16
65	Surface patterning of soft polymer film-coated cylinders via an electric field. Journal of Physics Condensed Matter, 2009, 21, 445006.	0.7	15
66	Surface wrinkling of nanostructured thin films on a compliant substrate. Computational Materials Science, 2010, 49, 767-772.	1.4	15
67	Bioâ€“chemoâ€“mechanical modeling of growing biological tissues: Finite element method. International Journal of Non-Linear Mechanics, 2019, 108, 46-54.	1.4	14
68	Dislocation-based semi-analytical method for calculating stress intensity factors of cracks: Two-dimensional cases. Engineering Fracture Mechanics, 2010, 77, 3521-3531.	2.0	13
69	Bulge test method for measuring the hyperelastic parameters of soft membranes. Acta Mechanica, 2017, 228, 4187-4197.	1.1	13
70	Universal Statistical Laws for the Velocities of Collective Migrating Cells. Advanced Biology, 2020, 4, e2000065.	3.0	13
71	Mucosal wrinkling in animal antra induced by volumetric growth. Applied Physics Letters, 2011, 98, .	1.5	12
72	A Role of BK Channel in Regulation of Ca 2+ Channel in Ventricular Myocytes by Substrate Stiffness. Biophysical Journal, 2017, 112, 1406-1416.	0.2	12

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73	Wrinkling patterns in soft shells. Soft Matter, 2018, 14, 1681-1688.	1.2	12
74	Buckling of growing bacterial chains. Journal of the Mechanics and Physics of Solids, 2020, 145, 104146.	2.3	11
75	Pattern Formation and Defect Ordering in Active Chiral Nematics. Physical Review Letters, 2020, 125, 098002.	2.9	11
76	Determining the elastic modulus of thin films using a buckling-based method: computational study. Journal Physics D: Applied Physics, 2009, 42, 175506.	1.3	10
77	Tissueâ€“Growth Model for the Swelling Analysis of Coreâ€“Shell Hydrogels. Soft Materials, 2013, 11, 117-124.	0.8	10
78	Collective oscillation in dense suspension of self-propelled chiral rods. Soft Matter, 2019, 15, 2999-3007.	1.2	10
79	Edge wrinkling of a soft ridge with gradient thickness. Applied Physics Letters, 2017, 110, .	1.5	9
80	Swertia mussotii extracts induce mitochondria-dependent apoptosis in gastric cancer cells. Biomedicine and Pharmacotherapy, 2018, 104, 603-612.	2.5	9
81	Multiscale fracture mechanics model for the dorsal closure in Drosophila embryogenesis. Journal of the Mechanics and Physics of Solids, 2019, 127, 154-166.	2.3	9
82	Micromechanics methods for evaluating the effective moduli of soft neo-Hookean composites. Archive of Applied Mechanics, 2016, 86, 219-234.	1.2	8
83	Line tension effects on the wetting of nanostructures: an energy method. Nanotechnology, 2017, 28, 384001.	1.3	8
84	Voltage-Induced Wrinkle Performance in a Hydrogel by Dielectric Elastomer Actuation. Polymers, 2018, 10, 697.	2.0	8
85	A micromechanical model of tendon and ligament with crimped fibers. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 112, 104086.	1.5	8
86	Mesoscopic dynamic model of epithelial cell division with cell-cell junction effects. Physical Review E, 2020, 102, 012405.	0.8	8
87	Brownian Cargo Capture in Mazes via Intelligent Colloidal Microrobot Swarms. Advanced Intelligent Systems, 2021, 3, 2100115.	3.3	8
88	Morphological instability of spherical soft particles induced by surface charges. Applied Physics Letters, 2009, 95, 021903.	1.5	7
89	Heat Stress-Induced Multiple Multipolar Divisions of Human Cancer Cells. Cells, 2019, 8, 888.	1.8	7
90	Regulating wrinkling patterns by periodic surface stiffness in film-substrate structures. Science China Technological Sciences, 2019, 62, 747-754.	2.0	7

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91	A simulation algorithm for Brownian dynamics on complex curved surfaces. Journal of Chemical Physics, 2019, 151, 164901.	1.2	7
92	Three-dimensional collective cell motions in an acinus-like lumen. Journal of Biomechanics, 2019, 84, 234-242.	0.9	7
93	Torsion Instability of Anisotropic Cylindrical Tissues with Growth. Acta Mechanica Solida Sinica, 2019, 32, 621-632.	1.0	6
94	Morphomechanics of tumors. Current Opinion in Biomedical Engineering, 2020, 15, 51-58.	1.8	6
95	Formation and propagation of solitonlike defect clusters in confined active nematics with chiral anchoring. Physical Review Research, 2021, 3, .	1.3	6
96	Wrinkling of thin films on a microstructured substrate. Mechanics of Advanced Materials and Structures, 2018, 25, 975-981.	1.5	5
97	A cell-based model for analyzing growth and invasion of tumor spheroids. Science China Technological Sciences, 2019, 62, 1341-1348.	2.0	5
98	Mechanical adaptions of collective cells nearby free tissue boundaries. Journal of Biomechanics, 2020, 104, 109763.	0.9	5
99	Nano/Micromotors in Active Matter. Micromachines, 2022, 13, 307.	1.4	5
100	Microbead-regulated surface wrinkling patterns in a filmâ€“substrate system. Applied Physics Letters, 2017, 111, .	1.5	4
101	A function of fascin1 in the colony formation of mouse embryonic stem cells. Stem Cells, 2020, 38, 1078-1090.	1.4	3
102	Collective migrations in an epithelialâ€“cancerous cell monolayer. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 773-784.	1.5	3
103	EML webinar overview: Dynamics of collective cells. Extreme Mechanics Letters, 2021, 44, 101255.	2.0	3
104	Patterning coexisted micro-/nanostructures for consequential camouflage via mechanical constraint harnessed surface instability. Applied Physics Letters, 2021, 119, .	1.5	3
105	Viscoelastic interaction between a screw dislocation and a circular interfacial rigid line. Central South University, 2007, 14, 359-364.	0.5	2
106	Unusual Sonochemical Assembly between Carbon Allotropes for High Strain-Tolerant Conductive Nanocomposites. ACS Nano, 2019, 13, 12062-12069.	7.3	2
107	Collective Polarization of Cancer Cells at the Monolayer Boundary. Micromachines, 2021, 12, 112.	1.4	2
108	Interaction Between a Screw Dislocation and a Piezoelectric Circular Inhomogeneity with Interfacial Cracks in Viscoelastic Matrix. Applied Rheology, 2006, 16, 102-109.	3.5	1

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109	Interaction between a screw dislocation and a circular inhomogeneity with an interfacial crack in viscoelastic media. Central South University, 2007, 14, 354-358.	0.5	1
110	Response to â€œComment on â€˜Disentangling longitudinal and shear elastic waves by neo-Hookean soft devicesâ€™â€•[Appl. Phys. Lett. 107, 056101 (2015)]. Applied Physics Letters, 2015, 107, .	1.5	1
111	Phase Characterization of Cucumber Growth: A Chemical Gel Model. International Journal of Polymer Science, 2016, 2016, 1-8.	1.2	1
112	The relation between the collective motility and shapes of human cancer cells under heat stress. Applied Physics Letters, 2020, 116, 043703.	1.5	1
113	Advances in collective cell dynamics. Chinese Science Bulletin, 2020, 65, 3100-3117.	0.4	1
114	Self-rotation regulates interface evolution in biphasic active matter through taming defect dynamics. Physical Review E, 2022, 105, .	0.8	1
115	A moving screw dislocation near interfacial rigid lines in two dissimilar anisotropic media. Applied Mathematics and Mechanics (English Edition), 2008, 29, 625-637.	1.9	0
116	Chemo-mechanical feedback in collective cell migration. Biophysical Journal, 2022, 121, 1117-1118.	0.2	0