Qunyang Li

List of Publications by Year
in descending order

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		94433	53230
105	7,580	37	85
papers	citations	h-index	g-index

109	109	109	8289
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Frictional Characteristics of Atomically Thin Sheets. Science, 2010, 328, 76-80.	12.6	1,504
2	Epitaxial growth of a 100-square-centimetre single-crystal hexagonal boron nitride monolayer on copper. Nature, 2019, 570, 91-95.	27.8	422
3	The evolving quality of frictional contact with graphene. Nature, 2016, 539, 541-545.	27.8	389
4	Elastic and frictional properties of graphene. Physica Status Solidi (B): Basic Research, 2009, 246, 2562-2567.	1.5	333
5	Iced photochemical reduction to synthesize atomically dispersed metals by suppressing nanocrystal growth. Nature Communications, 2017, 8, 1490.	12.8	322
6	Adhesion-dependent negative friction coefficient on chemically modified graphite at the nanoscale. Nature Materials, 2012, 11, 1032-1037.	27.5	258
7	Tribology of two-dimensional materials: From mechanisms to modulating strategies. Materials Today, 2019, 26, 67-86.	14.2	250
8	Frictional ageing from interfacial bonding and the origins of rate and state friction. Nature, 2011, 480, 233-236.	27.8	236
9	Substrate effect on thicknessâ€dependent friction on graphene. Physica Status Solidi (B): Basic Research, 2010, 247, 2909-2914.	1.5	206
10	Printable Skinâ€Driven Mechanoluminescence Devices via Nanodoped Matrix Modification. Advanced Materials, 2018, 30, e1800291.	21.0	178
11	Speed Dependence of Atomic Stick-Slip Friction in Optimally Matched Experiments and Molecular Dynamics Simulations. Physical Review Letters, 2011, 106, 126101.	7.8	176
12	Dual-coupling-guided epitaxial growth of wafer-scale single-crystal WS2 monolayer on vicinal a-plane sapphire. Nature Nanotechnology, 2022, 17, 33-38.	31.5	171
13	Lateral force calibration of an atomic force microscope with a diamagnetic levitation spring system. Review of Scientific Instruments, 2006, 77, 065105.	1.3	165
14	Molecular dynamics simulation of atomic friction: A review and guide. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	2.1	147
15	Fluorination of Graphene Enhances Friction Due to Increased Corrugation. Nano Letters, 2014, 14, 5212-5217.	9.1	142
16	Guided Selfâ€Propelled Leaping of Droplets on a Microâ€Anisotropic Superhydrophobic Surface. Angewandte Chemie - International Edition, 2016, 55, 4265-4269.	13.8	135
17	Spontaneous droplets gyrating via asymmetric self-splitting on heterogeneous surfaces. Nature Communications, 2019, 10, 950.	12.8	135
18	Organogel as durable anti-icing coatings. Science China Materials, 2015, 58, 559-565.	6.3	116

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19	Robust ultra-low-friction state of graphene via moirÃ© superlattice confinement. Nature Communications, 2016, 7, 13204.	12.8	116
20	Measurement of specific heat and thermal conductivity of supported and suspended graphene by a comprehensive Raman optothermal method. Nanoscale, 2017, 9, 10784-10793.	5.6	110
21	Bioinspired Solid Organogel Materials with a Regenerable Sacrificial Alkane Surface Layer. Advanced Materials, 2017, 29, 1700865.	21.0	109
22	Wear evolution of monolayer graphene at the macroscale. Carbon, 2017, 115, 600-607.	10.3	93
23	Deep neural network method for predicting the mechanical properties of composites. Applied Physics Letters, 2019, 115, .	3.3	88
24	Superlubricity Enabled by Pressure-Induced Friction Collapse. Journal of Physical Chemistry Letters, 2018, 9, 2554-2559.	4.6	79
25	Scalable Synthesis of 2D Si Nanosheets. Advanced Materials, 2017, 29, 1701777.	21.0	77
26	Tuning friction to a superlubric state via in-plane straining. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24452-24456.	7.1	72
27	Wear Resistance Limited by Step Edge Failure: The Rise and Fall of Graphene as an Atomically Thin Lubricating Material. ACS Applied Materials & Interfaces, 2017, 9, 1099-1106.	8.0	70
28	Droplet Precise Selfâ€Splitting on Patterned Adhesive Surfaces for Simultaneous Multidetection. Angewandte Chemie - International Edition, 2020, 59, 10535-10539.	13.8	65
29	Observation of normal-force-independent superlubricity in mesoscopic graphite contacts. Physical Review B, 2016, 94, .	3.2	62
30	Impacts of environments on nanoscale wear behavior of graphene: Edge passivation vs. substrate pinning. Carbon, 2018, 139, 59-66.	10.3	62
31	State-of-the-Art of Extreme Pressure Lubrication Realized with the High Thermal Diffusivity of Liquid Metal. ACS Applied Materials & Interfaces, 2017, 9, 5638-5644.	8.0	58
32	Nanoscale Adhesive Properties of Graphene: The Effect of Sliding History. Advanced Materials Interfaces, 2014, 1, 1300053.	3.7	55
33	Abnormal conductivity in low-angle twisted bilayer graphene. Science Advances, 2020, 6, .	10.3	54
34	Pattern instability of a soft elastic thin film under van der Waals forces. Mechanics of Materials, 2006, 38, 88-99.	3.2	47
35	Revisiting the Critical Condition for the Cassieâ€“Wenzel Transition on Micropillar-Structured Surfaces. Langmuir, 2018, 34, 3838-3844.	3.5	45
36	Micromechanics of friction: effects of nanometre-scale roughness. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1319-1343.	2.1	44

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37	Functional map of biological and biomimetic materials with hierarchical surface structures. RSC Advances, 2015, 5, 66901-66926.	3.6	43
38	Friction of Droplets Sliding on Microstructured Superhydrophobic Surfaces. Langmuir, 2017, 33, 13480-13489.	3.5	39
39	Observations of 3 nm Silk Nanofibrils Exfoliated from Natural Silkworm Silk Fibers. , 2020, 2, 153-160.		37
40	Ice Melting to Release Reactants in Solution Syntheses. Angewandte Chemie - International Edition, 2018, 57, 3354-3359.	13.8	36
41	MoirÃ© superlattice-level stick-slip instability originated from geometrically corrugated graphene on a strongly interacting substrate. 2D Materials, 2017, 4, 025079.	4.4	33
42	Vacancy-controlled friction on 2D materials: Roughness, flexibility, and chemical reactions. Carbon, 2019, 142, 363-372.	10.3	31
43	Contact stiffness of regularly patterned multi-asperity interfaces. Journal of the Mechanics and Physics of Solids, 2018, 111, 277-289.	4.8	30
44	Mechanical responses of boron-doped monolayer graphene. Carbon, 2019, 147, 594-601.	10.3	28
45	Domino-like stacking order switching in twisted monolayerâ€“multilayer graphene. Nature Materials, 2022, 21, 621-626.	27.5	28
46	Micromechanics of rough surface adhesion: a homogenized projection method. Acta Mechanica Solida Sinica, 2009, 22, 377-390.	1.9	26
47	Understanding osteoblast responses to stiff nanotopographies through experiments and computational simulations. Journal of Biomedical Materials Research - Part A, 2011, 97A, 375-382.	4.0	26
48	Guided Selfâ€Propelled Leaping of Droplets on a Microâ€Anisotropic Superhydrophobic Surface. Angewandte Chemie, 2016, 128, 4337-4341.	2.0	26
49	Effect of shear stress on adhesive contact with a generalized Maugis-Dugdale cohesive zone model. Journal of the Mechanics and Physics of Solids, 2021, 148, 104275.	4.8	25
50	Wrinkle networks in exfoliated multilayer graphene and other layered materials. Carbon, 2020, 156, 24-30.	10.3	23
51	Optocapillarity-driven assembly and reconfiguration of liquid crystal polymer actuators. Nature Communications, 2020, 11, 5780.	12.8	23
52	Atomic Friction Modulation on the Reconstructed Au(111) Surface. Tribology Letters, 2011, 43, 369-378.	2.6	22
53	Friction, slip and structural inhomogeneity of the buried interface. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 065003.	2.0	22
54	Tuning Local Electrical Conductivity via Fine Atomic Scale Structures of Two-Dimensional Interfaces. Nano Letters, 2018, 18, 6030-6036.	9.1	22

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55	Modeling Atomic-Scale Electrical Contact Quality Across Two-Dimensional Interfaces. Nano Letters, 2019, 19, 3654-3662.	9.1	21
56	Dual-Scale Stick-Slip Friction on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Graphene</mml:mtext><mml:mo>/</mml:mo><mml:mrow><mml:mi>h</mml:mi></mml:mrow></mml:mrow></mml:math> MoirÃ© Superlattice Structure. Physical Review Letters, 2022, 128, .	7.8	20
57	The Origin of MoirÃ©â€Level Stickâ€Slip Behavior on Graphene/hâ€BN Heterostructures. Advanced Functional Materials, 2022, 32, .	14.9	20
58	Optical methods for determining thicknesses of few-layer graphene flakes. Nanotechnology, 2013, 24, 505701.	2.6	19
59	Energy corrugation in atomic-scale friction on graphite revisited by molecular dynamics simulations. Acta Mechanica Sinica/Lixue Xuebao, 2016, 32, 604-610.	3.4	19
60	Decohesion of a rigid flat punch from an elastic layer of finite thickness. Journal of the Mechanics and Physics of Solids, 2020, 139, 103937.	4.8	19
61	Elastocapillary cleaning of twisted bilayer graphene interfaces. Nature Communications, 2021, 12, 5069.	12.8	19
62	Lateral force modulation by moirÃ© superlattice structure: Surfing on periodically undulated graphene sheets. Carbon, 2017, 125, 76-83.	10.3	18
63	Disordered Topography Mediates Filopodial Extension and Morphology of Cells on Stiff Materials. Advanced Functional Materials, 2017, 27, 1702689.	14.9	18
64	Synergistic adhesion mechanisms of spider capture silk. Journal of the Royal Society Interface, 2018, 15, 20170894.	3.4	18
65	Spear and Shield: Survival War between Mantis Shrimps and Abalones. Advanced Materials Interfaces, 2015, 2, 1500250.	3.7	17
66	A PMNNâ€PZT Piezoceramic Based Magnetoâ€Mechanoâ€Electric Coupled Energy Harvester. Advanced Functional Materials, 2022, 32, .	14.9	17
67	Mechanical properties of bioinspired bicontinuous nanocomposites. Computational Materials Science, 2013, 80, 71-78.	3.0	15
68	Oxide-assisted growth of scalable single-crystalline graphene with seamlessly stitched millimeter-sized domains on commercial copper foils. RSC Advances, 2018, 8, 8800-8804.	3.6	15
69	Abnormal Raman Characteristics of Graphene Originating from Contact Interface Inhomogeneity. ACS Applied Materials & Interfaces, 2021, 13, 22040-22046.	8.0	14
70	Impacts of the substrate stiffness on the anti-wear performance of graphene. AIP Advances, 2019, 9, .	1.3	13
71	Rateâ€Dependent Decohesion Modes in Grapheneâ€Sandwiched Interfaces. Advanced Materials Interfaces, 2019, 6, 1901217.	3.7	13
72	Universal Statistical Laws for the Velocities of Collective Migrating Cells. Advanced Biology, 2020, 4, e2000065.	3.0	13

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73	Harnessing Friction in Intertwined Structures for Highâ€Capacity Reusable Energyâ€Absorbing Architected Materials. Advanced Science, 2022, 9, e2105769.	11.2	13
74	Mechanical Behavior of Blisters Spontaneously Formed by Multilayer 2D Materials. Advanced Materials Interfaces, 2022, 9, .	3.7	12
75	Sliding friction and contact angle hysteresis of droplets on microhole-structured surfaces. European Physical Journal E, 2018, 41, 25.	1.6	11
76	Metal Nanoparticle Harvesting by Continuous Rotating Electrodeposition and Separation. Matter, 2020, 3, 1294-1307.	10.0	11
77	Adhesion Mechanics between Nanoscale Silicon Oxide Tips and Few-Layer Graphene. Tribology Letters, 2017, 65, 1.	2.6	10
78	Evaluation local strain of twisted bilayer graphene via moirÃ© pattern. Optics and Lasers in Engineering, 2022, 152, 106946.	3.8	10
79	Effect of airborne contaminants on the macroscopic anti-wear performance of chemical vapor deposition graphene. Surface and Coatings Technology, 2020, 383, 125276.	4.8	9
80	Length Scale Effect in Frictional Aging of Silica Contacts. Physical Review Letters, 2020, 125, 215502.	7.8	9
81	Switchable adhesion with a high tuning ratio achieved on polymer surfaces with embedded low-melting-point alloy. Extreme Mechanics Letters, 2021, 49, 101488.	4.1	9
82	Antiwear Performance of Monolayer MoS₂ Modulated by Residual Straining. ACS Applied Nano Materials, 2018, 1, 7092-7097.	5.0	7
83	3D-printed biomimetic surface structures with abnormal friction properties. Extreme Mechanics Letters, 2019, 26, 46-52.	4.1	6
84	Tuning frictional properties of molecularly thin erucamide films through controlled self-assembling. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1041-1049.	3.4	6
85	Tribo-biological deposits on the articulating surfaces of metal-on-polyethylene total hip implants retrieved from patients. Scientific Reports, 2016, 6, 28376.	3.3	5
86	Chemical Vapor Deposition Growth of Graphene Domains Across the Cu Grain Boundaries. Nano, 2018, 13, 1850088.	1.0	5
87	Droplet Precise Selfâ€Splitting on Patterned Adhesive Surfaces for Simultaneous Multidetection. Angewandte Chemie, 2020, 132, 10622-10626.	2.0	5
88	Sequential growth and twisted stacking of chemical-vapor-deposited graphene. Nanoscale Advances, 2021, 3, 983-990.	4.6	5
89	Line Scan Reconstruction: A Viable Approach for Tracking Atomic Stickâ€“Slip Events and True Tip Position in Atomic Force Microscopy. Tribology Letters, 2016, 64, 1.	2.6	3
90	Biomaterials: Disordered Topography Mediates Filopodial Extension and Morphology of Cells on Stiff Materials (Adv. Funct. Mater. 38/2017). Advanced Functional Materials, 2017, 27, .	14.9	3

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91	Tunable friction of monolayer MoS2 by control of interfacial chemistry. Extreme Mechanics Letters, 2020, 41, 100996.	4.1	3
92	Using magnetoelectric effect to reveal magnetization behavior of bulk and heavy ferromagnetic materials. Applied Materials Today, 2021, 23, 101051.	4.3	3
93	Visualizing the Anomalous Catalysis in Two-Dimensional Confined Space. Nano Letters, 2022, 22, 4661-4668.	9.1	3
94	Thickness-dependent frictional behavior of topological insulator Bi2Se3 nanoplates. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	2
95	Vibration-induced nanoscale friction modulation on piezoelectric materials. Friction, 2022, 10, 1650-1659.	6.4	2
96	Abnormal anti-oxidation behavior of hexagonal boron nitride grown on copper. Nano Research, 2022, 15, 7577-7583.	10.4	2
97	Extremely Iceâ€Detached Array of Pine Needleâ€Inspired Concaveâ€Cone Pillars. Advanced Materials Interfaces, 2020, 7, 1901714.	3.7	1
98	Toward micro- and nanoscale robust superlubricity by 2D materials. , 2021, , 131-144.		1
99	Electric resistance as a sensitive measure for detecting graphene wear during macroscale tribological tests. Science China Technological Sciences, 2021, 64, 179-186.	4.0	1
100	Maugis-Tabor parameter dependence of pull-off in viscoelastic line Hertzian contacts. Journal of Adhesion, 0, , 1-16.	3.0	1
101	Atomic stick-slip friction as a two-dimensional thermally activated process. Physical Review B, 2022, 105, .	3.2	1
102	The Impact of Material Nanotopography on Cell Functions and Filopodia Extension: Experiments and Modeling. Materials Research Society Symposia Proceedings, 2009, 1236, 1.	0.1	0
103	Toward a probe-based method for determining exfoliation energies of lamellar materials. , 2012, , .		0
104	RÃ¼cktitelbild: Droplet Precise Selfâ€Splitting on Patterned Adhesive Surfaces for Simultaneous Multidetection (Angew. Chem. 26/2020). Angewandte Chemie, 2020, 132, 10754-10754.	2.0	0
105	Mechanical Behavior of Blisters Spontaneously Formed by Multilayer 2D Materials (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlock	3.7	0