

Contact between rough surfaces and a criterion for macroscopic contact

Proceedings of the National Academy of Sciences of the United States of America  
111, 3298-3303

DOI: [10.1073/pnas.1320846111](https://doi.org/10.1073/pnas.1320846111)

Citation Report

#	ARTICLE	IF	CITATIONS
2	The Contact of Elastic Regular Wavy Surfaces Revisited. Tribology Letters, 2014, 56, 171-183.	1.2	39
3	Verifying the functional ability of microstructured surfaces by model-based testing. Measurement Science and Technology, 2014, 25, 094012.	1.4	4
4	Theory of adhesion: Role of surface roughness. Journal of Chemical Physics, 2014, 141, 124701.	1.2	162
5	Systematic analysis of Persson's contact mechanics theory of randomly rough elastic surfaces. Journal of Physics Condensed Matter, 2014, 26, 355002.	0.7	33
6	Dependence of Polymer Thin Film Adhesion Energy on Cohesive Interactions between Chains. Macromolecules, 2014, 47, 5286-5294.	2.2	44
7	Interpreting the probe-surface interaction of surface measuring instruments, or what is a surface?. Surface Topography: Metrology and Properties, 2014, 2, 035001.	0.9	22
8	Surface passivation and boundary lubrication of self-mated tetrahedral amorphous carbon asperities under extreme tribological conditions. Friction, 2014, 2, 193-208.	3.4	29
9	Guest editorial: Special issue on superlubricity. Friction, 2014, 2, 93-94.	3.4	4
10	Loading-unloading hysteresis loop of randomly rough adhesive contacts. Physical Review E, 2015, 92, 062404.	0.8	34
11	General contact mechanics theory for randomly rough surfaces with application to rubber friction. Journal of Chemical Physics, 2015, 143, 224111.	1.2	28
12	Nano-adhesion and friction of multi-asperity contact: a molecular dynamics simulation study. Surface and Interface Analysis, 2015, 47, 919-925.	0.8	12
13	A Technique for the Experimental Determination of the Length and Strength of Adhesive Interactions Between Effectively Rigid Materials. Tribology Letters, 2015, 59, 1.	1.2	24
14	Wetting and phase separation in soft adhesion. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14490-14494.	3.3	73
15	Adhesion and Wetting of Soft Nanoparticles on Textured Surfaces: Transition between Wenzel and Cassie-Baxter States. Langmuir, 2015, 31, 1693-1703.	1.6	22
16	Investigation of a self-assembling microgel containing an (S)-propranolol molecularly imprinted polymer in a native tissue microenvironment: Part I. Preparation and characterization. Process Biochemistry, 2015, 50, 517-544.	1.8	4
17	Scaling and biomechanics of surface attachment in climbing animals. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140027.	1.8	108
18	Contact mechanics of and Reynolds flow through saddle points: On the coalescence of contact patches and the leakage rate through near-critical constrictions. Europhysics Letters, 2015, 109, 44001.	0.7	19
19	Diffusive versus Displacive Contact Plasticity of Nanoscale Asperities: Temperature- and Velocity-Dependent Strongest Size. Nano Letters, 2015, 15, 6582-6585.	4.5	35

#	ARTICLE	IF	CITATIONS
20	Adhesive rough contacts near complete contact. International Journal of Mechanical Sciences, 2015, 104, 104-111.	3.6	30
21	Effect of a Fatty Acid Additive on the Kinetic Friction and Stiction of Confined Liquid Lubricants. Tribology Letters, 2016, 64, 1.	1.2	14
22	Contact area of rough spheres: Large scale simulations and simple scaling laws. Applied Physics Letters, 2016, 108, .	1.5	79
23	Silicone Rubber Adhesion and Sliding Friction. Tribology Letters, 2016, 62, 1.	1.2	19
24	Nanoparticles as Adhesives for Soft Polymeric Materials. Macromolecules, 2016, 49, 3586-3592.	2.2	28
25	Molecular Dynamics Simulations of the Effect of Elastocapillarity on Reinforcement of Soft Polymeric Materials by Liquid Inclusions. Macromolecules, 2016, 49, 7108-7115.	2.2	12
26	Contact between two plastically deformable crystals: a discrete dislocation dynamics study. Philosophical Magazine, 2016, 96, 2583-2599.	0.7	2
27	Multiscale Contact Mechanics with Application to Seals and Rubber Friction on Dry and Lubricated Surfaces. Advances in Polymer Science, 2016, , 103-156.	0.4	11
28	Prediction of the friction coefficient of filled rubber sliding on dry and wet surfaces with self-affine large roughness. Mechanical Engineering Journal, 2016, 3, 15-00084-15-00084.	0.2	12
29	High-Performance Flexible Thermoelectric Power Generator Using Laser Multiscanning Lift-Off Process. ACS Nano, 2016, 10, 10851-10857.	7.3	199
30	Adhesion of rigid rough contacts with bounded distribution of heights. Tribology International, 2016, 100, 18-23.	3.0	15
31	On a recent stickiness criterion using a very simple generalization of DMT theory of adhesion. Journal of Adhesion Science and Technology, 2016, 30, 2725-2735.	1.4	8
32	On the dependency of friction on load: Theory and experiment. Europhysics Letters, 2016, 113, 56002.	0.7	17
33	Fracture and adhesion of soft materials: a review. Reports on Progress in Physics, 2016, 79, 046601.	8.1	539
34	van der Waals force-induced crack healing in dry rough interfaces. Journal Physics D: Applied Physics, 2016, 49, 075303.	1.3	5
35	Shearing Nanometer-Thick Confined Hydrocarbon Films: Friction and Adhesion. Tribology Letters, 2016, 62, 1.	1.2	6
36	A dimensionless measure for adhesion and effects of the range of adhesion in contacts of nominally flat surfaces. Tribology International, 2016, 100, 41-47.	3.0	44
37	Composite Pillars with a Tunable Interface for Adhesion to Rough Substrates. ACS Applied Materials & Interfaces, 2017, 9, 1036-1044.	4.0	77

#	ARTICLE	IF	CITATIONS
38	Quantitative characterization of surface topography using spectral analysis. <i>Surface Topography: Metrology and Properties</i> , 2017, 5, 013001.	0.9	296
39	On Pastewka and Robbins' Criterion for Macroscopic Adhesion of Rough Surfaces. <i>Journal of Tribology</i> , 2017, 139, .	1.0	12
40	Effect of fine-scale roughness on the tractions between contacting bodies. <i>Tribology International</i> , 2017, 111, 52-56.	3.0	31
41	Adhesion between self-affine rough surfaces: Possible large effects in small deviations from the nominally Gaussian case. <i>Tribology International</i> , 2017, 109, 435-440.	3.0	12
42	The effect of surface roughness and viscoelasticity on rubber adhesion. <i>Soft Matter</i> , 2017, 13, 3602-3621.	1.2	89
43	Normal adhesive contact on rough surfaces: efficient algorithm for FFT-based BEM resolution. <i>Computational Mechanics</i> , 2017, 60, 69-81.	2.2	48
44	On the accurate computation of the true contact-area in mechanical contact of random rough surfaces. <i>Tribology International</i> , 2017, 114, 161-171.	3.0	48
45	Bomb swab: Can trace explosive particle sampling and detection be improved?. <i>Talanta</i> , 2017, 174, 92-99.	2.9	39
46	On the use of DMT approximations in adhesive contacts, with remarks on random rough contacts. <i>Tribology International</i> , 2017, 114, 445-449.	3.0	12
47	A random process asperity model for adhesion between rough surfaces. <i>Journal of Adhesion Science and Technology</i> , 2017, 31, 2445-2467.	1.4	8
48	The effect of surface texture on the kinetic friction of a nanowire on a substrate. <i>Scientific Reports</i> , 2017, 7, 44907.	1.6	11
49	A note on the pull-off force for a pattern of contacts distributed over a halfspace. <i>Meccanica</i> , 2017, 52, 2865-2871.	1.2	3
50	Linking microstructural evolution and macro-scale friction behavior in metals. <i>Journal of Materials Science</i> , 2017, 52, 2780-2799.	1.7	75
51	Contact and Deformation of Randomly Rough Surfaces with Varying Root-Mean-Square Gradient. <i>Tribology Letters</i> , 2017, 65, 1.	1.2	17
52	Measuring and Understanding Contact Area at the Nanoscale: A Review. <i>Applied Mechanics Reviews</i> , 2017, 69, .	4.5	73
53	Discussion of "Measuring and Understanding Contact Area at the Nanoscale: A Review" (Jacobs, T. D.) <i>Tribology International</i> , 2017, 114, 445-449.	4.5	20
54	Meeting the Contact-Mechanics Challenge. <i>Tribology Letters</i> , 2017, 65, 1.	1.2	232
55	The role of the roughness spectral breadth in elastic contact of rough surfaces. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 107, 469-493.	2.3	42

#	ARTICLE	IF	CITATIONS
56	Rubber contact mechanics: adhesion, friction and leakage of seals. <i>Soft Matter</i> , 2017, 13, 9103-9121.	1.2	47
57	Friction and Wear in Micro- and Nanomachines. <i>Springer Handbooks</i> , 2017, , 1417-1435.	0.3	1
58	Combined effect of surface microgeometry and adhesion in normal and sliding contacts of elastic bodies. <i>Friction</i> , 2017, 5, 339-350.	3.4	21
59	Soft Matter Lubrication: Does Solid Viscoelasticity Matter?. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 42287-42295.	4.0	50
60	On the debris-level origins of adhesive wear. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 7935-7940.	3.3	77
61	Role of Preload in Adhesion of Rough Surfaces. <i>Physical Review Letters</i> , 2017, 118, 238001.	2.9	36
62	Gauging Persson Theory on Adhesion. <i>Tribology Letters</i> , 2017, 65, 1.	1.2	28
63	Rubber adhesion below the glass transition temperature: Role of frozen-in elastic deformation. <i>Europhysics Letters</i> , 2017, 120, 36002.	0.7	9
64	Greenâ€™s function molecular dynamics meets discrete dislocation plasticity. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2017, 25, 065018.	0.8	17
65	A Review of the State of Dry Adhesives: Biomimetic Structures and the Alternative Designs They Inspire. <i>Micromachines</i> , 2017, 8, 125.	1.4	59
66	On the Sensitivity of Adhesion between Rough Surfaces to Asperity Height Distribution. <i>Physical Mesomechanics</i> , 2018, 21, 59-66.	1.0	15
67	Adhesion, friction and viscoelastic properties for non-aged and aged Styrene Butadiene rubber. <i>Tribology International</i> , 2018, 121, 78-83.	3.0	13
68	On the role of adhesion and roughness in stick-slip transition at the contact of two bodies: A numerical study. <i>Tribology International</i> , 2018, 121, 381-388.	3.0	24
69	Modeling and simulation in tribology across scales: An overview. <i>Tribology International</i> , 2018, 125, 169-199.	3.0	335
70	On the load dependence of friction: Role of the long-range elastic coupling. <i>Tribology International</i> , 2018, 123, 209-215.	3.0	4
71	Evolution of real contact area under shear and the value of static friction of soft materials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 471-476.	3.3	128
72	Engineering Micropatterned Dry Adhesives: From Contact Theory to Handling Applications. <i>Advanced Functional Materials</i> , 2018, 28, 1800865.	7.8	127
73	An approximate JKR solution for a general contact, including rough contacts. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 114, 209-218.	2.3	20

#	ARTICLE	IF	CITATIONS
74	A Generalized Johnson Parameter for Pull-Off Decay in the Adhesion of Rough Surfaces. <i>Physical Mesomechanics</i> , 2018, 21, 67-75.	1.0	22
75	Stability analysis of rough surfaces in adhesive normal contact. <i>Computational Mechanics</i> , 2018, 62, 1155-1167.	2.2	1
76	A modified form of Pastewka's Robbins criterion for adhesion. <i>Journal of Adhesion</i> , 2018, 94, 155-165.	1.8	13
77	A very simple estimate of adhesion of hard solids with rough surfaces based on a bearing area model. <i>Meccanica</i> , 2018, 53, 241-250.	1.2	17
78	A Simplified Version of Persson's Multiscale Theory for Rubber Friction Due to Viscoelastic Losses. <i>Journal of Tribology</i> , 2018, 140, .	1.0	18
79	Contact stiffness of regularly patterned multi-asperity interfaces. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 111, 277-289.	2.3	30
80	Effects of Surface Roughness on the Kinetic Friction of SiC Nanowires on SiN Substrates. <i>Tribology Letters</i> , 2018, 66, 1.	1.2	12
81	Adhesion of surfaces with wavy roughness and a shallow depression. <i>Mechanics of Materials</i> , 2018, 118, 11-16.	1.7	15
82	Influence of chemical bonding on the variability of diamond-like carbon nanoscale adhesion. <i>Carbon</i> , 2018, 128, 267-276.	5.4	42
83	Bio-inspired solution for optimal adhesive performance. <i>Procedia Structural Integrity</i> , 2018, 12, 265-273.	0.3	0
84	On the DMT adhesion theory: from the first studies to the modern applications in rough contacts. <i>Procedia Structural Integrity</i> , 2018, 12, 58-70.	0.3	10
85	Theoretical and Finite Element Analysis of Static Friction Between Multi-Scale Rough Surfaces. <i>Tribology Letters</i> , 2018, 66, 1.	1.2	24
86	Adhesive wear mechanisms uncovered by atomistic simulations. <i>Friction</i> , 2018, 6, 245-259.	3.4	41
87	Surface variations effect on electrical resistivity measurement: A roughness based approach. <i>Journal of Applied Geophysics</i> , 2018, 159, 341-349.	0.9	2
88	The effect of stylus tip radius on Ra, Rq, Rp, Rv, and Rt parameters in turned and milled samples. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 99, 1979-1992.	1.5	11
89	Adhesion between rubber and glass in dry and lubricated condition. <i>Journal of Chemical Physics</i> , 2018, 148, 234702.	1.2	14
90	Chemical aging of large-scale randomly rough frictional contacts. <i>Physical Review E</i> , 2018, 98, 023001.	0.8	12
91	Combining TEM, AFM, and Profilometry for Quantitative Topography Characterization Across All Scales. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 29169-29178.	4.0	69

#	ARTICLE	IF	CITATIONS
92	A JKR solution for a ball-in-socket contact geometry as a bi-stable adhesive system. <i>Acta Mechanica</i> , 2018, 229, 2835-2842.	1.1	3
93	Electrodeposited Ni/SiC composite coating on graphite for high temperature solar thermal applications. <i>Materials Science for Energy Technologies</i> , 2018, 1, 3-10.	1.0	8
94	Continuum contact models for coupled adhesion and friction. <i>Journal of Adhesion</i> , 2019, 95, 1101-1133.	1.8	60
95	The generalized Tabor parameter for adhesive rough contacts near complete contact. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 122, 126-140.	2.3	7
96	Characterization of the material-induced elastic-plastic deformations in ultra-precision diamond cutting. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2019, 41, 1.	0.8	3
97	Highly Sensitive Flexible Piezoresistive Pressure Sensor Developed Using Biomimetically Textured Porous Materials. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 29466-29473.	4.0	171
98	Assessment of the effect of stylus tip radius on milled, bored, and honed surfaces. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 104, 2459-2471.	1.5	7
99	Highly Stable and Stretchable Conductive Films through Thermal-Radiation-Assisted Metal Encapsulation. <i>Advanced Materials</i> , 2019, 31, e1901360.	11.1	96
100	Gecko-Effort Inspired Soft Gripper with High and Switchable Adhesion for Rough Surfaces. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900875.	1.9	29
101	Effect of Roughness and Elasticity on Interactions between Charged Colloidal Spheres. <i>Langmuir</i> , 2019, 35, 15948-15959.	1.6	10
102	Ultralow thermal conductance of the van der Waals interface between organic nanoribbons. <i>Materials Today Physics</i> , 2019, 11, 100139.	2.9	25
103	A note on the effect of surface topography on adhesion of hard elastic rough bodies with low surface energy. <i>Journal of the Mechanical Behavior of Materials</i> , 2019, 28, 8-12.	0.7	14
104	Contact Mechanics for Solids with Randomly Rough Surfaces and Plasticity. <i>Lubricants</i> , 2019, 7, 90.	1.2	9
105	Development of rough viscoelastic contact theories and manipulation by AFM for biological particles: any geometry for particle and asperities. <i>Applied Physics A: Materials Science and Processing</i> , 2019, 125, 1.	1.1	4
106	Modulation of fault strength during the seismic cycle by grain-size evolution around contact junctions. <i>Tectonophysics</i> , 2019, 765, 129-145.	0.9	41
107	Shear-Induced Anisotropy in Rough Elastomer Contact. <i>Physical Review Letters</i> , 2019, 122, 214301.	2.9	43
108	Rising Up: Hierarchical Metal-Organic Frameworks in Experiments and Simulations. <i>Advanced Materials</i> , 2019, 31, e1901744.	11.1	103
109	Laser Transfer, Printing, and Assembly Techniques for Flexible Electronics. <i>Advanced Electronic Materials</i> , 2019, 5, 1800900.	2.6	91

#	ARTICLE	IF	CITATIONS
110	A Fourier-accelerated volume integral method for elastoplastic contact. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 351, 951-976.	3.4	29
111	Adhesive Strength of Contacts of Rough Spheres. <i>Frontiers in Mechanical Engineering</i> , 2019, 5, .	0.8	31
112	The role of adhesion in contact mechanics. <i>Journal of the Royal Society Interface</i> , 2019, 16, 20180738.	1.5	120
113	Time-dependent adhesion behavior between dough and contact surfaces in bakeries. <i>Journal of Food Engineering</i> , 2019, 255, 24-31.	2.7	7
114	Adhesive contact between a rigid body of arbitrary shape and a thin elastic coating. <i>Acta Mechanica</i> , 2019, 230, 2447-2453.	1.1	12
115	The effect of adhesion and roughness on friction hysteresis loops. <i>International Journal of Mechanical Sciences</i> , 2019, 155, 9-18.	3.6	18
116	The Elastic Contact of Rough Spheres Investigated Using a Deterministic Multi-Asperity Model. <i>Journal of Multiscale Modeling</i> , 2019, 10, .	1.0	3
117	Linking energy loss in soft adhesion to surface roughness. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 25484-25490.	3.3	77
118	Maximizing Contact of Supersoft Bottlebrush Networks with Rough Surfaces To Promote Particulate Removal. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 45310-45318.	4.0	15
120	Physics of suction cups. <i>Soft Matter</i> , 2019, 15, 9482-9499.	1.2	33
121	On DMT methods to calculate adhesion in rough contacts. <i>Tribology International</i> , 2019, 130, 36-42.	3.0	26
122	A numerical model for calculation of the restitution coefficient of elastic-perfectly plastic and adhesive bodies with rough surfaces. <i>Powder Technology</i> , 2019, 345, 203-212.	2.1	17
123	London-van der Waals Force Field of a Chemically Patterned Surface To Enable Selective Adhesion. <i>Langmuir</i> , 2019, 35, 86-94.	1.6	4
124	Extensions and comparisons of BAM (Bearing Area Model) for stickiness of hard multiscale randomly rough surfaces. <i>Tribology International</i> , 2019, 133, 263-270.	3.0	6
125	Brittle Fracture Theory Describes the Onset of Frictional Motion. <i>Annual Review of Condensed Matter Physics</i> , 2019, 10, 253-273.	5.2	22
126	Emergent Properties from Contact Between Rough Interfaces. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2020, , 179-227.	0.3	0
127	Contact Mechanics of Rubber and Soft Matter. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2020, , 279-330.	0.3	1
128	Wear particle dynamics drive the difference between repeated and non-repeated reciprocated sliding. <i>Tribology International</i> , 2020, 142, 105983.	3.0	19



#	ARTICLE	IF	CITATIONS
129	Study of the mechanism of friction on functionally active tribological Polyvinyl Chloride (PVC) aggregate composite surfaces. Tribology International, 2020, 141, 105906.	3.0	10
131	Universal features in stickiness-criteria for soft adhesion with rough surfaces. Tribology International, 2020, 146, 106031.	3.0	19
132	On the load-area relation in rough adhesive contacts. Tribology International, 2020, 144, 106099.	3.0	7
133	A Numerical Study on Roughness-Induced Adhesion Enhancement in a Sphere with an Axisymmetric Sinusoidal Waviness Using Lennard-Jones Interaction Law. Lubricants, 2020, 8, 90.	1.2	14
134	Deterministic normal contact of rough surfaces with adhesion using a surface integral method. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200281.	1.0	6
135	Adhesive wear law at the single asperity level. Journal of the Mechanics and Physics of Solids, 2020, 143, 104069.	2.3	30
136	Particle adhesion to rough surfaces. Physical Review E, 2020, 102, 012904.	0.8	10
137	Mark Robbins, champion of computational nonequilibrium physics, died on August 13, aged 64. Extreme Mechanics Letters, 2020, 41, 101019.	2.0	0
138	Adhesion Between Rigid Indenter and Soft Rubber Layer: Influence of Roughness. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	19
139	Adhesion paradox: Why adhesion is usually not observed for macroscopic solids. Physical Review E, 2020, 102, 042803.	0.8	26
140	Crack nucleation in the adhesive wear of an elastic-plastic half-space. Journal of the Mechanics and Physics of Solids, 2020, 145, 104100.	2.3	12
141	How surface stress transforms surface profiles and adhesion of rough elastic bodies. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200477.	1.0	7
142	The Effect of Contact Duration and Indentation Depth on Adhesion Strength: Experiment and Numerical Simulation. Technical Physics, 2020, 65, 1695-1707.	0.2	14
143	Physical Variables Underlying Tactile Stickiness During Fingerpad Detachment. Frontiers in Neuroscience, 2020, 14, 235.	1.4	8
144	Electrical probing of a steel rough interface under shear stress. Tribology International, 2020, 151, 106432.	3.0	2
145	Onset of Sliding of Elastomer Multicontacts: Failure of a Model of Independent Asperities to Match Experiments. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	9
146	Two-dimensional finite element analysis of elastic adhesive contact of a rough surface. Scientific Reports, 2020, 10, 5402.	1.6	13
147	The emergence of small-scale self-affine surface roughness from deformation. Science Advances, 2020, 6, eaax0847.	4.7	48

#	ARTICLE	IF	CITATIONS
148	Universal SMP gripper with massive and selective capabilities for multiscaled, arbitrarily shaped objects. <i>Science Advances</i> , 2020, 6, eaay5120.	4.7	90
149	Finite element modeling of the viscoelastic contact for a composite micropillar. <i>Mechanics of Advanced Materials and Structures</i> , 2021, 28, 537-549.	1.5	4
150	Pressure tunable adhesion of rough elastomers. <i>Soft Matter</i> , 2021, 17, 863-869.	1.2	11
151	Non-Empirical Law for Nanoscale Atom-by-Atom Wear. <i>Advanced Science</i> , 2021, 8, 2002827.	5.6	21
152	Comments on old and recent theories and experiments of adhesion of a soft solid to a rough hard surface. <i>Tribology International</i> , 2021, 155, 106779.	3.0	2
153	Percolation and Reynolds Flow in Elastic Contacts of Isotropic and Anisotropic, Randomly Rough Surfaces. <i>Tribology Letters</i> , 2021, 69, 1.	1.2	33
154	On stickiness of multiscale randomly rough surfaces. <i>Journal of Adhesion</i> , 2021, 97, 509-527.	1.8	22
155	Modeling Adhesive Hysteresis. <i>Lubricants</i> , 2021, 9, 17.	1.2	14
156	Roughness and Scaling Properties of Oxide Glass Surfaces at the Nanoscale. <i>Physical Review Letters</i> , 2021, 126, 066101.	2.9	9
158	Influence of Chemical Heterogeneity and Third Body on Adhesive Strength: Experiment and Simulation. <i>Frontiers in Mechanical Engineering</i> , 2021, 7, .	0.8	7
159	Comprehensive topography characterization of polycrystalline diamond coatings. <i>Surface Topography: Metrology and Properties</i> , 2021, 9, 014003.	0.9	23
160	Molecular Dynamics Examination of Sliding History-Dependent Adhesion in Si-Si Nanocontacts: Connecting Friction, Wear, Bond Formation, and Interfacial Adhesion. <i>Tribology Letters</i> , 2021, 69, 1.	1.2	7
161	Stress-dependent electrical impedance behaviours at fractal rough interfaces. <i>Surface Topography: Metrology and Properties</i> , 2021, 9, 025014.	0.9	2
162	Template-Stripped Ultra-Smooth Aluminum Films (0.2 nm RMS) for the Surface Forces Apparatus. <i>Langmuir</i> , 2021, 37, 6556-6565.	1.6	1
163	Distribution of Gaps and Adhesive Interaction Between Contacting Rough Surfaces. <i>Tribology Letters</i> , 2021, 69, 1.	1.2	10
165	Understanding Nanoscale Topology-Adhesion Relationships Via Support Vector Regression. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100175.	1.9	4
166	A Simple Mechanistic Model for Friction of Rough Partially Lubricated Surfaces. <i>Tribology Letters</i> , 2021, 69, 1.	1.2	0
167	Stickiness of randomly rough surfaces with high fractal dimension: is there a fractal limit?. <i>Tribology International</i> , 2021, 159, 106971.	3.0	6

#	ARTICLE	IF	CITATIONS
168	Hard-material Adhesion: Which Scales of Roughness Matter?. <i>Experimental Mechanics</i> , 2021, 61, 1109-1120.	1.1	18
169	Functional surface microstructures inspired by nature – From adhesion and wetting principles to sustainable new devices. <i>Progress in Materials Science</i> , 2021, 120, 100823.	16.0	117
170	Enhanced interlayer interactions in Ni-doped $\text{MoS}_2$ , and structural and electronic signatures of doping site. <i>Physical Review Materials</i> , 2021, 5, .	1.5	7
171	Prediction of adhesion between randomly rough surfaces by order statistics. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	7
172	Crazing Reveals an Entanglement Network in Glassy Ring Polymers. <i>Macromolecules</i> , 2021, 54, 7500-7511.	2.2	10
173	Oscillating viscoelastic periodic contacts: A numerical approach. <i>International Journal of Mechanical Sciences</i> , 2021, 208, 106663.	3.6	14
174	Friction control by tailoring deformation mechanism of interfacial grains in metals. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 828, 142105.	2.6	7
175	Viscoelastic normal indentation of nominally flat randomly rough contacts. <i>International Journal of Mechanical Sciences</i> , 2021, 211, 106783.	3.6	5
176	An efficient multiscale strategy to predict the evolution of the real contact area between rough surfaces. <i>Tribology International</i> , 2022, 165, 107255.	3.0	7
178	Effect of adhesion on material removal during adhesive wear. <i>Physical Review Materials</i> , 2019, 3, .	0.9	14
179	ADHESION BETWEEN A POWER-LAW INDENTER AND A THIN LAYER COATED ON A RIGID SUBSTRATE. <i>Facta Universitatis, Series: Mechanical Engineering</i> , 2018, 16, 19.	2.3	11
180	FRACTURE MECHANICS SIMPLE CALCULATIONS TO EXPLAIN SMALL REDUCTION OF THE REAL CONTACT AREA UNDER SHEAR. <i>Facta Universitatis, Series: Mechanical Engineering</i> , 2018, 16, 87.	2.3	3
181	A molecular dynamics study on adhesive contact processes of surfaces with nanogrooves. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2014, 63, 234601.	0.2	2
182	Direct bonding and debonding on demand of polystyrene and polyamide surfaces, treated with oxygen plasma. <i>Journal of Applied Polymer Science</i> , 2022, 139, 51753.	1.3	9
183	Adhesive Boundary Element Method Using Virtual Crack Closure Technique. <i>Frontiers in Mechanical Engineering</i> , 2021, 7, .	0.8	2
184	JKR, DMT and More: Gauging Adhesion of Randomly Rough Surfaces. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 233-242.	0.3	0
185	Scale-dependent roughness parameters for topography analysis. <i>Applied Surface Science Advances</i> , 2022, 7, 100190.	2.9	10
186	The role of interfacial friction on the peeling of thin viscoelastic tapes. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 159, 104706.	2.3	9

#	ARTICLE	IF	CITATIONS
188	Polymer Adhesion: Seeking New Solutions for an Old Problem. <i>Macromolecules</i> , 2021, 54, 10617-10644.	2.2	59
189	Incipient sliding of adhesive contacts. <i>Friction</i> , 2022, 10, 963-976.	3.4	9
190	Monte-Carlo evaluation of bias and variance in Hurst exponents computed from power spectral analysis of atomic force microscopy topographic images. <i>Applied Surface Science</i> , 2022, 581, 152092.	3.1	2
191	Fractal geometry of contacting patches in rough elastic contacts. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 160, 104797.	2.3	11
192	Effects of Coarse-Graining on Molecular Simulation of Craze Formation in Polymer Glass. <i>Macromolecules</i> , 2022, 55, 1267-1278.	2.2	5
193	Hysteresis in an Adhesive Contact upon a Change in the Indenter Direction of Motion: an Experiment and Phenomenological Model. <i>Technical Physics</i> , 2021, 66, 611-629.	0.2	9
194	Crack-front model for adhesion of soft elastic spheres with chemical heterogeneity. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 160, 104781.	2.3	9
195	Exploiting interface patterning for adhesion control. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 160, 104740.	2.3	2
196	On the Stability of Spinning Asteroids. <i>Tribology Letters</i> , 2022, 70, 1.	1.2	14
197	Contribution of Capillary Adhesion to Friction at Macroscopic Solid-Solid Interfaces. <i>Physical Review Applied</i> , 2022, 17, .	1.5	13
198	Influence of humidity on the binding of stone fragments via capillary bridges. <i>Europhysics Letters</i> , 2022, 137, 46001.	0.7	2
199	Rougher is more slippery: How adhesive friction decreases with increasing surface roughness due to the suppression of capillary adhesion. <i>Physical Review Research</i> , 2021, 3, .	1.3	21
200	Perspective on statistical effects in the adhesion of micropatterned surfaces. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	10
201	The impact of non-Gaussian height distributions on the statistics of isotropic random rough surfaces. <i>Tribology International</i> , 2022, 173, 107578.	3.0	7
205	A new finite element paradigm to solve contact problems with roughness. <i>International Journal of Solids and Structures</i> , 2022, , 111643.	1.3	5
206	Is there more than one stickiness criterion?. <i>Friction</i> , 2023, 11, 1027-1039.	3.4	10
207	Effect of hemicellulose molecular structure on wettability and surface adhesion to urea-formaldehyde resin adhesives. <i>Wood Science and Technology</i> , 2022, 56, 1047-1070.	1.4	3
208	A General Load-Displacement Relationship Between Random Rough Surfaces in Elastic, Non-adhesive Contact, with Application in Metal Additive Manufacturing. <i>Tribology Letters</i> , 2022, 70, .	1.2	7

#	ARTICLE	IF	CITATIONS
209	The adhesion of viscoelastic bodies with slightly wave surfaces. Tribology International, 2022, 174, 107726.	3.0	7
210	Dependence of adhesive friction on surface roughness and elastic modulus. Soft Matter, 2022, 18, 5843-5849.	1.2	4
211	An investigation of gecko attachment on wet and rough substrates leads to the application of surface roughness power spectral density analysis. Scientific Reports, 2022, 12, .	1.6	7
212	Nonequilibrium plastic roughening of metallic glasses yields self-affine topographies with strain-rate and temperature-dependent scaling exponents. Physical Review Materials, 2022, 6, .	0.9	2
213	On the adhesion between thin sheets and randomly rough surfaces. Frontiers in Mechanical Engineering, 0, 8, .	0.8	2
214	Origin of Pressure-Dependent Adhesion in Nanoscale Contacts. Nano Letters, 2022, 22, 5954-5960.	4.5	5
215	Roughness tolerant pressure sensitive adhesives made of sticky crumpled sheets. Soft Matter, 2022, 18, 7866-7876.	1.2	1
216	Definition of Atomic-Scale Contact: What Dominates the Atomic-Scale Friction Behaviors?. Langmuir, 2022, 38, 11699-11706.	1.6	11
217	Contact.engineering”Create, analyze and publish digital surface twins from topography measurements across many scales. Surface Topography: Metrology and Properties, 2022, 10, 035032.	0.9	7
218	On the nature and propagation of errors in roughness parameters obtained from spectral analysis of atomic force microscopy topographic images. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, 053204.	0.9	1
219	Exploiting surface textures dynamics for dry friction control. Nonlinear Dynamics, 0, , .	2.7	0
220	Revisiting the contact splitting hypothesis: An effective route for enhancing adhesion on rough surface. Journal of the Mechanics and Physics of Solids, 2023, 170, 105121.	2.3	4
221	Investigation of Contact Clusters Between Rough Surfaces. Tribology Letters, 2022, 70, .	1.2	0
222	Multilayered Ceramic Membrane with Ion Conducting Thin Layer Induced by Interface Reaction for Stable Hydrogen Production. Angewandte Chemie, 2023, 135, .	1.6	0
223	Multilayered Ceramic Membrane with Ion Conducting Thin Layer Induced by Interface Reaction for Stable Hydrogen Production. Angewandte Chemie - International Edition, 2023, 62, .	7.2	2
224	Elastic contact of random surfaces with fractal and Hurst effects. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	1.0	3
225	Removal Analysis of Residual Photoresist Particles Based on Surface Topography Affected by Exposure Times of Ultraviolet and Developer Solution. Langmuir, 2022, 38, 16134-16143.	1.6	0
226	Recent Advancements in the Tribological Modelling of Rough Interfaces. Machines, 2022, 10, 1205.	1.2	1

#	ARTICLE	IF	CITATIONS
227	Capillary adhesion governs the friction behavior of electrochemically corroded polycrystalline diamond. Carbon, 2023, 205, 345-352.	5.4	4
228	Multi-scale dough adhesion analysis: Relation between laboratory scale, pilot scale and human sensory. Journal of Texture Studies, 0, , .	1.1	0
229	Effect of roughness small scales on the adhesion of randomly rough surfaces with high fractal dimension. IOP Conference Series: Materials Science and Engineering, 2023, 1275, 012024.	0.3	1
230	Contact of Rough Surfaces: An Incremental Model Accounting for Strain Gradient Plasticity. Lubricants, 2023, 11, 140.	1.2	3
231	Overcoming the adhesion paradox and switchability conflict on rough surfaces with shape-memory polymers. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, .	3.3	15