Xiaolei Wang

List of Publications by Year
in descending order

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128 papers	4,245 citations	159585 30 h-index	123424 61 g-index
128 all docs	128 docs citations	128 times ranked	2221 citing authors

#	Article	IF	Citations
1	Loads carrying capacity map for the surface texture design of SiC thrust bearing sliding in water. Tribology International, 2003, 36, 189-197.	5.9	413
2	Geometric Shape Effects of Surface Texture on the Generation of Hydrodynamic Pressure Between Conformal Contacting Surfaces. Tribology Letters, 2010, 37, 123-130.	2.6	286
3	The effect of laser texturing of SiC surface on the critical load for the transition of water lubrication mode from hydrodynamic to mixed. Tribology International, 2001, 34, 703-711.	5.9	238
4	Optimization of the surface texture for silicon carbide sliding in water. Applied Surface Science, 2006, 253, 1282-1286.	6.1	214
5	Orientation effects of micro-grooves on sliding surfaces. Tribology International, 2011, 44, 1047-1054.	5.9	173
6	Improving the Anti-seizure Ability of SiC Seal in Water with RIE Texturing. Tribology Letters, 2003, 14, 275-280.	2.6	156
7	Preliminary investigation of the effect of dimple size on friction in line contacts. Tribology International, 2009, 42, 1118-1123.	5.9	133
8	Significance of Dimple Parameters on the Friction of Sliding Surfaces Investigated by Orthogonal Experiments. Tribology Transactions, 2010, 53, 703-712.	2.0	111
9	Dimple patterns design for different circumstances. Lubrication Science, 2013, 25, 67-78.	2.1	103
10	The Lubrication Effect of Micro-Pits on Parallel Sliding Faces of SiC in Water. Tribology Transactions, 2002, 45, 294-301.	2.0	97
11	Creation of Topological Ultraslippery Surfaces for Droplet Motion Control. ACS Nano, 2021, 15, 2589-2599.	14.6	93
12	The lubricant retaining effect of micro-dimples on the sliding surface of PDMS. Tribology International, 2012, 52, 87-93.	5.9	84
13	Investigation of porous polyimide lubricant retainers to improve the performance of rolling bearings under conditions of starved lubrication. Wear, 2017, 380-381, 52-58.	3.1	74
14	Biomimetic design of elastomer surface pattern for friction control under wet conditions. Bioinspiration and Biomimetics, 2013, 8, 046001.	2.9	72
15	Comparison of the effects of surface texture on the surfaces of steel and UHMWPE. Tribology International, 2013, 65, 138-145.	5.9	63
16	Friction and wear property of a-CNx coatings sliding against Si3N4 balls in water. Wear, 2007, 263, 1253-1258.	3.1	61
17	A wear particle identification method by combining principal component analysis and grey relational analysis. Wear, 2013, 304, 96-102.	3.1	59
18	Thermocapillary Migration of Liquid Droplets Induced by a Unidirectional Thermal Gradient. Langmuir, 2016, 32, 7485-7492.	3.5	57

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19	Study on the Ferrofluid Lubrication with an External Magnetic Field. Tribology Letters, 2011, 41, 145-151.	2.6	55
20	Influence of normal load and sliding speed on the tribological property of amorphous carbon nitride coatings sliding against Si3N4 balls in water. Surface and Coatings Technology, 2008, 202, 3519-3528.	4.8	53
21	Design principles for the area density of dimple patterns. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2015, 229, 538-546.	1.8	49
22	The load carrying capacity of textured sliding bearings with elastic deformation. Tribology International, 2017, 109, 86-96.	5.9	45
23	Composition design of Niâ€“nano-Al2O3â€“PTFE coatings and their tribological characteristics. Surface and Coatings Technology, 2015, 282, 121-128.	4.8	43
24	Study on the Synthesis and Tribological Property of Fe3O4 Based Magnetic Fluids. Tribology Letters, 2009, 33, 187-192.	2.6	42
25	A novel surface texture for magnetic fluid lubrication. Surface and Coatings Technology, 2009, 204, 433-439.	4.8	41
26	The segmentation of wear particles in ferrograph images based on an improved ant colony algorithm. Wear, 2014, 311, 123-129.	3.1	41
27	Preparing a high-particle-content Ni/diamond composite coating with strong abrasive ability. Surface and Coatings Technology, 2013, 235, 489-494.	4.8	40
28	Ferrofluids lubrication: a status report. Lubrication Science, 2016, 28, 3-26.	2.1	40
29	Multi-objective optimization on dimple shapes for gas face seals. Tribology International, 2018, 123, 216-223.	5.9	40
30	Comparison of the Load-Carrying Performance of Mechanical Gas Seals Textured With Microgrooves and Microdimples. Journal of Tribology, 2016, 138, .	1.9	32
31	Preparation and Properties of Îµ-Fe3N-Based Magnetic Fluid. Nanoscale Research Letters, 2008, 3, .	5.7	31
32	Surface roughness and orientation effects on the thermo-capillary migration of a droplet of paraffin oil. Experimental Thermal and Fluid Science, 2014, 57, 200-206.	2.7	31
33	Directional interfacial motion of liquids: Fundamentals, evaluations, and manipulation strategies. Tribology International, 2021, 154, 106749.	5.9	31
34	Influence of nitrogen ion implantation fluences on surface structure and tribological properties of SiC ceramics in water-lubrication. Applied Surface Science, 2009, 255, 5079-5087.	6.1	30
35	Surface roughness, mechanical properties and bonding structure of silicon carbon nitride films grown by dual ion beam sputtering. Journal of Alloys and Compounds, 2010, 492, 269-276.	5.5	30
36	Modify the friction between steel ball and PDMS disk underÂwater lubrication by surface texturing. Meccanica, 2011, 46, 499-507.	2.0	30

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37	A non-reference evaluation method for edge detection of wear particles in ferrograph images. Mechanical Systems and Signal Processing, 2018, 100, 863-876.	8.0	29
38	Ionic liquidsâ€“based magnetic nanofluids as lubricants. Lubrication Science, 2018, 30, 73-82.	2.1	29
39	A multi-phase micro-abrasive jet machining technique for the surface texturing of mechanical seals. International Journal of Advanced Manufacturing Technology, 2016, 86, 2047-2054.	3.0	28
40	Synthesis of magnetic Fe₃O₄/graphene oxide nanocomposites and their tribological properties under magnetic field. Materials Research Express, 2018, 5, 105006.	1.6	28
41	Using magnetic fluids to improve the behavior of ball bearings under starved lubrication. Tribology International, 2020, 141, 105950.	5.9	28
42	Ultraslippery/hydrophilic patterned surfaces for efficient fog harvest. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 640, 128398.	4.7	28
43	The Critical Condition for the Transition from HL to ML in Water-Lubricated SiC. Tribology Letters, 2004, 16, 253-258.	2.6	27
44	Study on the properties and stability of ionic liquid-based ferrofluids. Colloid and Polymer Science, 2012, 290, 1695-1702.	2.1	27
45	Bioinspired, peg-studded hexagonal patterns for wetting and friction. Biointerphases, 2015, 10, 031008.	1.6	25
46	Contact angle hysteresis effect on the thermocapillary migration of liquid droplets. Journal of Colloid and Interface Science, 2018, 515, 32-38.	9.4	25
47	Study on Static Supporting Capacity and Tribological Performance of Ferrofluids. Tribology Transactions, 2009, 52, 717-723.	2.0	24
48	Preparation and tribological properties of graphene oxide doped alumina composite coatings. Surface and Coatings Technology, 2018, 352, 411-419.	4.8	24
49	A Surface Texture Design to Obstruct the Liquid Migration Induced by Omnidirectional Thermal Gradients. Langmuir, 2015, 31, 10154-10160.	3.5	23
50	Electrical Sliding Friction Lubricated with Ionic Liquids. Tribology Letters, 2017, 65, 1.	2.6	23
51	Effect of wetting case and softness on adhesion of bioinspired micropatterned surfaces. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 266-272.	3.1	23
52	The tribological performance of Ti(C,N)-based cermet sliding against Si3N4 in water. Wear, 2011, 270, 682-687.	3.1	22
53	Biomimetic surface design for ultrahigh molecular weight polyethylene to improve the tribological properties. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2012, 226, 705-713.	1.8	22
54	Sticking/climbing ability and morphology studies of the toe pads of Chinese fire belly newt. Journal of Bionic Engineering, 2016, 13, 115-123.	5.0	22

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55	Ionic liquid lubrication at electrified interfaces. Journal Physics D: Applied Physics, 2016, 49, 225301.	2.8	21
56	Ringlike Migration of a Droplet Propelled by an Omnidirectional Thermal Gradient. Langmuir, 2018, 34, 3806-3812.	3.5	21
57	Key parameters of biomimetic patterned surface for wet adhesion. International Journal of Adhesion and Adhesives, 2018, 82, 72-78.	2.9	19
58	A Hybrid Method for the Segmentation of a Ferrograph Image Using Marker-Controlled Watershed and Grey Clustering. Tribology Transactions, 2016, 59, 513-521.	2.0	18
59	Micro-grooves design to modify the thermo-capillary migration of paraffin oil. Meccanica, 2017, 52, 171-181.	2.0	18
60	Surface texturing on SiC by multiphase jet machining with microdiamond abrasives. Materials and Manufacturing Processes, 2018, 33, 1415-1421.	4.7	18
61	The Wear Behavior of Textured Steel Sliding against Polymers. Materials, 2017, 10, 330.	2.9	17
62	Supporting and friction properties of magnetic fluids bearings. Tribology International, 2019, 130, 334-338.	5.9	17
63	Efficient Bubble Transport on Bioinspired Topological Ultraslippery Surfaces. ACS Applied Materials & Interfaces, 2021, 13, 61780-61788.	8.0	16
64	Colloidal suspension of graphene oxide in ionic liquid as lubricant. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	15
65	Physical mechanisms behind the wet adhesion: From amphibian toe-pad to biomimetics. Colloids and Surfaces B: Biointerfaces, 2021, 199, 111531.	5.0	14
66	Architecture-Driven Fast Droplet Transport without Mass Loss. Langmuir, 2021, 37, 12519-12528.	3.5	14
67	On the migration of a droplet on an incline. Journal of Colloid and Interface Science, 2017, 494, 8-14.	9.4	13
68	Manipulating thermocapillary migration via superoleophobic surfaces with wedge shaped superoleophilic grooves. Journal of Colloid and Interface Science, 2019, 557, 837-844.	9.4	13
69	Composite Ni/UHMWPE coatings and their tribological performances. Applied Surface Science, 2019, 481, 414-420.	6.1	13
70	Effects of magnetic arrayed films on lubrication transition properties of magnetic fluid. Tribology International, 2014, 72, 172-178.	5.9	12
71	Controlling lubricant migration using ferrofluids. Tribology International, 2016, 93, 318-323.	5.9	12
72	Friction Reduction of Chrome-Coated Surface with Micro-Dimple Arrays Generated by Electrochemical Micromachining. Journal of Materials Engineering and Performance, 2017, 26, 667-675.	2.5	12

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73	A Multi-Objective Optimization Approach on Spiral Grooves for Gas Mechanical Seals. Journal of Tribology, 2018, 140, .	1.9	12
74	Characteristics of multiphase jet machining: A comparison with the absence of water. Journal of Materials Processing Technology, 2021, 291, 117050.	6.3	12
75	Observation on the deformation of dimpled surface in soft-EHL contacts. Tribology International, 2018, 119, 521-530.	5.9	11
76	The thermocapillary migration on rough surfaces. Lubrication Science, 2019, 31, 163-170.	2.1	11
77	Advanced adhesion and friction measurement system. Measurement Science and Technology, 2017, 28, 035601.	2.6	10
78	Elastic support of magnetic fluids bearing. Journal Physics D: Applied Physics, 2017, 50, 435004.	2.8	10
79	Experimental verification of textured mechanical seal designed using multi-objective optimization. Industrial Lubrication and Tribology, 2019, 71, 766-771.	1.3	10
80	The Effects of Dimple Size and Depth on Friction Reduction Under Boundary Lubrication Pressure. , 2007, , 909.		9
81	Micro-Magnetic Field Arrayed Surface for Ferrofluids Lubrication. Journal of Tribology, 2012, 134, .	1.9	9
82	Wettability and friction coefficient of micro-magnet arrayed surface. Applied Surface Science, 2012, 258, 3062-3067.	6.1	9
83	On the Thermocapillary Migration on Radially Microgrooved Surfaces. Langmuir, 2019, 35, 9169-9176.	3.5	9
84	Synthesis of GO-Fe₃O₄-based ferrofluid and its lubrication performances. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2020, 234, 1160-1167.	1.8	9
85	No migration of ionic liquid under temperature gradient. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 497, 167-170.	4.7	8
86	Controlling direct contact force for wet adhesion with different wedged film stabilities. Journal Physics D: Applied Physics, 2018, 51, 165305.	2.8	8
87	Liquidâ€“gas support and lubrication based on a ferrofluid seal. Journal Physics D: Applied Physics, 2020, 53, 025002.	2.8	8
88	Direct detection of wear conditions by classification of ferrograph images. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42, 1.	1.6	8
89	Experimental investigation of the effect of typical surface texture patterns on mechanical seal performance. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42, 1.	1.6	8
90	Insights into the effect of thermocapillary migration of droplet on lubrication. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2016, 230, 583-590.	1.8	7

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91	Pillar versus dimple patterned surfaces for wettability and adhesion with varying scales. Journal of the Royal Society Interface, 2018, 15, 20180681.	3.4	7
92	Controlled support of a magnetic fluid at a superhydrophobic interface. Applied Physics Letters, 2020, 116, 221601.	3.3	7
93	Propelling liquids on superhydrophobic surfaces with superhydrophilic diverging grooves. Surface Innovations, 2020, 8, 158-164.	2.3	7
94	On the thermocapillary migration between parallel plates. International Journal of Heat and Mass Transfer, 2022, 182, 121962.	4.8	7
95	Influence of nitrogen ion implantation energies on surface chemical bonding structure and mechanical properties of nitrogen-implanted silicon carbide ceramics. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2858-2865.	1.4	6
96	Geometrical Shape Effects of Surface Texture on the Elastic Deformation in Soft-EHL Contacts. Tribology Transactions, 2019, 62, 592-602.	2.0	6
97	Feasibility study of magnetic fluid support and lubrication behaviors on micro magnet arrays. Tribology International, 2020, 150, 106407.	5.9	6
98	Semantic segmentation of ferrography images for automatic wear particle analysis. Engineering Failure Analysis, 2021, 122, 105268.	4.0	6
99	Regulation and control of wet friction of soft materials using surface texturing: A review. Friction, 2023, 11, 333-353.	6.4	6
100	Tribological properties of aâ€CN_x coatings sliding against SiC balls in ethylene glycol aqueous solution. Lubrication Science, 2010, 22, 225-236.	2.1	5
101	Comparisons of Tribological Properties of Ti(C,N)/SiC in Water and Seawater. Journal of Tribology, 2015, 137, .	1.9	5
102	The thermal capillary migration properties and controlling technique of ferrofluids. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 1441-1449.	1.8	5
103	Magnetically stimulating capillary effect for reversible wet adhesions. Soft Matter, 2019, 15, 2817-2825.	2.7	5
104	Effects of bulk viscoelasticity and surface wetting on the contact and adhesive properties of a soft material. Polymer Testing, 2019, 74, 266-273.	4.8	5
105	Migration of Liquid Bridges at the Interface of Spheres and Plates with an Imposed Thermal Gradient. Langmuir, 2020, 36, 6268-6276.	3.5	5
106	Ni/Si3N4 composite coatings and their water lubrication behaviors. Applied Surface Science, 2022, 572, 151534.	6.1	5
107	Solid particle erosion-wear behaviour of SiC particle-reinforced Si matrix composite and neat Siâ€”A comparison. Wear, 2022, 496-497, 204286.	3.1	5
108	Insights into the influence of additives on the thermal gradient induced migration of lubricant. Lubrication Science, 2017, 29, 17-29.	2.1	4

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109	Investigations on the Thermocapillary Migration of Liquid Lubricants at Different Interfaces. Tribology Letters, 2020, 68, 1.	2.6	4
110	Supporting capacity of a ferrofluid ring bearing. Journal Physics D: Applied Physics, 2021, 54, 175004.	2.8	4
111	Water Lubrication of Ni/Al2O3 Composite Coatings Sliding With Si3N4. Journal of Tribology, 2020, 142, .	1.9	4
112	Accuracy of the pattern transfer from the metal mask to the workpiece surface during multiphase jet machining. International Journal of Advanced Manufacturing Technology, 2020, 106, 1355-1364.	3.0	3
113	Layer-based thermal migration of an ionic liquid nano-droplet on a graphene surface: a molecular dynamics study. Molecular Simulation, 2020, 46, 829-836.	2.0	3
114	Tapered mask and its effect on the fluid flow and machining efficiency of a multiphase jet. Journal of Manufacturing Processes, 2020, 50, 467-474.	5.9	3
115	Non-sticky and Non-slippery Biomimetic Patterned Surfaces. Journal of Bionic Engineering, 2020, 17, 326-334.	5.0	3
116	Ferrofluid-lubricated thrust bearing with an air cushion. Journal of Applied Physics, 2021, 130, .	2.5	3
117	The supporting capacity of ferrofluids bearing: From the liquid ring to droplet. Journal of Magnetism and Magnetic Materials, 2022, 552, 169212.	2.3	3
118	Improvement of process repeatability and resolution in abrasive air jet machining via viscous slurry entrainment. Journal of Manufacturing Processes, 2022, 79, 413-431.	5.9	3
119	On the Thermocapillary Migration at the Liquid and Solid Aspects. Journal of Tribology, 2019, 141, .	1.9	2
120	Droplets Impacting and Migrating on Structured Surfaces With Imposed Thermal Gradients. Journal of Tribology, 2022, 144, .	1.9	2
121	Comparative Studies on Wet Attaching Abilities of Different Salamander Species. Journal of Bionic Engineering, 2022, 19, 92-102.	5.0	2
122	Study on the frictional properties of micro-magnet arrayed surface lubricated with ferrofluids. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2013, 227, 406-412.	1.8	1
123	Distribution effect of surface texture on the elastic deformation in soft contacts. Industrial Lubrication and Tribology, 2019, 71, 1194-1199.	1.3	1
124	Ferrofluid lubrication for ball bearings to avoid starvation. Industrial Lubrication and Tribology, 2020, 72, 1227-1231.	1.3	1
125	Non-sticky and Free-forward Performances of Grubs against Soil. Colloids and Surfaces B: Biointerfaces, 2020, 191, 111006.	5.0	1
126	Towards the intelligent analysis of ferrograph images. Mechanisms and Machine Science, 2019, , 3825-3834.	0.5	1

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127	An evaluation method for the segmentation of ferrograph image based on grey relational analysis. , 2014, , .		0
128	THE PHENOMENON OF THERMO-CAPILLARY MIGRATION EFFECTED BY SURFACE MICRO-GROOVE. , 0, , .		0