Xinchun Chen

List of Publications by Year
in descending order

73 papers	2,604 citations	147566 31 h-index	205818 48 g-index
74 all docs	74 docs citations	74 times ranked	2069 citing authors

#	Article	IF	Citations
1	Evolution of tribo-induced interfacial nanostructures governing superlubricity in a-C:H and a-C:H:Si films. Nature Communications, 2017, 8, 1675.	5.8	179
2	Superlubricity of carbon nanostructures. Carbon, 2020, 158, 1-23.	5.4	163
3	Subtractive manufacturing of stable hierarchical micro-nano structures on AA5052 sheet with enhanced water repellence and durable corrosion resistance. Materials and Design, 2019, 183, 108152.	3.3	149
4	Self-Assembled Graphene Film as Low Friction Solid Lubricant in Macroscale Contact. ACS Applied Materials & Interfaces, 2017, 9, 21554-21562.	4.0	103
5	Carrier lifetime enhancement in halide perovskite via remote epitaxy. Nature Communications, 2019, 10, 4145.	5.8	93
6	Tribological behaviors of vacuum hot-pressed ceramic composites with enhanced cyclic oxidation and corrosion resistance. Ceramics International, 2020, 46, 12911-12920.	2.3	91
7	Origin of Superlubricity in a-C:H:Si Films: A Relation to Film Bonding Structure and Environmental Molecular Characteristic. ACS Applied Materials & Interfaces, 2014, 6, 13389-13405.	4.0	86
8	Ultra-Wear-Resistant MXene-Based Composite Coating via in Situ Formed Nanostructured Tribofilm. ACS Applied Materials & Interfaces, 2019, 11, 32569-32576.	4.0	82
9	Pseudocapacitance Induced Uniform Plating/Stripping of Li Metal Anode in Vertical Graphene Nanowalls. Advanced Functional Materials, 2018, 28, 1805638.	7.8	65
10	Synergistic tribological behaviors of graphene oxide and nanodiamond as lubricating additives in water. Tribology International, 2019, 132, 177-184.	3.0	65
11	Enhancement of friction performance enabled by a synergetic effect between graphene oxide and molybdenum disulfide. Carbon, 2019, 154, 266-276.	5.4	64
12	Atomic-scale insights into the interfacial instability of superlubricity in hydrogenated amorphous carbon films. Science Advances, 2020, 6, eaay1272.	4.7	61
13	AFM Studies on Liquid Superlubricity between Silica Surfaces Achieved with Surfactant Micelles. Langmuir, 2016, 32, 5593-5599.	1.6	55
14	Contribution of a Tribo-Induced Silica Layer to Macroscale Superlubricity of Hydrated Ions. Journal of Physical Chemistry C, 2019, 123, 20270-20277.	1.5	55
15	Microstructural, mechanical and tribological properties of tungsten-gradually doped diamond-like carbon films with functionally graded interlayers. Surface and Coatings Technology, 2011, 205, 3631-3638.	2.2	50
16	Improving Li anode performance by a porous 3D carbon paper host with plasma assisted sponge carbon coating. Energy Storage Materials, 2018, 11, 47-56.	9.5	49
17	Macroscale superlubricity of Si-doped diamond-like carbon film enabled by graphene oxide as additives. Carbon, 2021, 176, 358-366.	5.4	48
18	Origins of Superlubricity Promoted by Hydrated Multivalent Ions. Journal of Physical Chemistry Letters, 2020, 11, 184-190.	2.1	47

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19	Tribochemical Behaviors of Onion-like Carbon Films as High-Performance Solid Lubricants with Variable Interfacial Nanostructures. ACS Applied Materials & Interfaces, 2019, 11, 25535-25546.	4.0	46
20	Modified graphene as novel lubricating additive with high dispersion stability in oil. Friction, 2021, 9, 143-154.	3.4	45
21	Ultra-low friction of a-C:H films enabled by lubrication of nanodiamond and graphene in ambient air. Carbon, 2019, 154, 203-210.	5.4	44
22	Structural and environmental dependence of superlow friction in ion vapour-deposited a-Câ€‰:â€‰Hâ€‰:â€‰Si films for solid lubrication application. Journal Physics D: Applied Physics, 2013, 46, 255304.	1.3	43
23	Fluorinated Graphene: A Promising Macroscale Solid Lubricant under Various Environments. ACS Applied Materials & Interfaces, 2019, 11, 40470-40480.	4.0	42
24	Effects of grain boundary on wear of graphene at the nanoscale: A molecular dynamics study. Carbon, 2019, 143, 578-586.	5.4	42
25	Superlubrication obtained with mixtures of hydrated ions and polyethylene glycol solutions in the mixed and hydrodynamic lubrication regimes. Journal of Colloid and Interface Science, 2020, 579, 479-488.	5.0	39
26	Tribochemical mechanism of superlubricity in graphene quantum dots modified DLC films under high contact pressure. Carbon, 2021, 173, 329-338.	5.4	38
27	Microstructure and tribological performance of self-lubricating diamond/tetrahedral amorphous carbon composite film. Applied Surface Science, 2011, 257, 3180-3186.	3.1	36
28	Efficient and controllable growth of vertically oriented graphene nanosheets by mesoplasma chemical vapor deposition. Carbon, 2019, 147, 341-347.	5.4	35
29	Tribo-Induced Interfacial Material Transfer of an Atomic Force Microscopy Probe Assisting Superlubricity in a WS₂/Graphene Heterojunction. ACS Applied Materials & Interfaces, 2020, 12, 4031-4040.	4.0	35
30	Interfacial Nanostructure of 2D Ti₃C₂/Graphene Quantum Dots Hybrid Multicoating for Ultralow Wear. Advanced Engineering Materials, 2020, 22, 1901369.	1.6	34
31	A Reconfigurable Remotely Epitaxial VO₂ Electrical Heterostructure. Nano Letters, 2020, 20, 33-42.	4.5	33
32	Influence Factors on Mechanisms of Superlubricity in DLC Films: A Review. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	33
33	Enhancement of friction performance of fluorinated graphene and molybdenum disulfide coating by microdimple arrays. Carbon, 2020, 167, 122-131.	5.4	32
34	Laser irradiation-induced laminated graphene/MoS₂ composites with synergistically improved tribological properties. Nanotechnology, 2018, 29, 265704.	1.3	26
35	A New Pathway for Superlubricity in a Multilayered MoS₂â€“Ag Film under Cryogenic Environment. Nano Letters, 2021, 21, 10165-10171.	4.5	25
36	Preparation of self-lubricating NiTi alloy and its self-adaptive behavior. Tribology International, 2019, 130, 43-51.	3.0	24

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37	Green laser irradiation-stimulated fullerene-like MoS2 nanospheres for tribological applications. Tribology International, 2018, 122, 119-124.	3.0	23
38	Graphene-induced reconstruction of the sliding interface assisting the improved lubricity of various tribo-couples. Materials and Design, 2020, 191, 108661.	3.3	23
39	Influence of individual Crâ€"C layer thickness on structural and tribological properties of multilayered Crâ€"C/a-C:Cr thin films. Surface and Coatings Technology, 2010, 204, 3319-3325.	2.2	21
40	XPS and ToF-SIMS analysis of the tribochemical absorbed films on steel surfaces lubricated with diketone. Tribology International, 2019, 130, 184-190.	3.0	21
41	Unraveling the Friction Evolution Mechanism of Diamondâ€Like Carbon Film during Nanoscale Runningâ€In Process toward Superlubricity. Small, 2021, 17, e2005607.	5.2	21
42	Influence of tribofilm on superlubricity of highly-hydrogenated amorphous carbon films in inert gaseous environments. Science China Technological Sciences, 2016, 59, 1795-1803.	2.0	20
43	Tribological properties of sulfur- and phosphorus-free organic molybdenum compound as additive in oil. Tribology International, 2020, 141, 105944.	3.0	20
44	Nanostructured tribolayer-dependent lubricity of graphene and modified graphene nanoflakes on sliding steel surfaces in humid air. Tribology International, 2020, 145, 106203.	3.0	20
45	Growth mechanism and composition of ultrasmooth a-C:H:Si films grown from energetic ions for superlubricity. Journal of Applied Physics, 2014, 115, .	1.1	19
46	Microscale superlubricity at multiple goldâ€"graphite heterointerfaces under ambient conditions. Carbon, 2020, 161, 827-833.	5.4	18
47	Shear-induced interfacial reconfiguration governing superlubricity of MoS2-Ag film enabled by diamond-like carbon. Applied Surface Science, 2022, 578, 152068.	3.1	18
48	Nickel-catalyzed direct growth of graphene on bearing steel (GCr15) by thermal chemical vapor deposition and its tribological behavior. Applied Surface Science, 2020, 502, 144135.	3.1	16
49	Preparation and Tribological Properties of Self-Lubricating Epoxy Resins with Oil-Containing Nanocapsules. ACS Applied Materials & Interfaces, 2022, 14, 18954-18964.	4.0	16
50	Investigation on the lubrication potential of graphene oxide aqueous dispersion for self-mated stainless steel tribo-pair. Vacuum, 2019, 166, 307-315.	1.6	15
51	Origin of the moirÃ© superlattice scale lateral force modulation of graphene on a transition metal substrate. Nanoscale, 2018, 10, 10576-10583.	2.8	14
52	Influence of structural evolution on sliding interface for enhancing tribological performance of onion-like carbon films via thermal annealing. Applied Surface Science, 2021, 541, 148441.	3.1	14
53	Ion energy-induced nanoclustering structure in a-C:H film for achieving robust superlubricity in vacuum. Friction, 2022, 10, 1967-1984.	3.4	12
54	Laser Irradiationâ€Induced SiC@Graphene Subâ€Microspheres: A Bioinspired Coreâ€"Shell Structure for Enhanced Tribology Properties. Advanced Materials Interfaces, 2018, 5, 1700839.	1.9	10

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55	Cationic Surfactant Micelles Lubricate Graphitic Surface in Water. Langmuir, 2019, 35, 11108-11113.	1.6	10
56	Microstructure and Mechanical Properties of Ti + N Ion Implanted Cronidur30 Steel. Materials, 2019, 12, 427.	1.3	10
57	Tribological Performance of Steel With Multi-Layer Graphene Grown by Low-Pressure Chemical Vapor Deposition. Journal of Tribology, 2020, 142, .	1.0	10
58	Design architecture of colorful Si-DLC/PLC nanostructured multilayer films for robust superlubricity at high contact stress in dry N2 atmosphere. Applied Surface Science, 2022, 595, 153535.	3.1	10
59	Reducing Friction by Control of Isoelectric Point: A Potential Method to Design Artificial Cartilage. Advanced Materials Interfaces, 2020, 7, 2000485.	1.9	9
60	Influencing mechanisms of deposition bias voltage on superlubricious a-C:H films: Key role of nanoclustering structures in controlling structural evolution of transfer film. Carbon, 2022, 196, 499-509.	5.4	9
61	Ultrafast synthesis of SiC@graphene nanocomposites by one-step laser induced fragmentation and decomposition. Ceramics International, 2018, 44, 19028-19032.	2.3	8
62	Achieving controllable friction of ultrafine-grained graphite HPG510 by tailoring the interfacial nanostructures. Applied Surface Science, 2020, 512, 145731.	3.1	8
63	Understanding the interfacial behaviors during superlubricity process of a-C:H film coated on the rough bearing steel surface. Tribology International, 2022, 171, 107558.	3.0	8
64	Enhance the fluorination activity of graphene via the interfacial interaction from Ni(1â€¯1â€¯1) substrate. Computational Materials Science, 2018, 147, 28-33.	1.4	7
65	Nanoscale tunable reduction of interfacial friction on nano-patterned wear-resistant bulk metallic glass. Applied Surface Science, 2018, 453, 297-308.	3.1	6
66	A Study on the Wettability of Ion-Implanted Stainless and Bearing Steels. Metals, 2019, 9, 208.	1.0	5
67	Tribolayerâ€dependent origin of ultralow friction in nanocrystalline diamond films sliding against Si₃N₄ ball. Surface and Interface Analysis, 2021, 53, 919-932.	0.8	5
68	Copper submicrospheres induced by pulsed laser-irradiation with enhanced tribology properties. New Journal of Chemistry, 2019, 43, 13526-13535.	1.4	4
69	Effect of a-C:H:Si interlayers on the mechanical and superlubricious properties of hydrogenated amorphous carbon films. Thin Solid Films, 2022, 753, 139275.	0.8	4
70	Tribology Properties: Laser Irradiationâ€Induced SiC@Graphene Subâ€Microspheres: A Bioinspired Coreâ€"Shell Structure for Enhanced Tribology Properties (Adv. Mater. Interfaces 5/2018). Advanced Materials Interfaces, 2018, 5, 1870021.	1.9	2
71	Preservation of the frictional properties of h-BN under chemical modification in the presence of a commensurate Ni(1â€¯1â€¯1) substrate. Computational Materials Science, 2019, 165, 82-87.	1.4	2
72	Graphene layer effect on protecting the refined surface of transition metal substrate Re(0â€¯0â€¯0â€¯1): A first-principles study. Applied Surface Science, 2018, 462, 502-507.	3.1	1

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73	Tribo-induced interfacial nanostructures stimulating superlubricity in amorphous carbon films. , 2021, , 289-307.		0