Andre Schirmeisen

List of Publications by Year
in descending order

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107 papers	2,942 citations	196777 29 h-index	206121 51 g-index
110 all docs	110 docs citations	110 times ranked	2858 citing authors

#	Article	IF	Citations
1	Improvement strategies for a low input power 4ÂK pulse tube cooler: Experiments and sage simulations. Cryogenics, 2022, 122, 103417.	0.9	2
2	Experimental analysis of tip vibrations at higher eigenmodes of QPlus sensors for atomic force microscopy. Nanotechnology, 2022, 33, 185503.	1.3	4
3	Chemical bond imaging using torsional and flexural higher eigenmodes of qPlus sensors. Nanoscale, 2022, 14, 5329-5339.	2.8	4
4	Substrate-Modulated Synthesis of Metalâ€“Organic Hybrids by Tunable Multiple Arylâ€“Metal Bonds. Journal of the American Chemical Society, 2022, 144, 8214-8222.	6.6	24
5	Shear-assisted contact aging of single-asperity nanojunctions. Physical Review B, 2022, 105, .	1.1	3
6	Thermal Activation of Nanoscale Wear. Physical Review Letters, 2021, 126, 196101.	2.9	7
7	Characterization of Vegard strain related to exceptionally fast Cu-chemical diffusion in Cu$$_2$$Mo$$_6$$$$_8$$$ by an advanced electrochemical strain microscopy method. Scientific Reports, 2021, 11, 18133.	1.6	1
8	Constructing covalent organic nanoarchitectures molecule by molecule via scanning probe manipulation. Nature Chemistry, 2021, 13, 1133-1139.	6.6	42
9	Conformable metal oxide platelets â€“ A smart surface armor for green tribology. Tribology International, 2021, 162, 107138.	3.0	3
10	On-Surface Synthesis and Characterization of a Cycloarene: C108 Graphene Ring. Journal of the American Chemical Society, 2020, 142, 894-899.	6.6	60
11	Tribological Analysis of Contacts Between Glass and Tungsten Carbide Near the Glass Transition Temperature. Tribology Letters, 2020, 68, 1.	1.2	5
12	Bond-level imaging of organic molecules using Q-controlled amplitude modulation atomic force microscopy. Applied Physics Letters, 2020, 117, .	1.5	3
13	Voltage- and Frequency-Based Separation of Nanoscale Electromechanical and Electrostatic Forces in Contact Resonance Force Microscopy: Implications for the Analysis of Battery Materials. ACS Applied Nano Materials, 2020, 3, 7397-7405.	2.4	1
14	Surface-controlled reversal of the selectivity of halogen bonds. Nature Communications, 2020, 11, 5630.	5.8	24
15	Low input power 4ÂK pulse tube cryocooler driven by an inverter helium compressor: Intrinsic temperature oscillations and mechanical vibrations. Cryogenics, 2020, 108, 103085.	0.9	1
16	Single-asperity sliding friction across the superconducting phase transition. Science Advances, 2020, 6, eaay0165.	4.7	18
17	Nanoribbons with Nonalternant Topology from Fusion of Polyazulene: Carbon Allotropes beyond Graphene. Journal of the American Chemical Society, 2019, 141, 17713-17720.	6.6	158
18	Friction vs. Area Scaling of Superlubric NaCl-Particles on Graphite. Lubricants, 2019, 7, 66.	1.2	8

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19	Lattice Discontinuities of 1T-TaS2 across First Order Charge Density Wave Phase Transitions. Scientific Reports, 2019, 9, 7066.	1.6	17
20	Bond-Level Imaging of the 3D Conformation of Adsorbed Organic Molecules Using Atomic Force Microscopy with Simultaneous Tunneling Feedback. Physical Review Letters, 2019, 122, 196101.	2.9	21
21	Tribological properties of a phyllosilicate based microparticle oil additive. Wear, 2019, 426-427, 835-844.	1.5	9
22	Benzo-Fused Periacenes or Double Helicenes? Different Cyclodehydrogenation Pathways on Surface and in Solution. Journal of the American Chemical Society, 2019, 141, 7399-7406.	6.6	49
23	Temperature Activates Contact Aging in Silica Nanocontacts. Physical Review X, 2019, 9, .	2.8	7
24	Nanoscale Characterization of Ion Mobility by Temperature-Controlled Li-Nanoparticle Growth. ACS Applied Materials & Interfaces, 2019, 11, 5476-5483.	4.0	13
25	Adsorption Structure of Mono- and Diradicals on a Cu(111) Surface: Chemoselective Dehalogenation of 4-Bromo-3â€³-iodo-p-terphenyl. ACS Nano, 2019, 13, 324-336.	7.3	26
26	Friction fluctuations of gold nanoparticles in the superlubric regime. Nanotechnology, 2018, 29, 155702.	1.3	28
27	Piezoresponse force and electrochemical strain microscopy in dual AC resonance tracking mode: Analysis of tracking errors. Journal of Applied Physics, 2018, 123, .	1.1	13
28	Hierarchical Dehydrogenation Reactions on a Copper Surface. Journal of the American Chemical Society, 2018, 140, 6076-6082.	6.6	53
29	Friction anomalies at first-order transition spinodals: 1T-TaS₂. New Journal of Physics, 2018, 20, 023033.	1.2	4
30	Recent highlights in nanoscale and mesoscale friction. Beilstein Journal of Nanotechnology, 2018, 9, 1995-2014.	1.5	27
31	A SQUID system for geophysical measurements cooled by a pulse tube cryocooler. Superconductor Science and Technology, 2018, 31, 075006.	1.8	5
32	Assigning the absolute configuration of single aliphatic molecules by visual inspection. Nature Communications, 2018, 9, 2420.	5.8	36
33	Precise Monoselective Aromatic Câ€“H Bond Activation by Chemisorption of Meta-Aryne on a Metal Surface. Journal of the American Chemical Society, 2018, 140, 7526-7532.	6.6	51
34	Symmetry breakdown of 4,4â€³-diamino-p-terphenyl on a Cu(111) surface by lattice mismatch. Nature Communications, 2018, 9, 3277.	5.8	32
35	Image contrast mechanisms in dynamic friction force microscopy: Antimony particles on graphite. Journal of Applied Physics, 2017, 121, 044307.	1.1	1
36	Chemical bond imaging using higher eigenmodes of tuning fork sensors in atomic force microscopy. Applied Physics Letters, 2017, 110, .	1.5	20

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37	Nanotribological Properties of Hexadecanethiol Self-Assembled Monolayers on Au(111): Structure, Temperature, and Velocity. Langmuir, 2017, 33, 6005-6010.	1.6	5
38	Correlation between drive amplitude and resonance frequency in electrochemical strain microscopy: Influence of electrostatic forces. Journal of Applied Physics, 2017, 121, .	1.1	20
39	Imaging Successive Intermediate States of the On-Surface Ullmann Reaction on Cu(111): Role of the Metal Coordination. ACS Nano, 2017, 11, 4183-4190.	7.3	71
40	London Dispersion Directs On-Surface Self-Assembly of [121]Tetramantane Molecules. ACS Nano, 2017, 11, 9459-9466.	7.3	25
41	Limitations of Structural Superlubricity: Chemical Bonds versus Contact Size. ACS Nano, 2017, 11, 7642-7647.	7.3	83
42	Time Strengthening of Crystal Nanocontacts. Physical Review Letters, 2017, 118, 246101.	2.9	26
43	Amplitude quantification in contact-resonance-based voltage-modulated force spectroscopy. Journal of Applied Physics, 2017, 122, .	1.1	14
44	Preface to the special section on nano- and mesoscale friction. Journal of Physics Condensed Matter, 2016, 28, 130301.	0.7	0
45	A theoretical model for the cantilever motion in contact-resonance atomic force microscopy and its application to phase calibration in piezoresponse force and electrochemical strain microscopy. Journal of Applied Physics, 2016, 120, 165107.	1.1	17
46	Nanoscale Electrochemical Characterization of Materials by means of Electrostatic Force and Current Measurements. , 2016, , 91-104.		0
47	3-Dimensional Structure of a Prototypical Ionic Liquidâ€“Solid Interface: Ionic Crystal-Like Behavior Induced by Moleculeâ€“Substrate Interactions. Journal of Physical Chemistry C, 2016, 120, 11947-11955.	1.5	23
48	Universal Aging Mechanism for Static and Sliding Friction of Metallic Nanoparticles. Physical Review Letters, 2016, 117, 025502.	2.9	27
49	Subsurface-Controlled Angular Rotation: Triphenylene Molecules on Au(111) Substrates. Journal of Physical Chemistry C, 2016, 120, 1615-1622.	1.5	22
50	Friction Force Microscopy. , 2016, , 1251-1260.		0
51	Î²-Relaxation of PMMA: Tip Size and Stress Effects in Friction Force Microscopy. Langmuir, 2015, 31, 5398-5405.	1.6	18
52	Nanotribological Studies by Nanoparticle Manipulation. Nanoscience and Technology, 2015, , 363-393.	1.5	3
53	Friction Force Microscopy. , 2015, , 1-11.		0
54	Calibration of quartz tuning fork spring constants for non-contact atomic force microscopy: direct mechanical measurements and simulations. Beilstein Journal of Nanotechnology, 2014, 5, 507-516.	1.5	16

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55	Nanomanipulation and environmental nanotechnology. Beilstein Journal of Nanotechnology, 2014, 5, 2079-2080.	1.5	0
56	Influence of the adsorption geometry of PTCDA on Ag(111) on the tipâ€“molecule forces in non-contact atomic force microscopy. Beilstein Journal of Nanotechnology, 2014, 5, 98-104.	1.5	2
57	Tip radius quantification using feature-size mapping of field ion microscopy images. Physical Review B, 2014, 90, .	1.1	1
58	Long Jumps of an Organic Molecule Induced by Atomic Force Microscopy Manipulation. Advanced Materials Interfaces, 2014, 1, 1300013.	1.9	7
59	Influence of Contact Aging on Nanoparticle Friction Kinetics. Physical Review Letters, 2014, 112, 155503.	2.9	24
60	Frictional Dissipation in a Polymer Bilayer System. Langmuir, 2014, 30, 1557-1565.	1.6	8
61	Nanotribological studies using nanoparticle manipulation: Principles and application to structural lubricity. Friction, 2014, 2, 114-139.	3.4	40
62	Scaling Laws of Structural Lubricity. Physical Review Letters, 2013, 111, 235502.	2.9	136
63	One atom after the other. Nature Nanotechnology, 2013, 8, 81-82.	15.6	21
64	Forces During the Controlled Displacement of Organic Molecules. Physical Review Letters, 2013, 110, 036101.	2.9	49
65	Spinning and translational motion of Sb nanoislands manipulated on MoS₂. Nanotechnology, 2013, 24, 325302.	1.3	16
66	Fullerenes for Drug Delivery. , 2012, , 898-911.		1
67	Finite Element Methods for Computational Nano-optics. , 2012, , 837-843.		3
68	Functionalization of Carbon Nanotubes. , 2012, , 911-919.		5
69	Fundamental Properties of Zinc Oxide Nanowires. , 2012, , 919-927.		0
70	Understanding Dissipative Tipâ€“Molecule Interactions with Submolecular Resolution on an Organic Adsorbate. Small, 2012, 8, 602-611.	5.2	12
71	Nanoscale electrochemical measurements on a lithium-ion conducting glass ceramic: In-situ monitoring of the lithium particle growth. Electrochemistry Communications, 2012, 18, 74-77.	2.3	15
72	Frictional Properties of a Mesoscopic Contact with Engineered Surface Roughness. Tribology Letters, 2011, 42, 319-324.	1.2	15

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73	Ageing of a Microscopic Sliding Gold Contact at Low Temperatures. Physical Review Letters, 2011, 107, 144303.	2.9	34
74	Understanding frictional duality and bi-duality: Sb-nanoparticles on HOPG. Nanotechnology, 2011, 22, 085704.	1.3	24
75	Dynamic Modes of Atomic Force Microscopy. , 2011, , 307-353.		4
76	Ion Jump Dynamics in Nanoscopic Subvolumes Analyzed by Electrostatic Force Spectroscopy. Zeitschrift Fur Physikalische Chemie, 2010, 224, 1831-1852.	1.4	6
77	Temperature Dependence of Friction at the Nanoscale: When the Unexpected Turns Normal. Tribology Letters, 2010, 39, 311-319.	1.2	43
78	Surfing on graphite waves. Nature Materials, 2010, 9, 615-616.	13.3	5
79	Force field experiments of an epitaxial superstructure of 3,4,9,10-perylenetetra-carboxylic-dianhydride on Ag(111). Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C4B6-C4B11.	0.6	4
80	Temperature Dependence of Atomic-Scale Stick-Slip Friction. Physical Review Letters, 2010, 104, 256101.	2.9	166
81	Frictional duality of metallic nanoparticles: Influence of particle morphology, orientation, and air exposure. Physical Review B, 2010, 82, .	1.1	32
82	Multibond Dynamics of Nanoscale Friction: The Role of Temperature. Physical Review Letters, 2010, 104, 066104.	2.9	136
83	Dynamic Modes of Atomic Force Microscopy. , 2010, , 731-761.		3
84	Transition from static to kinetic friction of metallic nanoparticles. Applied Physics Letters, 2009, 95, .	1.5	38
85	Nanoscale Frictional Dissipation into Shear-Stressed Polymer Relaxations. Physical Review Letters, 2009, 102, 236101.	2.9	24
86	Site-specific force-vector field studies of KBr(001) by atomic force microscopy. Nanotechnology, 2009, 20, 264013.	1.3	10
87	Measuring the Friction of Nanoparticles: A New Route towards a Better Understanding of Nanoscale Friction. ChemPhysChem, 2009, 10, 2373-2382.	1.0	43
88	Inside Cover: Measuring the Friction of Nanoparticles: A New Route towards a Better Understanding of Nanoscale Friction (ChemPhysChem 14/2009). ChemPhysChem, 2009, 10, 2358-2358.	1.0	1
89	Characterizing ion dynamics in nanoscopic volumes: time-domain electrostatic force spectroscopy on solid electrolytes. Monatshefte FÃ¼r Chemie, 2009, 140, 1103-1112.	0.9	9
90	Rutschen ohne Reibung. Physik in Unserer Zeit, 2009, 40, 6-7.	0.0	0

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91	Time-domain electrostatic force spectroscopy on nanostructured lithium-ion conducting glass ceramics: analysis and interpretation of relaxation times. Physical Chemistry Chemical Physics, 2009, 11, 5499.	1.3	19
92	Force Field Spectroscopy in Three Dimensions. Nanoscience and Technology, 2009, , 95-119.	1.5	1
93	Principles of atomic friction: from sticking atoms to superlubric sliding. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 1383-1404.	1.6	97
94	Frictional Duality Observed during Nanoparticle Sliding. Physical Review Letters, 2008, 101, 125505.	2.9	160
95	Atomic-Scale Force-Vector Fields. Physical Review Letters, 2008, 101, 156102.	2.9	56
96	Dynamic Modes of Atomic Force Microscopy. , 2008, , 235-277.		3
97	Interfacial friction obtained by lateral manipulation of nanoparticles using atomic force microscopy techniques. Journal of Applied Physics, 2007, 102, 084306.	1.1	74
98	Fast Interfacial Ionic Conduction in Nanostructured Glass Ceramics. Physical Review Letters, 2007, 98, 225901.	2.9	61
99	Influence of the local adsorption environment on the intramolecular contrast of organic molecules in noncontact atomic force microscopy. Applied Physics Letters, 2006, 89, 093104.	1.5	16
100	Temperature dependence of point contact friction on silicon. Applied Physics Letters, 2006, 88, 123108.	1.5	125
101	Plasticity, healing and shakedown in sharp-asperity nanoindentation. Nature Materials, 2006, 5, 370-376.	13.3	59
102	Single-Atom Contact Mechanics: From Atomic Scale Energy Barrier to Mechanical Relaxation Hysteresis. Physical Review Letters, 2006, 97, 136101.	2.9	79
103	Force Dependence of Transition Rates in Atomic Friction. Physical Review Letters, 2006, 97, 240601.	2.9	42
104	Dynamic Force Microscopy and Spectroscopy. Advances in Imaging and Electron Physics, 2005, , 41-101.	0.1	14
105	Molecular growth and sub-molecular resolution of a thin multilayer of PTCDA on Ag(110) observed by scanning tunneling microscopy. Surface Science, 2005, 575, 3-11.	0.8	29
106	Nanoscopic study of the ion dynamics in a LiAlSiO4 glass ceramic by means of electrostatic force spectroscopy. Physical Chemistry Chemical Physics, 2005, 7, 1472.	1.3	11
107	Dynamic Force Microscopy. Nanoscience and Technology, 2004, , 3-39.	1.5	3