

D Frank F Ogletree

List of Publications by Year in descending order

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151
papers

15,673
citations

22099

59
h-index

16605

123
g-index

152
all docs

152
docs citations

152
times ranked

17095
citing authors

#	ARTICLE	IF	CITATIONS
1	Probing the interaction between two single molecules: fluorescence resonance energy transfer between a single donor and a single acceptor.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 6264-6268.	3.3	1,139
2	Monolayer behaviour in bulk ReS ₂ due to electronic and vibrational decoupling. Nature Communications, 2014, 5, 3252.	5.8	906
3	Electron Spectroscopy of Aqueous Solution Interfaces Reveals Surface Enhancement of Halides. Science, 2005, 307, 563-566.	6.0	611
4	Strain engineering and one-dimensional organization of metal-insulator domains in single-crystal vanadium dioxide beams. Nature Nanotechnology, 2009, 4, 732-737.	15.6	562
5	Calibration of frictional forces in atomic force microscopy. Review of Scientific Instruments, 1996, 67, 3298-3306.	0.6	542
6	Origin of Reversible Photoinduced Phase Separation in Hybrid Perovskites. Nano Letters, 2017, 17, 1028-1033.	4.5	529
7	Imaging the Condensation and Evaporation of Molecularly Thin Films of Water with Nanometer Resolution. Science, 1995, 268, 267-269.	6.0	459
8	A differentially pumped electrostatic lens system for photoemission studies in the millibar range. Review of Scientific Instruments, 2002, 73, 3872-3877.	0.6	453
9	Lateral stiffness: A new nanomechanical measurement for the determination of shear strengths with friction force microscopy. Applied Physics Letters, 1997, 70, 1548-1550.	1.5	391
10	The Nature of Water Nucleation Sites on TiO ₂ (110) Surfaces Revealed by Ambient Pressure X-ray Photoelectron Spectroscopy. Journal of Physical Chemistry C, 2007, 111, 8278-8282.	1.5	374
11	Water Diffusion and Clustering on Pd(111). Science, 2002, 297, 1850-1852.	6.0	316
12	Measurement of interfacial shear (friction) with an ultrahigh vacuum atomic force microscope. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1289.	1.6	304
13	Dissociative hydrogen adsorption on palladium requires aggregates of three or more vacancies. Nature, 2003, 422, 705-707.	13.7	295
14	Soft X-ray microscopy and spectroscopy at the molecular environmental science beamline at the Advanced Light Source. Journal of Electron Spectroscopy and Related Phenomena, 2006, 150, 86-104.	0.8	292
15	Variation of the Interfacial Shear Strength and Adhesion of a Nanometer-Sized Contact. Langmuir, 1996, 12, 3334-3340.	1.6	281
16	Wetting and Capillary Phenomena of Water on Mica. Journal of Physical Chemistry B, 1998, 102, 540-548.	1.2	262
17	Methanol Oxidation on a Copper Catalyst Investigated Using in Situ X-ray Photoelectron Spectroscopy. Journal of Physical Chemistry B, 2004, 108, 14340-14347.	1.2	221
18	Photoelectron spectroscopy under ambient pressure and temperature conditions. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 601, 151-160.	0.7	221

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19	In Situ Spectroscopic Study of the Oxidation and Reduction of Pd(111). Journal of the American Chemical Society, 2005, 127, 18269-18273.	6.6	218
20	Extended Mapping and Exploration of the Vanadium Dioxide Stress-Temperature Phase Diagram. Nano Letters, 2010, 10, 2667-2673.	4.5	215
21	Charge density wave order in 1D mirror twin boundaries of single-layer MoSe ₂ . Nature Physics, 2016, 12, 751-756.	6.5	209
22	Visualizing nanoscale excitonic relaxation properties of disordered edges and grain boundaries in monolayer molybdenum disulfide. Nature Communications, 2015, 6, 7993.	5.8	204
23	Identifying substitutional oxygen as a prolific point defect in monolayer transition metal dichalcogenides. Nature Communications, 2019, 10, 3382.	5.8	196
24	Direct observation of native DNA structures with the scanning tunneling microscope. Science, 1989, 243, 370-372.	6.0	193
25	Scanning tunneling microscopy studies of Si donors (SiGa) in GaAs. Physical Review Letters, 1994, 72, 1490-1493.	2.9	193
26	High Frictional Anisotropy of Periodic and Aperiodic Directions on a Quasicrystal Surface. Science, 2005, 309, 1354-1356.	6.0	189
27	Atomic Force Microscopy Study of an Ideally Hard Contact: The Diamond(111)/Tungsten Carbide Interface. Physical Review Letters, 1998, 81, 1877-1880.	2.9	187
28	Atomic scale friction and wear of mica. Surface Science, 1995, 327, 358-370.	0.8	173
29	Electronic Control of Friction in Silicon pn Junctions. Science, 2006, 313, 186-186.	6.0	172
30	The premelting of ice studied with photoelectron spectroscopy. Journal of Physics Condensed Matter, 2002, 14, L227-L233.	0.7	171
31	Relationship between Friction and Molecular Structure: Alkylsilane Lubricant Films under Pressure. Physical Review Letters, 1999, 82, 2880-2883.	2.9	154
32	Viscoelastic and electrical properties of self-assembled monolayers on gold (111) films. Langmuir, 1993, 9, 3600-3611.	1.6	149
33	Mapping Local Charge Recombination Heterogeneity by Multidimensional Nanospectroscopic Imaging. Science, 2012, 338, 1317-1321.	6.0	145
34	Ultrafast scanning probe microscopy. Applied Physics Letters, 1993, 63, 2567-2569.	1.5	137
35	Membrane specific mapping and colocalization of malarial and host skeletal proteins in the Plasmodium falciparum infected erythrocyte by dual-color near-field scanning optical microscopy. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 520-525.	3.3	133
36	Imaging of Single Extended DNA Molecules on Flat (Aminopropyl)triethoxysilane~Mica by Atomic Force Microscopy. Langmuir, 1996, 12, 1697-1700.	1.6	132

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55	Acetylene structure and dynamics on Pd(111). <i>Physical Review B</i> , 1998, 57, R12705-R12708.	1.1	66
56	In Situ Investigation of the Nature of the Active Surface of a Vanadyl Pyrophosphate Catalyst during n-Butane Oxidation to Maleic Anhydride. <i>Journal of Physical Chemistry B</i> , 2003, 107, 4587-4596.	1.2	66
57	Effective tip radius in electrostatic force microscopy. <i>Applied Physics Letters</i> , 2005, 86, 123101.	1.5	64
58	An ultrahigh vacuum scanning tunneling microscope for surface science studies. <i>Review of Scientific Instruments</i> , 1990, 61, 3769-3774.	0.6	61
59	Tip-surface forces during imaging by scanning tunneling microscopy. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1991, 9, 1347.	1.6	60
60	Initial stages of water adsorption on NaCl (100) studied by scanning polarization force microscopy. <i>Journal of Chemical Physics</i> , 2005, 123, 124703.	1.2	60
61	Friction and Adhesion Properties of Clean and Oxidized Al-Ni-Co Decagonal Quasicrystals: A UHV Atomic Force Microscopy/Scanning Tunneling Microscopy Study. <i>Tribology Letters</i> , 2004, 17, 629-636.	1.2	58
62	Dense Electron System from Gate-Controlled Surface Metal-Insulator Transition. <i>Nano Letters</i> , 2012, 12, 6272-6277.	4.5	57
63	Scanning-tunneling-microscopy study of the surface diffusion of sulfur on Re(0001). <i>Physical Review B</i> , 1993, 47, 2320-2328.	1.1	55
64	Vibrationally assisted diffusion of H ₂ O and D ₂ O on Pd(111). <i>Surface Science</i> , 2006, 600, 542-546.	0.8	54
65	Electrically driven photon emission from individual atomic defects in monolayer WS ₂ . <i>Science Advances</i> , 2020, 6, .	4.7	53
66	Atomic force microscopy imaging of T4 bacteriophages on silicon substrates. <i>Ultramicroscopy</i> , 1992, 42-44, 1113-1117.	0.8	52
67	Coadsorption and interactions of O and H on Pd(111). <i>Surface Science</i> , 2002, 511, 259-266.	0.8	51
68	Atomic force microscopy of biochemically tagged DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1993, 90, 3811-3814.	3.3	50
69	Imaging a p(2 × 2) layer of sulfur on Re(0001) with the scanning tunneling microscope: an experimental and theoretical study of the effect of adsorption site and tip structure. <i>Surface Science</i> , 1994, 315, 127-142.	0.8	50
70	Influence of carrier density on the friction properties of silicon p-n junctions. <i>Physical Review B</i> , 2007, 76, .	1.1	50
71	Surface Species Formed by the Adsorption and Dissociation of Water Molecules on a Ru(0001) Surface Containing a Small Coverage of Carbon Atoms Studied by Scanning Tunneling Microscopy. <i>Journal of Physical Chemistry C</i> , 2008, 112, 7445-7454.	1.5	50
72	Advances in ultrafast scanning tunneling microscopy. <i>Applied Physics Letters</i> , 1996, 69, 1321-1323.	1.5	49

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73	Sensing Dipole Fields at Atomic Steps with Combined Scanning Tunneling and Force Microscopy. <i>Physical Review Letters</i> , 2005, 95, 136802.	2.9	48
74	Formation of sulfur clusters on Re(0001) surfaces observed with the scanning tunneling microscope. <i>Physical Review B</i> , 1991, 44, 1914-1917.	1.1	47
75	The ultrafast response of a scanning tunneling microscope. <i>Physica Status Solidi (B): Basic Research</i> , 1995, 188, 343-359.	0.7	47
76	Preparation and Characterization of Self-Assembled Monolayers of Octadecylamine on Mica Using Hydrophobic Solvents. <i>Langmuir</i> , 2002, 18, 6096-6100.	1.6	47
77	A scanning tunneling microscopy study of the reaction between hydrogen and oxygen to form water on Pd(111). <i>Journal of Chemical Physics</i> , 2002, 117, 5855-5858.	1.2	43
78	Diffusion and Pair Interactions of CO Molecules on Pd(111). <i>Physical Review Letters</i> , 2005, 94, 036101.	2.9	43
79	De-wetting of lubricants on hard disks. <i>Journal of Chemical Physics</i> , 2000, 112, 2952-2957.	1.2	42
80	A new pulse counting low-energy electron diffraction system based on a position sensitive detector. <i>Review of Scientific Instruments</i> , 1992, 63, 104-113.	0.6	41
81	Resist Materials for Extreme Ultraviolet Lithography: Toward Low-Cost Single-Digit-Nanometer Patterning. <i>Advanced Materials</i> , 2015, 27, 5813-5819.	11.1	41
82	Scanning tunneling microscopy studies of sulfur overlayers on the Re(0001) surface. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1991, 9, 886.	1.6	39
83	Structural Manipulation of the Frictional Properties of Linear Polymers in Single Molecular Layers. <i>Langmuir</i> , 1999, 15, 5118-5122.	1.6	39
84	Tribological properties of quasicrystals: Effect of aperiodic versus periodic surface order. <i>Physical Review B</i> , 2006, 74, .	1.1	39
85	The role of contaminants in the variation of adhesion, friction, and electrical conduction properties of carbide-coated scanning probe tips and Pt(111) in ultrahigh vacuum. <i>Journal of Applied Physics</i> , 2004, 95, 7694-7700.	1.1	38
86	Scanning tunneling microscopy study of the structure of sulfur $[2(3)1/2\bar{2}-2(3)1/2]$ $R 30^\circ$ overlayer on rhenium (0001). <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1990, 8, 297-301.	0.9	37
87	The role of electronic interferences in determining the appearance of STM images: application to the $S(2\bar{2})/Re(0001)$ system. <i>Surface Science</i> , 1993, 295, 347-352.	0.8	37
88	Interaction of Water with Self-Assembled Monolayers of Alkylsilanes on Mica. <i>Langmuir</i> , 2004, 20, 1284-1290.	1.6	37
89	Blue-light-emitting color centers in high-quality hexagonal boron nitride. <i>Physical Review B</i> , 2019, 100, .	1.1	36
90	Elastic and inelastic deformations of ethylene-passivated tenfold decagonal $Al-Ni-Co$ quasicrystal surfaces. <i>Physical Review B</i> , 2005, 71, .	1.1	34

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91	Coadsorbate induced compression of sulfur overlayers on Re(0001) and Pt(111) by CO. Journal of Chemical Physics, 1994, 100, 6092-6097.	1.2	31
92	Observation of the initial stages of growth of hydrogenated amorphous carbon films by scanning tunneling microscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1991, 9, 2273-2278.	0.9	30
93	Method to characterize the vibrational response of a beetle type scanning tunneling microscope. Review of Scientific Instruments, 1997, 68, 124-128.	0.6	30
94	Hydrogen adsorption on Ru(001) studied by scanning tunneling microscopy. Surface Science, 2008, 602, 487-492.	0.8	30
95	Life Beyond Diffraction: Opening New Routes to Materials Characterization with Next-Generation Optical Near-Field Approaches. Advanced Functional Materials, 2013, 23, 2539-2553.	7.8	29
96	Revealing Optical Properties of Reduced-Dimensionality Materials at Relevant Length Scales. Advanced Materials, 2015, 27, 5693-5719.	11.1	29
97	Atomic-scale friction and its connection to fracture mechanics. Jom, 2004, 56, 48-52.	0.9	28
98	Electronic structure of ensembles of gold nanoparticles: Size and proximity effects. Physical Review B, 2005, 72, .	1.1	27
99	Scanning force microscope and vacuum chamber for the study of ice films: Design and first results. Review of Scientific Instruments, 1998, 69, 1781-1784.	0.6	26
100	Chemical reactions of water molecules on Ru(0001) induced by selective excitation of vibrational modes. Surface Science, 2009, 603, 2030-2036.	0.8	26
101	Preparation and Nanoscale Mechanical Properties of Self-Assembled Carboxylic Acid Functionalized Pentathiophene on Mica. Langmuir, 2004, 20, 7703-7710.	1.6	25
102	Effects of Postsynthesis Thermal Conditions on Methylammonium Lead Halide Perovskite: Band Bending at Grain Boundaries and Its Impacts on Solar Cell Performance. Journal of Physical Chemistry C, 2016, 120, 21330-21335.	1.5	25
103	The influence of sulfur adsorption on the step structure of vicinal Mo(100): a LEED and STM study. Surface Science, 1993, 280, 313-324.	0.8	23
104	A new system for LEED intensity measurements using a real-time digital video processor. Review of Scientific Instruments, 1986, 57, 3012-3018.	0.6	22
105	Scanning tunneling microscopy study of the Re(0001) surface passivated by one-half a monolayer of sulfur in an atmospheric environment. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1988, 6, 531-533.	0.9	22
106	Direct measurement of forces during scanning tunneling microscopy imaging of silicon pn junctions. Applied Physics Letters, 2005, 86, 172105.	1.5	21
107	Localization and Mitigation of Loss in Niobium Superconducting Circuits. PRX Quantum, 2022, 3, .	3.5	20
108	Adhesion properties of decagonal quasicrystals in ultrahigh vacuum. Philosophical Magazine, 2006, 86, 945-950.	0.7	19

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109	Deposition of Au on a sulfur covered Mo(100) surface: Adsorbate-adsorbate interaction and growth. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1994, 12, 1742.	1.6	17
110	Field emission study of diamond-like carbon films with scanned-probe field-emission force microscopy. Applied Physics Letters, 2000, 76, 2961-2963.	1.5	17
111	Molecular excitation and relaxation of extreme ultraviolet lithography photoresists. Frontiers of Nanoscience, 2016, , 91-113.	0.3	17
112	The importance of inner-shell electronic structure for enhancing the EUV absorption of photoresist materials. Journal of Chemical Physics, 2017, 146, 164106.	1.2	17
113	Manipulation and Patterning of the Surface Hydrogen Concentration on Pd(111) by Electric Fields. Angewandte Chemie - International Edition, 2007, 46, 5757-5761.	7.2	16
114	Reactivity of Ozone with Solid Potassium Iodide Investigated by Atomic Force Microscopy. Journal of Physical Chemistry C, 2008, 112, 8110-8113.	1.5	16
115	Approach to surface structure determination with the scanning tunneling microscope: Multiple-gap imaging and electron-scattering quantum-chemistry theory. Physical Review B, 1995, 52, 11446-11456.	1.1	15
116	Fundamental understanding of chemical processes in extreme ultraviolet resist materials. Journal of Chemical Physics, 2018, 149, 154305.	1.2	15
117	Investigation of the structures of sulfur on Mo(100) by scanning tunneling microscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 1975-1981.	0.9	14
118	Design consideration in an ultrafast scanning tunneling microscope. Review of Scientific Instruments, 1995, 66, 4130-4134.	0.6	14
119	Application of scanning tunneling microscopy to study adatom diffusion and lateral interactions: Sulfur on Re(0001) at low coverages. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 2145-2152.	0.9	13
120	Si donors (SiGa) in GaAs observed by scanning tunneling microscopy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1994, 12, 2104.	1.6	13
121	A study of the topographic and electrical properties of self-assembled islands of alkylsilanes on mica using a combination of non-contact force microscopy techniques. Nanotechnology, 2006, 17, S178-S184.	1.3	13
122	Bright Cathodoluminescent Thin Films for Scanning Nano-Optical Excitation and Imaging. ACS Nano, 2013, 7, 10397-10404.	7.3	13
123	STM study of the structure of the sulphur (1Å ⁻²) overlayer on molybdenum (001) in air: ordered domains, phase boundaries and defects. Journal of Microscopy, 1988, 152, 427-439.	0.8	12
124	Scanning tunneling microscopy study of TiOx on Rh(111). Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1991, 9, 853.	1.6	11
125	Atomic force microscopy nanotribology study of oligothiophene self-assembled films. Nanotechnology, 2005, 16, S235-S239.	1.3	11
126	Atomic Force Microscopy Study of ¹² -Substituted-T7 Oligothiophene Films on Mica: Mechanical Properties and Humidity-Dependent Phases. Langmuir, 2005, 21, 1080-1085.	1.6	11

#	ARTICLE	IF	CITATIONS
127	Scanning Auger spectromicroscopy using the ScopeFoundry software platform. <i>Surface and Interface Analysis</i> , 2018, 50, 1174-1179.	0.8	11
128	Temperature dependence of secondary electron emission: A new route to nanoscale temperature measurement using scanning electron microscopy. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	11
129	Thickness and drainage of perfluoropolyethers under compression. <i>Journal of Chemical Physics</i> , 2001, 114, 10504-10509.	1.2	10
130	Elucidating the local atomic and electronic structure of amorphous oxidized superconducting niobium films. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	10
131	Tribocharging phenomena in hard disk amorphous carbon coatings with and without perfluoropolyether lubricants. <i>Journal of Applied Physics</i> , 2001, 89, 3993-3998.	1.1	9
132	Summary Abstract: Coadsorption structures of benzene and carbon monoxide on Rh(111) and Pt(111) by high-resolution electron energy loss spectroscopy and low-energy electron diffraction. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1987, 5, 692-693.	0.9	8
133	Cross-sectional scanning tunneling microscopy of semiconductor vertical-cavity surface-emitting laser structure. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1994, 12, 2100.	1.6	8
134	Making, Breaking and Sliding of Nanometer-Scale Contacts. <i>Materials Research Society Symposia Proceedings</i> , 1998, 539, 93.	0.1	7
135	Spectroscopic Evidence for Exceptional Thermal Contribution to Electron Beam-Induced Fragmentation. <i>Journal of Physical Chemistry C</i> , 2010, 114, 22064-22068.	1.5	7
136	Structural defects and cathodoluminescence of In _x Ga _{1-x} N layers. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 2248-2250.	0.8	7
137	Resolving Enhanced Mn ²⁺ Luminescence near the Surface of CsPbCl ₃ with Time-Resolved Cathodoluminescence Imaging. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2624-2629.	2.1	7
138	Adapting the Electron Beam from SEM as a Quantitative Heating Source for Nanoscale Thermal Metrology. <i>Nano Letters</i> , 2020, 20, 3019-3029.	4.5	7
139	Noninvasive Cathodoluminescence-Activated Nanoimaging of Dynamic Processes in Liquids. <i>ACS Nano</i> , 2017, 11, 10583-10590.	7.3	6
140	Tailoring low energy electron absorption <i>via</i> surface nano-engineering of cesiated chromium films. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	6
141	Autonomous scanning probe microscopy investigations over WS ₂ and Au{111}. <i>Npj Computational Materials</i> , 2022, 8, .	3.5	6
142	Electronic interactions between gold nanoclusters in constrained geometries. <i>Physical Review B</i> , 2006, 73, .	1.1	4
143	Kopta et al.Reply.. <i>Physical Review Letters</i> , 1999, 83, 1697-1697.	2.9	3
144	<i>Ultrafast scanning probe microscopy</i> . , 1994, 2116, 376.		2

#	ARTICLE	IF	CITATIONS
145	Advances in Ultrafast Scanning-Probe Microscopy. Springer Series in Chemical Physics, 1994, , 347-348.	0.2	2
146	Optimizing cathodoluminescence microscopy of buried interfaces through nanoscale heterostructure design. Nanoscale, 2022, 14, 7569-7578.	2.8	2
147	Scanning field-emission force microscopy and spectroscopy of chemical-vapor-deposited carbon field-emission cathodes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 675.	1.6	1
148	Chemically directing d-block heterometallics to nanocrystal surfaces as molecular beacons of surface structure. Chemical Science, 2015, 6, 6295-6304.	3.7	1
149	<title>Imaging of biological material with STM/AFM (Invited Paper)</title>. , 1992, , .		0
150	Quantitative analysis of scanning tunneling microscopy images for surface structure determination: sulfur on Re(0001). , 1993, , .		0
151	Scanning Tunneling Microscopy Studies of GaAs1-xPx Single Crystals. Materials Research Society Symposia Proceedings, 1995, 378, 83.	0.1	0