Takeshi Fukuma

List of Publications by Year
in descending order

90 papers	3,445 citations	136740 32 h-index	149479 56 g-index
90 all docs	90 docs citations	90 times ranked	3046 citing authors

#	Article	IF	Citations
1	High-speed atomic force microscopy for nano-visualization of dynamic biomolecular processes. Progress in Surface Science, 2008, 83, 337-437.	3.8	493
2	Direct Imaging of Individual Intrinsic Hydration Layers on Lipid Bilayers at Ã…ngstrom Resolution. Biophysical Journal, 2007, 92, 3603-3609.	0.2	182
3	Direct Imaging of Lipid-Ion Network Formation under Physiological Conditions by Frequency Modulation Atomic Force Microscopy. Physical Review Letters, 2007, 98, 106101.	2.9	154
4	Structured Water Layers Adjacent to Biological Membranes. Biophysical Journal, 2006, 91, 2532-2542.	0.2	145
5	True molecular resolution in liquid by frequency-modulation atomic force microscopy. Applied Physics Letters, 2005, 86, 193108.	1.5	125
6	Atomic- and Molecular-Resolution Mapping of Solidâ€“Liquid Interfaces by 3D Atomic Force Microscopy. ACS Nano, 2018, 12, 11785-11797.	7.3	122
7	Three-dimensional quantitative force maps in liquid with 10 piconewton, angstrom and sub-minute resolutions. Nanoscale, 2013, 5, 2678-2685.	2.8	109
8	Nanoscale Mechanical Characterisation of Amyloid Fibrils Discovered in a Natural Adhesive. Journal of Biological Physics, 2007, 32, 393-401.	0.7	105
9	Spatial Distribution of Lipid Headgroups and Water Molecules at Membrane/Water Interfaces Visualized by Three-Dimensional Scanning Force Microscopy. ACS Nano, 2012, 6, 9013-9020.	7.3	81
10	Hydration Layer Structure of Biofouling-Resistant Nanoparticles. ACS Nano, 2018, 12, 11610-11624.	7.3	70
11	Dissolution Processes at Step Edges of Calcite in Water Investigated by High-Speed Frequency Modulation Atomic Force Microscopy and Simulation. Nano Letters, 2017, 17, 4083-4089.	4.5	67
12	Atomic-resolution imaging in liquid by frequency modulation atomic force microscopy using small cantilevers with megahertz-order resonance frequencies. Nanotechnology, 2012, 23, 135706.	1.3	66
13	High resonance frequency force microscope scanner using inertia balance support. Applied Physics Letters, 2008, 92, 243119.	1.5	65
14	Nanoscale potential measurements in liquid by frequency modulation atomic force microscopy. Review of Scientific Instruments, 2010, 81, 123705.	0.6	60
15	A relationship between three-dimensional surface hydration structures and force distribution measured by atomic force microscopy. Nanoscale, 2016, 8, 7334-7342.	2.8	59
16	Loosening of Lipid Packing Promotes Oligoarginine Entry into Cells. Angewandte Chemie - International Edition, 2017, 56, 7644-7647.	7.2	59
17	Phase modulation atomic force microscope with true atomic resolution. Review of Scientific Instruments, 2006, 77, 123703.	0.6	55
18	The relationship between local liquid density and force applied on a tip of atomic force microscope: A theoretical analysis for simple liquids. Journal of Chemical Physics, 2013, 139, 224710.	1.2	52

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19	Nanoscale kinetic imaging of lithium ion secondary battery materials using scanning electrochemical cell microscopy. Chemical Communications, 2020, 56, 9324-9327.	2.2	49
20	Molecular-scale noncontact atomic force microscopy contrasts in topography and energy dissipation on c(4Ã—2) superlattice structures of alkanethiol self-assembled monolayers. Journal of Applied Physics, 2004, 95, 1222-1226.	1.1	44
21	Alkanethiol self-assembled monolayers on Au(111) surfaces investigated by non-contact AFM. Applied Physics A: Materials Science and Processing, 2001, 72, S109-S112.	1.1	42
22	Local structures and electrical properties of organic molecular films investigated by non-contact atomic force microscopy. Applied Surface Science, 2002, 188, 391-398.	3.1	42
23	Explanation for the mechanical strength of amyloid fibrils. Tribology Letters, 2006, 22, 233-237.	1.2	42
24	Significant improvements in stability and reproducibility of atomic-scale atomic force microscopy in liquid. Nanotechnology, 2014, 25, 455701.	1.3	42
25	High-Speed SICM for the Visualization of Nanoscale Dynamic Structural Changes in Hippocampal Neurons. Analytical Chemistry, 2020, 92, 2159-2167.	3.2	42
26	Revealing molecular-level surface structure of amyloid fibrils in liquid by means of frequency modulation atomic force microscopy. Nanotechnology, 2008, 19, 384010.	1.3	41
27	Submolecular-Scale Imaging of Î±-Helices and C-Terminal Domains of Tubulins by Frequency Modulation Atomic Force Microscopy in Liquid. Biophysical Journal, 2011, 101, 1270-1276.	0.2	41
28	Noncontact atomic force microscopy study of copper-phthalocyanines: Submolecular-scale contrasts in topography and energy dissipation. Journal of Applied Physics, 2004, 95, 4742-4746.	1.1	37
29	Spurious-free cantilever excitation in liquid by piezoactuator with flexure drive mechanism. Review of Scientific Instruments, 2009, 80, 103703.	0.6	37
30	The molecular-scale arrangement and mechanical strength of phospholipid/cholesterol mixed bilayers investigated by frequency modulation atomic force microscopy in liquid. Nanotechnology, 2009, 20, 264008.	1.3	35
31	Visualizing Nanoscale Distribution of Corrosion Cells by Open-Loop Electric Potential Microscopy. ACS Nano, 2016, 10, 2575-2583.	7.3	34
32	Surface potential measurements of phase-separated alkanethiol self-assembled monolayers by non-contact atomic force microscopy. Nanotechnology, 2004, 15, S30-S33.	1.3	33
33	Nanoscale Reactivity Mapping of a Single-Crystal Boron-Doped Diamond Particle. Analytical Chemistry, 2021, 93, 5831-5838.	3.2	33
34	Nanoscale Imaging of Primary Cilia with Scanning Ion Conductance Microscopy. Analytical Chemistry, 2018, 90, 2891-2895.	3.2	32
35	Direct comparison between subnanometer hydration structures on hydrophilic and hydrophobic surfaces via three-dimensional scanning force microscopy. Physical Chemistry Chemical Physics, 2018, 20, 23522-23527.	1.3	31
36	Phase-separated alkanethiol self-assembled monolayers investigated by non-contact AFM. Applied Surface Science, 2003, 210, 99-104.	3.1	30

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37	Atomic-Scale Processes at the Fluoriteâ€“Water Interface Visualized by Frequency Modulation Atomic Force Microscopy. Journal of Physical Chemistry C, 2013, 117, 24388-24396.	1.5	29
38	Structural and mechanical characteristics of exosomes from osteosarcoma cells explored by 3D-atomic force microscopy. Nanoscale, 2021, 13, 6661-6677.	2.8	28
39	Self-assembly of small molecules at hydrophobic interfaces using group effect. Nanoscale, 2020, 12, 5452-5463.	2.8	27
40	Surface potential measurements by the dissipative force modulation method. Review of Scientific Instruments, 2004, 75, 4589-4594.	0.6	26
41	Direct Electrochemical Visualization of the Orthogonal Charge Separation in Anatase Nanotube Photoanodes for Water Splitting. ACS Catalysis, 2022, 12, 1201-1208.	5.5	25
42	Molecular-scale non-contact AFM studies of ferroelectric organic thin films epitaxially grown on alkali halides. Surface Science, 2002, 516, 103-108.	0.8	23
43	Self-Assembling Supramolecular Nanostructures Constructed from de Novo Extender Protein Nanobuilding Blocks. ACS Synthetic Biology, 2018, 7, 1381-1394.	1.9	23
44	Visualizing intracellular nanostructures of living cells by nanoendoscopy-AFM. Science Advances, 2021, 7, eabj4990.	4.7	21
45	Frequency-modulation atomic force microscopy at high cantilever resonance frequencies using the heterodyne optical beam deflection method. Review of Scientific Instruments, 2005, 76, 126110.	0.6	20
46	Understanding 2D atomic resolution imaging of the calcite surface in water by frequency modulation atomic force microscopy. Nanotechnology, 2016, 27, 415709.	1.3	20
47	Molecular-scale surface structures of oligo(ethylene glycol)-terminated self-assembled monolayers investigated by frequency modulation atomic force microscopy in aqueous solution. Nanotechnology, 2014, 25, 305602.	1.3	19
48	Number density distribution of solvent molecules on a substrate: a transform theory for atomic force microscopy. Physical Chemistry Chemical Physics, 2016, 18, 15534-15544.	1.3	18
49	Flattened-Top Domical Water Drops Formed through Self-Organization of Hydrophobin Membranes: A Structural and Mechanistic Study Using Atomic Force Microscopy. ACS Nano, 2016, 10, 81-87.	7.3	18
50	Reversible Changes in the Structural Features of Photosynthetic Light-Harvesting Complex 2 by Removal and Reconstitution of B800 Bacteriochlorophyll a Pigments. Biochemistry, 2017, 56, 3484-3491.	1.2	18
51	Influence of ions on two-dimensional and three-dimensional atomic force microscopy at fluoriteâ€“water interfaces. Nanotechnology, 2017, 28, 245701.	1.3	17
52	Morphology and Physical Properties of Hydrophilic-Polymer-Modified Lipids in Supported Lipid Bilayers. Langmuir, 2018, 34, 7201-7209.	1.6	17
53	Visualizing charges accumulated in an electric double layer by three-dimensional open-loop electric potential microscopy. Nanoscale, 2018, 10, 14736-14746.	2.8	17
54	Chemical fixation creates nanoscale clusters on the cell surface by aggregating membrane proteins. Communications Biology, 2022, 5, .	2.0	16

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55	Nanoscale corrosion behavior of polycrystalline copper fine wires in dilute NaCl solution investigated by in-situ atomic force microscopy. Corrosion Science, 2016, 105, 177-182.	3.0	15
56	Tip dependence of three-dimensional scanning force microscopy images of calciteâ€“water interfaces investigated by simulation and experiments. Nanoscale, 2020, 12, 12856-12868.	2.8	15
57	Submolecular-Resolution Studies on Metal-Phthalocyanines by Noncontact Atomic Force Microscopy. Japanese Journal of Applied Physics, 2004, 43, 4691-4694.	0.8	14
58	Real-time atomic-resolution imaging of crystal growth process in water by phase modulation atomic force microscopy at one frame per second. Applied Physics Letters, 2013, 103, 203104.	1.5	14
59	Dynamic force microscopy at high cantilever resonance frequencies using heterodyne optical beam deflection method. Applied Physics Letters, 2004, 85, 6287-6289.	1.5	13
60	Geometrical Characterization of Glass Nanopipettes with Sub-10 nm Pore Diameter by Transmission Electron Microscopy. Analytical Chemistry, 2020, 92, 15388-15393.	3.2	13
61	Characterization of the Depth of Discharge-Dependent Charge Transfer Resistance of a Single LiFePO₄ Particle. Analytical Chemistry, 2021, 93, 14448-14453.	3.2	13
62	Structures and local electrical properties of ferroelectric polymer thin films in thermal process investigated by dynamic-mode atomic force microscopy. Thin Solid Films, 2001, 397, 133-137.	0.8	12
63	Chiral Monolayers with Achiral Tetrapod Molecules on Highly Oriented Pyrolytic Graphite. Journal of Physical Chemistry C, 2020, 124, 7760-7767.	1.5	12
64	Molecular-scale investigations of semi-insulating polymer single crystals by noncontact atomic force microscopy. Nanotechnology, 2005, 16, S22-S26.	1.3	11
65	Note: High-speed Z tip scanner with screw cantilever holding mechanism for atomic-resolution atomic force microscopy in liquid. Review of Scientific Instruments, 2014, 85, 126106.	0.6	11
66	Loosening of Lipid Packing Promotes Oligoarginine Entry into Cells. Angewandte Chemie, 2017, 129, 7752-7755.	1.6	11
67	Fabrication of electron beam deposited tip for atomic-scale atomic force microscopy in liquid. Nanotechnology, 2015, 26, 105707.	1.3	10
68	Efficiency improvement in the cantilever photothermal excitation method using a photothermal conversion layer. Beilstein Journal of Nanotechnology, 2016, 7, 409-417.	1.5	10
69	Hydration Structure of Brookite TiO₂ (210). Journal of Physical Chemistry C, 2017, 121, 20790-20801.	1.5	10
70	Visualisation of helical structures of poly(diphenylacetylene)s bearing chiral amide pendants by atomic force microscopy. Chemical Communications, 2021, 57, 12266-12269.	2.2	10
71	Near-field light detection by conservative and dissipative force modulation methods using a piezoelectric cantilever. Applied Physics Letters, 2010, 96, 233104.	1.5	9
72	Quantitative comparison of wideband low-latency phase-locked loop circuit designs for high-speed frequency modulation atomic force microscopy. Beilstein Journal of Nanotechnology, 2018, 9, 1844-1855.	1.5	9

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73	Direct Imaging of Atomic-Scale Surface Structures of Brookite TiO₂ Nanoparticles by Frequency Modulation Atomic Force Microscopy in Liquid. Journal of Physical Chemistry C, 2018, 122, 24085-24093.	1.5	9
74	Noncontact Atomic Force Microscopy Investigation of Phase-Separated Alkanethiol Self-Assembled Monolayers with Different Head Groups. Japanese Journal of Applied Physics, 2004, 43, 4545-4548.	0.8	8
75	Electrochemical properties of honeycomb-like structured HFBI self-organized membranes on HOPG electrodes. Colloids and Surfaces B: Biointerfaces, 2014, 123, 803-808.	2.5	8
76	Variations in Atomic-Scale Step Edge Structures and Dynamics of Dissolving Calcite in Water Revealed by High-Speed Frequency Modulation Atomic Force Microscopy. Journal of Physical Chemistry C, 2019, 123, 19786-19793.	1.5	8
77	Direct Measurement of Adhesion Force of Individual Aerosol Particles by Atomic Force Microscopy. Atmosphere, 2020, 11, 489.	1.0	7
78	Inhibition of Silica Nanoparticle Adhesion to Poly(vinyl alcohol) Surfaces by Ammonia-Mediated Hydration: Implications for Effective Post-Chemicalâ€“Mechanical Planarization Cleaning. ACS Applied Nano Materials, 2021, 4, 71-83.	2.4	7
79	Macrocyclic Peptide-Conjugated Tip for Fast and Selective Molecular Recognition Imaging by High-Speed Atomic Force Microscopy. ACS Applied Materials & Interfaces, 2021, 13, 54817-54829.	4.0	7
80	Self-Assembled Monolayers of Alkanethiol and Fluoroalkanethiol Investigated by Noncontact Atomic Force Microscopy. Japanese Journal of Applied Physics, 2005, 44, 5378-5381.	0.8	6
81	Self-assembled monolayers of sulfonate-terminated alkanethiols investigated by frequency modulation atomic force microscopy in liquid. Nanotechnology, 2017, 28, 455603.	1.3	5
82	High-Speed Atomic Force Microscopy of the Structure and Dynamics of Calcite Nanoscale Etch Pits. Journal of Physical Chemistry Letters, 2021, 12, 8039-8045.	2.1	5
83	Subnanometer-scale imaging of nanobio-interfaces by frequency modulation atomic force microscopy. Biochemical Society Transactions, 2020, 48, 1675-1682.	1.6	5
84	Ordered nano-structure of a stamped self-organized protein layer on a HOPG surface using a HFB carrier. Colloids and Surfaces B: Biointerfaces, 2011, 84, 395-399.	2.5	4
85	Improvements in fundamental performance of in-liquid frequency modulation atomic force microscopy. Microscopy (Oxford, England), 2020, 69, 340-349.	0.7	4
86	Photo-sensitive 2D Arrangement of â^'OH/H₂O on Brookite TiO₂(210). Journal of Physical Chemistry C, 2020, 124, 19091-19100.	1.5	4
87	Closed Fluid Cell with Liquid-Sealing Mechanism for Stable and Flexible Operation of Liquid-Environment Atomic Force Microscopy. Japanese Journal of Applied Physics, 2013, 52, 110109.	0.8	3
88	Local Cross-Coupling Activity of Azide-Hexa(ethylene glycol)-Terminated Self-Assembled Monolayers Investigated by Atomic Force Microscopy. Langmuir, 2021, 37, 14688-14696.	1.6	3
89	Nanoscale characterization of the siteâ€specific degradation of electric doubleâ€layer capacitor using scanning electrochemical cell microscopy. Electrochemical Science Advances, 0, , e2100053.	1.2	2
90	Atomic-scale structures and dynamics at the growing calcite step edge investigated by high-speed frequency modulation atomic force microscopy. Faraday Discussions, 2022, , .	1.6	0