Toyoko Arai

List of Publications by Year
in descending order

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49	692	566801	580395
papers	citations	15 h-index	25 g-index

49	49	49	546
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Surface Effect on Youngâ€™s Modulus of Sub-Two-Nanometer Gold [111] Nanocontacts. Physical Review Letters, 2022, 128, 146101.	2.9	2
2	Mechanical energy dissipation of an oscillating cantilever close to a conductive substrate partly covered with thin mica films evaluated by frequency modulation atomic force microscopy. Japanese Journal of Applied Physics, 2022, 61, 065006.	0.8	1
3	Peculiar Atomic Bond Nature in Platinum Monatomic Chains. Nano Letters, 2021, 21, 3922-3928.	4.5	9
4	Critical shear stress of gold nanocontacts estimated by in situ transmission electron microscopy equipped with a quartz length-extension resonator. Applied Physics Express, 2021, 14, 075006.	1.1	2
5	Mechanical analysis of gold nanocontacts during stretching using an in-situ transmission electron microscope equipped with a force sensor. Applied Physics Express, 2020, 13, 025001.	1.1	5
6	Atomic scale mechanics explored by in situ transmission electron microscopy with a quartz length-extension resonator as a force sensor. Nanotechnology, 2020, 31, 205706.	1.3	6
7	Layer-by-layer dissolution and recovery of KBr(001) surfaces covered with a nanometer-thick water film caused by a pressing tip controlled by frequency modulation atomic force microscopy. Applied Physics Express, 2019, 12, 115002.	1.1	5
8	Vibrations of a molecule in an external force field. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4571-4576.	3.3	31
9	Energy dissipation unveils atomic displacement in the noncontact atomic force microscopy imaging of Si(111)â^'(7Ã—7). Physical Review B, 2018, 97, .	1.1	9
10	Energy Dissipation Detected by Frequency Modulation Atomic Force Microscopy. Vacuum and Surface Science, 2018, 61, 632-638.	0.0	0
11	Resistivity change in Joule heat energy dissipation detected by noncontact atomic force microscopy using a silicon tip terminated with/without atomic hydrogen. Japanese Journal of Applied Physics, 2018, 57, 08NB04.	0.8	2
12	Relationship between the Geometrical Structure of a Tip Apex of a Scanning Probe Microscope and the Intensity of the Signal in Inelastic Electron Tunneling Spectroscopy. Vacuum and Surface Science, 2018, 61, 651-656.	0.0	0
13	Quasi-stabilized hydration layers on muscovite mica under a thin water film grown from humid air. Scientific Reports, 2017, 7, 4054.	1.6	27
14	Atomic-scale electric capacitive change detected with a charge amplifier installed in a non-contact atomic force microscope. Applied Physics Express, 2016, 9, 046601.	1.1	1
15	Evaluation and optimization of quartz resonant-frequency retuned fork force sensors with high Q factors, and the associated electric circuits, for non-contact atomic force microscopy. Review of Scientific Instruments, 2016, 87, 023702.	0.6	3
16	Amplitude dependence of image quality in atomically-resolved bimodal atomic force microscopy. Applied Physics Letters, 2016, 109, .	1.5	18
17	Influence of atomic tip structure on the intensity of inelastic tunneling spectroscopy data analyzed by combined scanning tunneling spectroscopy, force microscopy, and density functional theory. Physical Review B, 2016, 93, .	1.1	22
18	Atom-Resolved Analysis of an Ionic KBr(001) Crystal Surface Covered with a Thin Water Layer by Frequency Modulation Atomic Force Microscopy. Langmuir, 2015, 31, 3876-3883.	1.6	12

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19	Resonance frequency-retuned quartz tuning fork as a force sensor for noncontact atomic force microscopy. Applied Physics Letters, 2014, 105, .	1.5	15
20	Thermal Transformation of 4,4â€³-Diamino-p-terphenyl on a Si(111)-7 Ã— 7 Surface Analyzed by X-ray Photoemission Spectroscopy and Scanning Tunneling Microscopy. Journal of Physical Chemistry C, 2014, 118, 25104-25109.	1.5	2
21	Local interaction imaging by SiGe quantum dot probe. Current Applied Physics, 2012, 12, 581-584.	1.1	0
22	Atomic resolution force microscopy imaging on a strongly ionic surface with differently functionalized tips. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, 1279-1283.	0.6	7
23	Adsorption State of 4,4â€²â€²-Diamino-p-terphenyl through an Amino Group Bound to Si(111)-7 Ã— 7 Surface Examined by X-ray Photoelectron Spectroscopy and Scanning Tunneling Microscopy. Journal of Physical Chemistry C, 2010, 114, 11109-11114.	1.5	5
24	Nanomechanical Interaction between a Tip and a Sample with Changing Bias Voltage Observed by Using Scanning Probe Microscopy. Hyomen Kagaku, 2008, 29, 239-245.	0.0	0
25	Atomic force microscope Si tip with Ge clusters with the capability of remoulding by heating. Nanotechnology, 2007, 18, 084020.	1.3	2
26	Energy Spectra of Electrons Backscattered from Sample Surfaces with Heterostructures using Field-Emission Scanning Tunneling Microscopy. Japanese Journal of Applied Physics, 2006, 45, 2278-2282.	0.8	10
27	Evidence of temperature dependence of initial adsorption sites of Ge atoms on Si(111)-7Ã—7. Applied Physics Letters, 2006, 88, 171902.	1.5	9
28	Hexagonal arrangement of Ge clusters self-organized on a template of half unit cells of Si(111)-7Ã—7 observed by scanning tunneling microscopy. Surface Science, 2005, 574, L17-L22.	0.8	18
29	A Si nanopillar grown on a Si tip by atomic force microscopy in ultrahigh vacuum for a high-quality scanning probe. Applied Physics Letters, 2005, 86, 073110.	1.5	21
30	Carbon tips as sensitive detectors for nanoscale surface and sub-surface charge. Nanotechnology, 2004, 15, 1302-1306.	1.3	10
31	Observation of Electronic States on Si(111)-(7Ã—7)through Short-Range Attractive Force with Noncontact Atomic Force Spectroscopy. Physical Review Letters, 2004, 93, 256101.	2.9	86
32	Germanium Nanostructures on Silicon Observed by Scanning Probe Microscopy. MRS Bulletin, 2004, 29, 484-487.	1.7	5
33	Detection Improvement for Electron Energy Spectra for Surface Analysis Using a Field Emission Scanning Tunneling Microscope. Japanese Journal of Applied Physics, 2003, 42, 4837-4840.	0.8	12
34	Interplay between Nonlinearity, Scan Speed, Damping, and Electronics in Frequency Modulation Atomic-Force Microscopy. Physical Review Letters, 2002, 89, 146104.	2.9	54
35	DNA molecules sticking on a vicinal Si(111) surface observed by noncontact atomic force microscopy. Applied Surface Science, 2002, 188, 474-480.	3.1	9
36	Germanium islands grown on a Si(111)7Ã—7 surface observed by noncontact atomic force microscopy with simultaneous imaging on damping. Applied Surface Science, 2002, 188, 292-300.	3.1	14

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37	Bias Dependence of NC-AFM Images and Tunneling Current Variations on Semiconductor Surfaces. Nanoscience and Technology, 2002, , 79-92.	1.5	2
38	An applicability of scanning tunneling microscopy for surface electron spectroscopy. Surface Science, 2001, 493, 49-55.	0.8	18
39	Simultaneous imaging of tunneling current and damping energy by noncontact-AFM in ultra-high vacuum. Applied Physics A: Materials Science and Processing, 2001, 72, S51-S54.	1.1	12
40	Bias dependence of Si(111)7Ã—7 images observed by noncontact atomic force microscopy. Applied Surface Science, 2000, 157, 207-211.	3.1	43
41	Simultaneous Imaging of Tunneling Current Variation by Noncontact Atomic Force Microscopy in Ultrahigh Vacuum. Japanese Journal of Applied Physics, 2000, 39, 3753-3757.	0.8	13
42	Atomic force microscope tip sharpening and evaluation by electric field confinement using a metal grid close to the tip. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 648.	1.6	3
43	Tip cleaning and sharpening processes for noncontact atomic force microscope in ultrahigh vacuum. Applied Surface Science, 1999, 140, 432-438.	3.1	34
44	Energy spectrum of backscattered electrons excited by a field emission scanning tunneling microscope with a build-up [111]-oriented W tip. Applied Surface Science, 1999, 144-145, 123-127.	3.1	21
45	Interaction measurements between a tip and a sample in proximity regions controlled by tunneling current in a UHV STMâ€“AFM. Applied Surface Science, 1999, 144-145, 501-504.	3.1	3
46	Scanning Auger Electron Microscopy Evaluation and Composition Control of Cantilevers for Ultrahigh Vacuum Atomic Force Microscopy. Japanese Journal of Applied Physics, 1997, 36, 3855-3859.	0.8	12
47	Analysis of surface forces on oxides in aqueous solutions using AFM. Thin Solid Films, 1996, 273, 322-326.	0.8	48
48	Effects of electric potentials on surface forces in electrolyte solutions. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 1378.	1.6	28
49	Effect of tip shape on force-distance curves for AFM in aqueous electrolytes. Journal of Electroanalytical Chemistry, 1994, 374, 269-273.	1.9	21