Armin Knoll

List of Publications by Year
in descending order

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94 papers	4,908 citations	109321 35 h-index	91884 69 g-index
94 all docs	94 docs citations	94 times ranked	4753 citing authors

#	Article	IF	Citations
1	Nanometer-Scale-Resolution Multichannel Separation of Spherical Particles in a Rocking Ratchet with Increasing Barrier Heights. Physical Review Applied, 2021, 15, .	3.8	4
2	Thermal Imaging of Block Copolymers with Sub-10 nm Resolution. ACS Nano, 2021, 15, 9005-9016.	14.6	4
3	Nanofluidic rocking Brownian motors for multi-channel separation of spherical nanoparticles with nanometer scale resolution. , 2021, , .		0
4	Freeform Electronic and Photonic Landscapes in Hexagonal Boron Nitride. Nano Letters, 2021, 21, 8175-8181.	9.1	8
5	Thermomechanical Nanostraining of Two-Dimensional Materials. Nano Letters, 2020, 20, 8250-8257.	9.1	34
6	Deterministic Deposition of Nanoparticles with Sub-10 nm Resolution. Nano Letters, 2019, 19, 8855-8861.	9.1	13
7	Thermal Scanning Probe Lithography (t-SPL) for Nano-Fabrication. , 2019, , .		2
8	Nanofluidic rocking Brownian motors. Science, 2018, 359, 1505-1508.	12.6	97
9	Explaining the Transition from Diffusion Limited to Reaction Limited Surface Assembly of Molecular Species through Spatial Variations. Langmuir, 2018, 34, 73-80.	3.5	11
10	Fast turnaround fabrication of silicon point-contact quantum-dot transistors using combined thermal scanning probe lithography and laser writing. Nanotechnology, 2018, 29, 505302.	2.6	20
11	Conversion of a Patterned Organic Resist into a High Performance Inorganic Hard Mask for High Resolution Pattern Transfer. ACS Nano, 2018, 12, 11152-11160.	14.6	16
12	Stabilization and control of topological magnetic solitons via magnetic nanopatterning of exchange bias systems. Applied Physics Letters, 2018, 113, .	3.3	14
13	Experimental Observation of Current Reversal in a Rocking Brownian Motor. Physical Review Letters, 2018, 121, 104102.	7.8	29
14	The nanofluidic confinement apparatus: studying confinement-dependent nanoparticle behavior and diffusion. Beilstein Journal of Nanotechnology, 2018, 9, 301-310.	2.8	14
15	Thermal scanning probe lithography for the directed self-assembly of block copolymers. Nanotechnology, 2017, 28, 175301.	2.6	28
16	Comprehensive modeling of Joule heated cantilever probes. Journal of Applied Physics, 2017, 121, 174503.	2.5	8
17	High throughput lithography using thermal scanning probes. , 2017, , .		7
18	Control of the interaction strength of photonic molecules by nanometer precise 3D fabrication. Scientific Reports, 2017, 7, 16502.	3.3	17

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19	Testing the Equivalence between Spatial Averaging and Temporal Averaging in Highly Dilute Solutions. Langmuir, 2017, 33, 14539-14547.	3.5	3
20	Sub-10 Nanometer Feature Size in Silicon Using Thermal Scanning Probe Lithography. ACS Nano, 2017, 11, 11890-11897.	14.6	76
21	Understanding How Charged Nanoparticles Electrostatically Assemble and Distribute in 1-D. Langmuir, 2016, 32, 13600-13610.	3.5	9
22	In situ contrast calibration to determine the height of individual diffusing nanoparticles in a tunable confinement. Journal of Applied Physics, 2016, 119, .	2.5	14
23	PVD prepared molecular glass resists for scanning probe lithography. , 2016, , .		0
24	Coherent commensurate electronic states at the interface between misoriented graphene layers. Nature Nanotechnology, 2016, 11, 752-757.	31.5	107
25	Accurate Location and Manipulation of Nanoscaled Objects Buried under Spin-Coated Films. ACS Nano, 2015, 9, 6188-6195.	14.6	24
26	Sub-20â€‰nm silicon patterning and metal lift-off using thermal scanning probe lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, .	1.2	40
27	Adhesion and friction in mesoscopic graphite contacts. Science, 2015, 348, 679-683.	12.6	210
28	Tailored molecular glass resists for scanning probe lithography. Proceedings of SPIE, 2015, , .	0.8	7
29	Thermal probe nanolithography for novel photonic devices. , 2015, , .		1
30	Nanometer Accurate Markerless Pattern Overlay Using Thermal Scanning Probe Lithography. IEEE Nanotechnology Magazine, 2014, 13, 1204-1212.	2.0	18
31	Closed-loop high-speed 3D thermal probe nanolithography. Proceedings of SPIE, 2014, , .	0.8	4
32	Direct experimental observation of stacking fault scattering in highly oriented pyrolytic graphite meso-structures. Nature Communications, 2014, 5, 5837.	12.8	26
33	Meso-scale measurement of the electrical spreading resistance in highly anisotropic media. Applied Physics Letters, 2014, 105, .	3.3	18
34	Nanometer control of the markerless overlay process using thermal scanning probe lithography. , 2014, , .		2
35	Molecular glass resists for scanning probe lithography. Proceedings of SPIE, 2014, , .	0.8	11
36	Control over molar mass, dispersity, end-groups and kinetics in cyclopolymerization of ortho-phthalaldehyde: adapted choice of a phosphazene organocatalyst. Polymer Chemistry, 2014, 5, 706-711.	3.9	19

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37	Enhancing Ordering Dynamics in Solvent-Annealed Block Copolymer Films by Lithographic Hard Mask Supports. Macromolecules, 2014, 47, 3059-3067.	4.8	24
38	Frictional Dissipation in a Polymer Bilayer System. Langmuir, 2014, 30, 1557-1565.	3.5	8
39	Advanced scanning probe lithography. Nature Nanotechnology, 2014, 9, 577-587.	31.5	541
40	Thermal Probe Maskless Lithography for 27.5 nm Half-Pitch Si Technology. Nano Letters, 2013, 13, 4485-4491.	9.1	73
41	Nanoscale Thermomechanics of Wear-Resilient Polymeric Bilayer Systems. ACS Nano, 2013, 7, 748-759.	14.6	11
42	Nanoscale Contact-Radius Determination by Spectral Analysis of Polymer Roughness Images. Langmuir, 2013, 29, 13958-13966.	3.5	15
43	Thermal probe nanolithography: in-situ inspection, high-speed, high-resolution, 3D. Proceedings of SPIE, 2013, , .	0.8	12
44	Vertical microcavities with high<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Q</mml:mi></mml:math>and strong lateral mode confinement. Physical Review B, 2013, 87, .	3.2	37
45	Integrated vertical microcavity using a nano-scale deformation for strong lateral confinement. Applied Physics Letters, 2013, 103, .	3.3	15
46	Curved in-plane electromechanical relay for low power logic applications. Journal of Micromechanics and Microengineering, 2013, 23, 025024.	2.6	28
47	Fundamental scaling properties of electro-mechanical switches. New Journal of Physics, 2012, 14, 123007.	2.9	19
48	Field stitching in thermal probe lithography by means of surface roughness correlation. Nanotechnology, 2012, 23, 385307.	2.6	16
49	NEM switch technologies for low-power logic applications. , 2012, , .		2
50	Directed Placement of Gold Nanorods Using a Removable Template for Guided Assembly. Nano Letters, 2011, 11, 3957-3962.	9.1	72
51	High density multi-level recording for archival data preservation. Applied Physics Letters, 2011, 99, .	3.3	20
52	Topographic patterning by voltage-assisted tribocharging of a polymer. Journal of Applied Physics, 2011, 109, 124312.	2.5	0
53	Rapid turnaround scanning probe nanolithography. Nanotechnology, 2011, 22, 275306.	2.6	59
54	Probe Based Surface Modification of Polymers Below 30 nm Pitch. Journal of Nanoscience and Nanotechnology, 2010, 10, 4538-4542.	0.9	3

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55	Direct write 3-dimensional nanopatterning using probes. , 2010, , .		1
56	Designing Polymers to Enable Nanoscale Thermomechanical Data Storage. Advanced Functional Materials, 2010, 20, 1276-1284.	14.9	24
57	Probeâ€Based 3â€D Nanolithography Using Selfâ€Amplified Depolymerization Polymers. Advanced Materials, 2010, 22, 3361-3365.	21.0	146
58	Probe Lithography: Probe-Based 3-D Nanolithography Using Self-Amplified Depolymerization Polymers (Adv. Mater. 31/2010). Advanced Materials, 2010, 22, n/a-n/a.	21.0	0
59	Wear-less floating contact imaging of polymer surfaces. Nanotechnology, 2010, 21, 185701.	2.6	14
60	Effect of Confinement on the Mesoscale and Macroscopic Swelling of Thin Block Copolymer Films. Langmuir, 2010, 26, 6610-6617.	3.5	56
61	Nanoscale Three-Dimensional Patterning of Molecular Resists by Scanning Probes. Science, 2010, 328, 732-735.	12.6	304
62	Probe-Based Nanolithography: Self-Amplified Depolymerization Media for Dry Lithography. Macromolecules, 2010, 43, 572-574.	4.8	79
63	Relaxation Kinetics of Nanoscale Indents in a Polymer Glass. Physical Review Letters, 2009, 102, 117801.	7.8	25
64	Nanoscale Frictional Dissipation into Shear-Stressed Polymer Relaxations. Physical Review Letters, 2009, 102, 236101.	7.8	24
65	KnolletÂal.Reply:. Physical Review Letters, 2009, 103, .	7.8	2
66	Ultraflat Templated Polymer Surfaces. Langmuir, 2009, 25, 5141-5145.	3.5	20
67	Multi Tbit/in² Storage Densities with Thermomechanical Probes. Nano Letters, 2009, 9, 3171-3176.	9.1	30
68	Probe-based ultrahigh-density storage technology. IBM Journal of Research and Development, 2008, 52, 493-511.	3.1	129
69	Self-similarity and finite-size effects in nano-indentation of highly cross-linked polymers. Nanotechnology, 2008, 19, 475301.	2.6	12
70	All mechanical mixing by means of orthogonally coupled cantilevers. New Journal of Physics, 2008, 10, 125017.	2.9	0
71	Thermo-mechanical probe storage at Mbps single-probe data rates and Tbit in^{â^'2}densities. Nanotechnology, 2008, 19, 395305.	2.6	22
72	Nanoscale Shape-Memory Function in Highly Cross-Linked Polymers. Nano Letters, 2008, 8, 4398-4403.	9.1	51

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73	Time Evolution of Surface Relief Structures in Thin Block Copolymer Films. Macromolecules, 2007, 40, 6930-6939.	4.8	50
74	Local potential distribution of macrophase separated polymer blend domains. Journal Physics D: Applied Physics, 2007, 40, 4855-4865.	2.8	4
75	Nanoscaling of Microdomain Spacings in Thin Films of Cylinder-Forming Block Copolymers. Nano Letters, 2007, 7, 843-846.	9.1	56
76	Substrate-Induced Phase Transitions in Thin Films of Cylinder-Forming Diblock Copolymer Melts. Macromolecules, 2006, 39, 3608-3615.	4.8	97
77	Rapid Transitions between Defect Configurations in a Block Copolymer Melt. Nano Letters, 2006, 6, 1574-1577.	9.1	44
78	The influence of incompatibility and dielectric contrast on the electric field-induced orientation of lamellar block copolymers. Polymer, 2006, 47, 849-857.	3.8	47
79	Integrating nanotechnology into a working storage device. Microelectronic Engineering, 2006, 83, 1692-1697.	2.4	42
80	Micron-sized mechanical oscillators created by 3D two-photon polymerization: Towards a mechanical logic device. Microelectronic Engineering, 2006, 83, 1261-1264.	2.4	9
81	Direct imaging and mesoscale modelling of phase transitions in a nanostructured fluid. Nature Materials, 2004, 3, 886-891.	27.5	111
82	Phase behavior in thin films of cylinder-forming ABA block copolymers: Experiments. Journal of Chemical Physics, 2004, 120, 1105-1116.	3.0	189
83	Surface Reconstructions of Lamellar ABC Triblock Copolymer Mesostructures. Macromolecules, 2003, 36, 3261-3271.	4.8	43
84	Electric Field Induced Alignment of Concentrated Block Copolymer Solutions. Macromolecules, 2003, 36, 8078-8087.	4.8	108
85	Microscopic Mechanisms of Electric-Field-Induced Alignment of Block Copolymer Microdomains. Physical Review Letters, 2002, 89, 135502.	7.8	129
86	Large Scale Domain Alignment of a Block Copolymer from Solution Using Electric Fields. Macromolecules, 2002, 35, 1319-1325.	4.8	142
87	Synthesis and Characterization of ABC Triblock Copolymers with Two Different Crystalline End Blocks:Â Influence of Confinement on Crystallization Behavior and Morphology. Macromolecules, 2002, 35, 10004-10013.	4.8	80
88	Phase Behavior in Thin Films of Cylinder-Forming Block Copolymers. Physical Review Letters, 2002, 89, 035501.	7.8	475
89	UV light-damaged DNA and its interaction with human replication protein A: an atomic force microscopy study. Nucleic Acids Research, 2002, 30, 2686-2691.	14.5	56
90	Tapping Mode Atomic Force Microscopy on Polymers:â€‰ Where Is the True Sample Surface?. Macromolecules, 2001, 34, 4159-4165.	4.8	208

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91	Surface Reconstruction of an Ordered Fluid: An Analogy with Crystal Surfaces. Physical Review Letters, 2001, 87, 035505.	7.8	39
92	Femtosecond laser assisted scanning tunneling microscopy. Journal of Applied Physics, 2000, 88, 4851.	2.5	71
93	Volume Imaging of an Ultrathin SBS Triblock Copolymer Film. Macromolecules, 2000, 33, 5518-5523.	4.8	96
94	Scanning Probes Entering Data Storage: From Promise to Reality. , 0, , .		3