

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	Advanced scanning probe lithography. <i>Nature Nanotechnology</i> , 2014, 9, 577-587.	31.5	541
2	Phase Behavior in Thin Films of Cylinder-Forming Block Copolymers. <i>Physical Review Letters</i> , 2002, 89, 035501.	7.8	475
3	Nanoscale Three-Dimensional Patterning of Molecular Resists by Scanning Probes. <i>Science</i> , 2010, 328, 732-735.	12.6	304
4	Adhesion and friction in mesoscopic graphite contacts. <i>Science</i> , 2015, 348, 679-683.	12.6	210
5	Tapping Mode Atomic Force Microscopy on Polymers: Where Is the True Sample Surface?. <i>Macromolecules</i> , 2001, 34, 4159-4165.	4.8	208
6	Phase behavior in thin films of cylinder-forming ABA block copolymers: Experiments. <i>Journal of Chemical Physics</i> , 2004, 120, 1105-1116.	3.0	189
7	Probe-Based Nanolithography Using Self-Amplified Depolymerization Polymers. <i>Advanced Materials</i> , 2010, 22, 3361-3365.	21.0	146
8	Large Scale Domain Alignment of a Block Copolymer from Solution Using Electric Fields. <i>Macromolecules</i> , 2002, 35, 1319-1325.	4.8	142
9	Microscopic Mechanisms of Electric-Field-Induced Alignment of Block Copolymer Microdomains. <i>Physical Review Letters</i> , 2002, 89, 135502.	7.8	129
10	Probe-based ultrahigh-density storage technology. <i>IBM Journal of Research and Development</i> , 2008, 52, 493-511.	3.1	129
11	Direct imaging and mesoscale modelling of phase transitions in a nanostructured fluid. <i>Nature Materials</i> , 2004, 3, 886-891.	27.5	111
12	Electric Field Induced Alignment of Concentrated Block Copolymer Solutions. <i>Macromolecules</i> , 2003, 36, 8078-8087.	4.8	108
13	Coherent commensurate electronic states at the interface between misoriented graphene layers. <i>Nature Nanotechnology</i> , 2016, 11, 752-757.	31.5	107
14	Substrate-Induced Phase Transitions in Thin Films of Cylinder-Forming Diblock Copolymer Melts. <i>Macromolecules</i> , 2006, 39, 3608-3615.	4.8	97
15	Nanofluidic rocking Brownian motors. <i>Science</i> , 2018, 359, 1505-1508.	12.6	97
16	Volume Imaging of an Ultrathin SBS Triblock Copolymer Film. <i>Macromolecules</i> , 2000, 33, 5518-5523.	4.8	96
17	Synthesis and Characterization of ABC Triblock Copolymers with Two Different Crystalline End Blocks: A Influence of Confinement on Crystallization Behavior and Morphology. <i>Macromolecules</i> , 2002, 35, 10004-10013.	4.8	80
18	Probe-Based Nanolithography: Self-Amplified Depolymerization Media for Dry Lithography. <i>Macromolecules</i> , 2010, 43, 572-574.	4.8	79

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19	Sub-10 Nanometer Feature Size in Silicon Using Thermal Scanning Probe Lithography. ACS Nano, 2017, 11, 11890-11897.	14.6	76
20	Thermal Probe Maskless Lithography for 27.5 nm Half-Pitch Si Technology. Nano Letters, 2013, 13, 4485-4491.	9.1	73
21	Directed Placement of Gold Nanorods Using a Removable Template for Guided Assembly. Nano Letters, 2011, 11, 3957-3962.	9.1	72
22	Femtosecond laser assisted scanning tunneling microscopy. Journal of Applied Physics, 2000, 88, 4851.	2.5	71
23	Rapid turnaround scanning probe nanolithography. Nanotechnology, 2011, 22, 275306.	2.6	59
24	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
25	Nanoscaling of Microdomain Spacings in Thin Films of Cylinder-Forming Block Copolymers. Nano Letters, 2007, 7, 843-846.	9.1	56
26	Effect of Confinement on the Mesoscale and Macroscopic Swelling of Thin Block Copolymer Films. Langmuir, 2010, 26, 6610-6617.	3.5	56
27	Nanoscale Shape-Memory Function in Highly Cross-Linked Polymers. Nano Letters, 2008, 8, 4398-4403.	9.1	51
28	Time Evolution of Surface Relief Structures in Thin Block Copolymer Films. Macromolecules, 2007, 40, 6930-6939.	4.8	50
29	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
30	Rapid Transitions between Defect Configurations in a Block Copolymer Melt. Nano Letters, 2006, 6, 1574-1577.	9.1	44
31	Surface Reconstructions of Lamellar ABC Triblock Copolymer Mesostructures. Macromolecules, 2003, 36, 3261-3271.	4.8	43
32	Integrating nanotechnology into a working storage device. Microelectronic Engineering, 2006, 83, 1692-1697.	2.4	42
33	Sub-20-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
34	Surface Reconstruction of an Ordered Fluid: An Analogy with Crystal Surfaces. Physical Review Letters, 2001, 87, 035505.	7.8	39
35	Vertical microcavities with high Q and strong lateral mode confinement. Physical Review B, 2013, 87, .	3.2	37
36	Thermomechanical Nanostraining of Two-Dimensional Materials. Nano Letters, 2020, 20, 8250-8257.	9.1	34

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37	Multi Tbit/in ² Storage Densities with Thermomechanical Probes. Nano Letters, 2009, 9, 3171-3176.	9.1	30
38	Experimental Observation of Current Reversal in a Rocking Brownian Motor. Physical Review Letters, 2018, 121, 104102.	7.8	29
39	Curved in-plane electromechanical relay for low power logic applications. Journal of Micromechanics and Microengineering, 2013, 23, 025024.	2.6	28
40	Thermal scanning probe lithography for the directed self-assembly of block copolymers. Nanotechnology, 2017, 28, 175301.	2.6	28
41	Direct experimental observation of stacking fault scattering in highly oriented pyrolytic graphite meso-structures. Nature Communications, 2014, 5, 5837.	12.8	26
42	Relaxation Kinetics of Nanoscale Indents in a Polymer Glass. Physical Review Letters, 2009, 102, 117801.	7.8	25
43	Nanoscale Frictional Dissipation into Shear-Stressed Polymer Relaxations. Physical Review Letters, 2009, 102, 236101.	7.8	24
44	Designing Polymers to Enable Nanoscale Thermomechanical Data Storage. Advanced Functional Materials, 2010, 20, 1276-1284.	14.9	24
45	Enhancing Ordering Dynamics in Solvent-Annealed Block Copolymer Films by Lithographic Hard Mask Supports. Macromolecules, 2014, 47, 3059-3067.	4.8	24
46	Accurate Location and Manipulation of Nanoscaled Objects Buried under Spin-Coated Films. ACS Nano, 2015, 9, 6188-6195.	14.6	24
47	Thermo-mechanical probe storage at Mbps single-probe data rates and Tbit in ² densities. Nanotechnology, 2008, 19, 395305.	2.6	22
48	Ultraflat Templated Polymer Surfaces. Langmuir, 2009, 25, 5141-5145.	3.5	20
49	High density multi-level recording for archival data preservation. Applied Physics Letters, 2011, 99, .	3.3	20
50	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
51	Fundamental scaling properties of electro-mechanical switches. New Journal of Physics, 2012, 14, 123007.	2.9	19
52	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
53	Nanometer Accurate Markerless Pattern Overlay Using Thermal Scanning Probe Lithography. IEEE Nanotechnology Magazine, 2014, 13, 1204-1212.	2.0	18
54	Meso-scale measurement of the electrical spreading resistance in highly anisotropic media. Applied Physics Letters, 2014, 105, .	3.3	18

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55	Control of the interaction strength of photonic molecules by nanometer precise 3D fabrication. <i>Scientific Reports</i> , 2017, 7, 16502.	3.3	17
56	Field stitching in thermal probe lithography by means of surface roughness correlation. <i>Nanotechnology</i> , 2012, 23, 385307.	2.6	16
57	Conversion of a Patterned Organic Resist into a High Performance Inorganic Hard Mask for High Resolution Pattern Transfer. <i>ACS Nano</i> , 2018, 12, 11152-11160.	14.6	16
58	Nanoscale Contact-Radius Determination by Spectral Analysis of Polymer Roughness Images. <i>Langmuir</i> , 2013, 29, 13958-13966.	3.5	15
59	Integrated vertical microcavity using a nano-scale deformation for strong lateral confinement. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	15
60	Wear-less floating contact imaging of polymer surfaces. <i>Nanotechnology</i> , 2010, 21, 185701.	2.6	14
61	<i>In situ</i> contrast calibration to determine the height of individual diffusing nanoparticles in a tunable confinement. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	14
62	Stabilization and control of topological magnetic solitons via magnetic nanopatterning of exchange bias systems. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	14
63	The nanofluidic confinement apparatus: studying confinement-dependent nanoparticle behavior and diffusion. <i>Beilstein Journal of Nanotechnology</i> , 2018, 9, 301-310.	2.8	14
64	Deterministic Deposition of Nanoparticles with Sub-10 nm Resolution. <i>Nano Letters</i> , 2019, 19, 8855-8861.	9.1	13
65	Self-similarity and finite-size effects in nano-indentation of highly cross-linked polymers. <i>Nanotechnology</i> , 2008, 19, 475301.	2.6	12
66	Thermal probe nanolithography: in-situ inspection, high-speed, high-resolution, 3D. <i>Proceedings of SPIE</i> , 2013, , .	0.8	12
67	Nanoscale Thermomechanics of Wear-Resilient Polymeric Bilayer Systems. <i>ACS Nano</i> , 2013, 7, 748-759.	14.6	11
68	Molecular glass resists for scanning probe lithography. <i>Proceedings of SPIE</i> , 2014, , .	0.8	11
69	Explaining the Transition from Diffusion Limited to Reaction Limited Surface Assembly of Molecular Species through Spatial Variations. <i>Langmuir</i> , 2018, 34, 73-80.	3.5	11
70	Micron-sized mechanical oscillators created by 3D two-photon polymerization: Towards a mechanical logic device. <i>Microelectronic Engineering</i> , 2006, 83, 1261-1264.	2.4	9
71	Understanding How Charged Nanoparticles Electrostatically Assemble and Distribute in 1-D. <i>Langmuir</i> , 2016, 32, 13600-13610.	3.5	9
72	Frictional Dissipation in a Polymer Bilayer System. <i>Langmuir</i> , 2014, 30, 1557-1565.	3.5	8

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73	Comprehensive modeling of Joule heated cantilever probes. <i>Journal of Applied Physics</i> , 2017, 121, 174503.	2.5	8
74	Freeform Electronic and Photonic Landscapes in Hexagonal Boron Nitride. <i>Nano Letters</i> , 2021, 21, 8175-8181.	9.1	8
75	Tailored molecular glass resists for scanning probe lithography. <i>Proceedings of SPIE</i> , 2015, , .	0.8	7
76	High throughput lithography using thermal scanning probes. , 2017, , .		7
77	Local potential distribution of macrophase separated polymer blend domains. <i>Journal Physics D: Applied Physics</i> , 2007, 40, 4855-4865.	2.8	4
78	Closed-loop high-speed 3D thermal probe nanolithography. <i>Proceedings of SPIE</i> , 2014, , .	0.8	4
79	Nanometer-Scale-Resolution Multichannel Separation of Spherical Particles in a Rocking Ratchet with Increasing Barrier Heights. <i>Physical Review Applied</i> , 2021, 15, .	3.8	4
80	Thermal Imaging of Block Copolymers with Sub-10 nm Resolution. <i>ACS Nano</i> , 2021, 15, 9005-9016.	14.6	4
81	Scanning Probes Entering Data Storage: From Promise to Reality. , 0, , .		3
82	Probe Based Surface Modification of Polymers Below 30 nm Pitch. <i>Journal of Nanoscience and Nanotechnology</i> , 2010, 10, 4538-4542.	0.9	3
83	Testing the Equivalence between Spatial Averaging and Temporal Averaging in Highly Dilute Solutions. <i>Langmuir</i> , 2017, 33, 14539-14547.	3.5	3
84	Knoll <i>et al.</i> Reply:. <i>Physical Review Letters</i> , 2009, 103, .	7.8	2
85	NEM switch technologies for low-power logic applications. , 2012, , .		2
86	Nanometer control of the markerless overlay process using thermal scanning probe lithography. , 2014, , .		2
87	Thermal Scanning Probe Lithography (t-SPL) for Nano-Fabrication. , 2019, , .		2
88	Direct write 3-dimensional nanopatterning using probes. , 2010, , .		1
89	Thermal probe nanolithography for novel photonic devices. , 2015, , .		1
90	All mechanical mixing by means of orthogonally coupled cantilevers. <i>New Journal of Physics</i> , 2008, 10, 125017.	2.9	0

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91	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
92	Topographic patterning by voltage-assisted tribocharging of a polymer. Journal of Applied Physics, 2011, 109, 124312.	2.5	0
93	PVD prepared molecular glass resists for scanning probe lithography. , 2016, , .		0
94	Nanofluidic rocking Brownian motors for multi-channel separation of spherical nanoparticles with nanometer scale resolution. , 2021, , .		0