Qingze Zou

List of Publications by Year in descending order

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95 papers	2,378 citations	279487 23 h-index	214527 47 g-index
95 all docs	95 docs citations	95 times ranked	1148 citing authors

#	Article	IF	Citations
1	A Review of Feedforward Control Approaches in Nanopositioning for High-Speed SPM. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	0.9	329
2	Feedforward control of piezoactuators in atomic force microscope systems. IEEE Control Systems, 2009, 29, 70-82.	1.0	237
3	Iterative control of dynamics-coupling-caused errors in piezoscanners during high-speed AFM operation. IEEE Transactions on Control Systems Technology, 2005, 13, 921-931.	3.2	200
4	Iterative Control Approach to Compensate for Both the Hysteresis and the Dynamics Effects of Piezo Actuators. IEEE Transactions on Control Systems Technology, 2007, 15, 936-944.	3.2	197
5	Preview-Based Stable-Inversion for Output Tracking of Linear Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1999, 121, 625-630.	0.9	133
6	Preview-Based Optimal Inversion for Output Tracking: Application to Scanning Tunneling Microscopy. IEEE Transactions on Control Systems Technology, 2004, 12, 375-386.	3.2	122
7	A Modeling-Free Inversion-Based Iterative Feedforward Control for Precision Output Tracking of Linear Time-Invariant Systems. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1767-1777.	3.7	115
8	Optimal preview-based stable-inversion for output tracking of nonminimum-phase linear systems. Automatica, 2009, 45, 230-237.	3.0	83
9	Robust Inversion-Based 2-DOF Control Design for Output Tracking: Piezoelectric-Actuator Example. IEEE Transactions on Control Systems Technology, 2009, 17, 1069-1082.	3.2	82
10	A control approach to cross-coupling compensation of piezotube scanners in tapping-mode atomic force microscope imaging. Review of Scientific Instruments, 2009, 80, 043709.	0.6	46
11	An Atomic Force Microscope Study Revealed Two Mechanisms in the Effect of Anticancer Drugs on Rate-Dependent Youngâ€™s Modulus of Human Prostate Cancer Cells. PLoS ONE, 2015, 10, e0126107.	1.1	42
12	Iterative control approach to high-speed force-distance curve measurement using AFM: Time-dependent response of PDMS example. Ultramicroscopy, 2008, 108, 911-920.	0.8	41
13	Broadband measurement of rate-dependent viscoelasticity at nanoscale using scanning probe microscope: Poly(dimethylsiloxane) example. Applied Physics Letters, 2008, 93, 133103.	1.5	34
14	A decoupled inversion-based iterative control approach to multi-axis precision positioning: 3D nanopositioning example. Automatica, 2012, 48, 167-176.	3.0	34
15	High-speed adaptive contact-mode atomic force microscopy imaging with near-minimum-force. Review of Scientific Instruments, 2014, 85, 073706.	0.6	33
16	Design and Control of Optimal Scan Trajectories: Scanning Tunneling Microscope Example. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 187-197.	0.9	30
17	Inversion-based optimal output trackingâ€“transition switching with preview for nonminimum-phase linear systems. Automatica, 2012, 48, 1364-1371.	3.0	30
18	B-Spline-Decomposition-Based Approach to Multiaxis Trajectory Tracking: Nanomanipulation Example. IEEE Transactions on Control Systems Technology, 2014, 22, 1573-1580.	3.2	30

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19	-spline-decomposition-based output tracking with preview for nonminimum-phase linear systems. Automatica, 2013, 49, 1295-1303.	3.0	28
20	Acoustic Softening and Hardening of Aluminum in High-Frequency Vibration-Assisted Micro/Meso Forming. Materials and Manufacturing Processes, 2013, 28, 584-588.	2.7	28
21	Indentation quantification for in-liquid nanomechanical measurement of soft material using an atomic force microscope: Rate-dependent elastic modulus of live cells. Physical Review E, 2013, 88, 052711.	0.8	27
22	An integrated approach to piezoactuator positioning in high-speed atomic force microscope imaging. Review of Scientific Instruments, 2008, 79, 073704.	0.6	26
23	A Control-Based Approach to Accurate Nanoindentation Quantification in Broadband Nanomechanical Measurement Using Scanning Probe Microscope. IEEE Nanotechnology Magazine, 2014, 13, 46-54.	1.1	24
24	A New Approach to Scan-Trajectory Design and Track: AFM Force Measurement Example. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, .	0.9	23
25	A control approach to high-speed probe-based nanofabrication. Nanotechnology, 2009, 20, 175301.	1.3	22
26	An Iterative-Based Feedforward-Feedback Control Approach to High-Speed Atomic Force Microscope Imaging. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	0.9	20
27	High-speed atomic force microscope imaging: Adaptive multiloop mode. Physical Review E, 2014, 90, 012405.	0.8	19
28	Elevating EGFR-MAPK program by a nonconventional Cdc42 enhances intestinal epithelial survival and regeneration. JCI Insight, 2020, 5, .	2.3	18
29	Design and characterization of a flextensional stage based on Terfenol-D actuator. International Journal of Precision Engineering and Manufacturing, 2014, 15, 135-141.	1.1	17
30	Active control of acoustics-caused nano-vibration in atomic force microscope imaging. Ultramicroscopy, 2018, 195, 101-110.	0.8	17
31	Mechanical-plowing-based high-speed patterning on hard material via advanced-control and ultrasonic probe vibration. Review of Scientific Instruments, 2013, 84, 113704.	0.6	16
32	Control of a Magnetostrictive-Actuator-Based Micromachining System for Optimal High-Speed Microforming Process. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1046-1055.	3.7	16
33	Adaptive-scanning, near-minimum-deformation atomic force microscope imaging of soft sample in liquid: Live mammalian cell example. Ultramicroscopy, 2018, 186, 150-157.	0.8	16
34	Self-limiting electrospray deposition on polymer templates. Scientific Reports, 2020, 10, 17290.	1.6	16
35	Experimental Study of High-Frequency Vibration Assisted Micro/Mesoscale Forming of Metallic Materials. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2011, 133, .	1.3	14
36	Enhanced measurement of broadband nanomechanical property of polymers using atomic force microscope. Applied Physics Letters, 2013, 102, .	1.5	14

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37	A modeling-free differential-inversion-based iterative control approach to simultaneous hysteresis-dynamics compensation: High-speed large-range motion tracking example. , 2015, , .		12
38	Iterative control approach to compensate for the hysteresis and the vibrational dynamics effects of piezo actuators. , 2006, , .		11
39	Robust-inversion-based 2DOF-control design for output tracking: Piezoelectric actuator example. , 2007, , .		11
40	A current cycle feedback iterative learning control approach to AFM imaging. , 2008, , .		11
41	A model-based approach to compensate for the dynamics convolution effect on nanomechanical property measurement. Journal of Applied Physics, 2010, 107, 064315.	1.1	10
42	Study of Cholesterol Repletion Effect on Nanomechanical Properties of Human Umbilical Vein Endothelial Cell Via Rapid Broadband Atomic Force Microscopy. Journal of Biomechanical Engineering, 2017, 139, .	0.6	10
43	Receptorâ€mediated endocytosis generates nanomechanical force reflective of ligand identity and cellular property. Journal of Cellular Physiology, 2018, 233, 5908-5919.	2.0	10
44	Iteration-based Scan-Trajectory Design and Control with Output-Oscillation Minimization: Atomic Force Microscope Example. Proceedings of the American Control Conference, 2007, , .	0.0	9
45	A decomposition-based learning approach to hysteresis-dynamics system control: Piezoelectric actuator example. , 2015, , .		9
46	On superposition of Hammerstein systems: Application to simultaneous hysteresisâ€dynamics compensation. International Journal of Robust and Nonlinear Control, 2018, 28, 4075-4092.	2.1	9
47	Simultaneous topography imaging and broadband nanomechanical mapping on atomic force microscope. Nanotechnology, 2017, 28, 505502.	1.3	7
48	Rapid Probe Engagement and Withdrawal With Force Minimization in Atomic Force Microscopy: A Learning-Based Online-Searching Approach. IEEE/ASME Transactions on Mechatronics, 2020, 25, 581-593.	3.7	7
49	Optimal time-distributed fast Fourier transform: Application to online iterative learning controlâ€"experimental high-speed nanopositioning example. Mechatronics, 2017, 41, 114-124.	2.0	6
50	Preview-based inversion of nonlinear nonminimum-phase systems: VTOL example. , 2004, , .		5
51	Optimal preview-based stable-inversion for output tracking of nonminimum-phase linear systems. , 2007, , .		5
52	On single-basis online asymptotic trajectory decomposition for control applications. , 2016, , .		5
53	Toward Fully Automated Metal Recycling using Computer Vision and Non-Prehensile Manipulation. , 2021, , .		5
54	High-speed dynamic-mode atomic force microscopy imaging of polymers: an adaptive multiloop-mode approach. Beilstein Journal of Nanotechnology, 2017, 8, 1563-1570.	1.5	4

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55	Rapid broadband discrete nanomechanical mapping of soft samples on atomic force microscope. Nanotechnology, 2020, 31, 335705.	1.3	4
56	Decomposition-Learning-Based Output Tracking to Simultaneous Hysteresis and Dynamics Control: High-Speed Large-Range Nanopositioning Example. IEEE Transactions on Control Systems Technology, 2021, 29, 1775-1782.	3.2	4
57	Optimal Data-Driven Difference-Inversion-Based Iterative Control: High-Speed Nanopositioning Tracking Example. IEEE Transactions on Control Systems Technology, 2023, 31, 144-154.	3.2	4
58	An iterative based feedforward-feedback control approach to high-speed AFM imaging. , 2009, , .		3
59	A control approach to high-speed probe-based nanofabrication. , 2009, , .		3
60	A decoupled inversion-based iterative control approach to multi-axis precision positioning: 3-d nanopositioning example. , 2010, , .		3
61	Optimal Excitation Force Design in Indentation-Based Rapid Broadband Nanomechanical Spectroscopy: Poly(dimethylsiloxane) Example. IEEE Transactions on Control Systems Technology, 2013, 21, 1618-1628.	3.2	3
62	High-speed broadband monitoring of cell viscoelasticity in real time shows myosin-dependent oscillations. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1857-1868.	1.4	3
63	Development of High-Throughput Control Techniques for Tip-Based Nanofabrication. , 2011, , 325-355.		3
64	Preview-based optimal inversion for output tracking: application to scanning tunneling microscopy. , 0, , .		2
65	Teaching Modules on Modeling and Control of Piezoactuators for System Dynamics, Controls, and Mechatronics Courses. IEEE Transactions on Education, 2010, 53, 372-383.	2.0	2
66	Multi-objective optimal trajectory design and tracking with non-periodic tracking-transition switching for non-minimum phase linear systems. International Journal of Control, 2016, 89, 2371-2383.	1.2	2
67	Simultaneous topography imaging and broadband nanomechanical property mapping using atomic force microscope. , 2017, , .		2
68	Low power femtosecond tip-based nanofabrication with advanced control. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	2
69	Adaptive Simultaneous Topography and Broadband Nanomechanical Mapping of Heterogeneous Materials on Atomic Force Microscope. , 2019, , .		2
70	Adaptive Simultaneous Topography and Broadband Nanomechanical Mapping of Heterogeneous Materials on Atomic Force Microscope. IEEE Nanotechnology Magazine, 2020, 19, 689-698.	1.1	2
71	Inversion-based precision-positioning of switching inertial reaction devices. , 2004, , .		2
72	Iterative Control Approach to High-Speed Force-Distance Curve Measurement Using AFM for Biological Applications. , 2007, , .		1

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73	High speed force-volume mapping using atomic force microscope.. , 2009, , .		1
74	A multi-objective optimization approach to active power control of wind farms. , 2012, , .		1
75	A control-based approach to quantification of rate-dependent elastic modulus of living cell using atomic force microscope. , 2013, , .		1
76	Rapid Broadband Discrete Nanomechanical Mapping on Atomic Force Microscope. , 2019, , .		1
77	Modeling and Adaptive Optimal Control of Highway Tunnel Ventilation System. , 2019, , .		1
78	High-speed large-range dynamic-mode atomic force microscope imaging: Adaptive tapping approach via Field Programmable Gate Array. , 2020, , .		1
79	Preview-based output tracking for periodic switching systems. , 0, , .		0
80	An adaptive filtering approach to dynamics effect compensation in nanoscale broadband viscoelasticity measurements of soft materials. , 2009, , .		0
81	Model-based approach to compensate for the dynamics convolution effect in nanomechanical property measurement. , 2010, , .		0
82	Optimal input design for indentation-based rapid broadband nanomechanical spectroscopy: Poly(dimethylsiloxane) example. , 2011, , .		0
83	Rapid online quantification of tip-sample interaction for high-speed dynamic-mode atomic force microscope imaging. , 2011, , .		0
84	A control-based approach to indentation quantification in broadband and in-liquid nanomechanical measurement using atomic force microscope. , 2012, , .		0
85	Output tracking with preview for nonminimum-phase linear systems based on B-splines decomposition. , 2012, , .		0
86	Control-based high-speed direct mask fabrication for lithography via mechanical plowing. , 2013, , .		0
87	B-spline-decomposition-based approach to multi-axis trajectory tracking: Nanomanipulation example. , 2013, , .		0
88	An almost superposition of hammerstein systems for simultaneous hysteresis-dynamics compensation. , 2016, , .		0
89	A time-distributed fast Fourier transform algorithm: Application to real-time implementation of iterative learning controlâ€"Experimental piezoactuator example. , 2016, , .		0
90	Non-periodic Transition-Tracking Switching via Learning-Based Decomposition: High-Speed Nano-Positioning Experiment Example. , 2018, , .		0

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91	Modeling of Soft Sample Deformation in Atomic Force Microscope Imaging: Live Mammalian Cell Example. Advanced Theory and Simulations, 2019, 2, 1800036.	1.3	0
92	Scanning Probe Microscope Imaging Control. , 2021, , 2028-2034.		0
93	Scanning Probe Microscope Imaging Control. , 2020, , 1-6.		0
94	Mobile Measurement of a Dynamic Field via Compressed Sensing. IEEE Transactions on Mobile Computing, 2023, 22, 2802-2817.	3.9	0
95	Data-Driven Decomposition Control to Output Tracking With Nonperiodic Trackingâ€“Transition Switching Under Input Constraint. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2022, 144, .	0.9	0