

Kam K Leang

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

101
papers

3,238
citations

29
h-index

56
g-index

114
ext. papers

3,835
ext. citations

2.7
avg, IF

5.75
L-index

#	Paper	IF	Citations
101	Low-Coupling Hybrid Parallel-Serial-Kinematic Nanopositioner with Nonorthogonal Flexure: Nonlinear Design and Control. <i>IEEE/ASME Transactions on Mechatronics</i> , 2021 , 1-11	5.5	0
100	. <i>IEEE/ASME Transactions on Mechatronics</i> , 2021 , 26, 1412-1421	5.5	5
99	. <i>IEEE Transactions on Automation Science and Engineering</i> , 2021 , 18, 1453-1468	4.9	6
98	Particle swarm optimization for source localization in realistic complex urban environments. <i>Atmospheric Environment</i> , 2021 , 262, 118636	5.3	0
97	Image-based estimation, planning, and control for high-speed flying through multiple openings. <i>International Journal of Robotics Research</i> , 2020 , 39, 1122-1137	5.7	5
96	Analysis and experimental comparison of range-based control for dual-stage nanopositioners. <i>Mechatronics</i> , 2020 , 69, 102371	3	4
95	. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020 , 25, 558-569	5.5	5
94	Image-Based Estimation, Planning, and Control of a Cable-Suspended Payload for Package Delivery. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 2698-2705	4.2	6
93	Soft Endoluminal Robots Propelled by Rotating Magnetic Dipole Fields. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2020 , 2, 598-607	3.1	9
92	Decentralized Multi-agent information-theoretic control for target estimation and localization: finding gas leaks. <i>International Journal of Robotics Research</i> , 2020 , 39, 1525-1548	5.7	6
91	. <i>IEEE Systems Journal</i> , 2019 , 13, 3524-3535	4.3	22
90	. <i>IEEE Transactions on Robotics</i> , 2019 , 35, 967-986	6.5	19
89	In-Ground-Effect Modeling and Nonlinear-Disturbance Observer for Multirotor Unmanned Aerial Vehicle Control. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2019 , 141,	1.6	16
88	Gaussian-Based Kernel for Multi-Agent Aerial Chemical-Plume Mapping 2019 ,		3
87	Toward Magneto-Electroactive Endoluminal Soft (MEESo) Robots 2019 ,		4
86	3D-Printing and Machine Learning Control of Soft Ionic Polymer-Metal Composite Actuators. <i>Scientific Reports</i> , 2019 , 9, 17482	4.9	24
85	Open-sector rapid-reactive collision avoidance: Application in aerial robot navigation through outdoor unstructured environments. <i>Robotics and Autonomous Systems</i> , 2019 , 112, 211-220	3.5	7

84	A 3D-printed 3-DOF tripedal microrobotic platform for unconstrained and omnidirectional sample positioning. <i>International Journal of Intelligent Robotics and Applications</i> , 2018 , 2, 425-435	1.7	5
83	Nonlinear Vision-Based Observer for Visual Servo Control of an Aerial Robot in Global Positioning System Denied Environments. <i>Journal of Mechanisms and Robotics</i> , 2018 , 10,	2.2	7
82	On-board model-based automatic collision avoidance: application in remotely-piloted unmanned aerial vehicles. <i>Autonomous Robots</i> , 2017 , 41, 1539-1554	3	9
81	. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2017 , 53, 1855-1865	3.7	43
80	Adaptive-Repetitive Visual-Servo Control of Low-Flying Aerial Robots via Uncalibrated High-Flying Cameras. <i>Journal of Nonlinear Science</i> , 2017 , 27, 1235-1256	2.8	3
79	Fused filament 3D printing of ionic polymer-metal composites for soft robotics 2017 ,		13
78	Spatial-temporal trajectory redesign for dual-stage nanopositioning systems 2017 ,		2
77	Mutual Information Control for Target Acquisition: A Method to Localize a Gas/Chemical Plume Source Using a Mobile Sensor 2017 ,		2
76	2017 ,		21
75	Spatial Filter Design for Dual-Stage Systems 2017 ,		3
74	A comprehensive review of select smart polymeric and gel actuators for soft mechatronics and robotics applications: fundamentals, freeform fabrication, and motion control. <i>International Journal of Smart and Nano Materials</i> , 2017 , 8, 144-213	3.6	43
73	Master-slave control with hysteresis inversion for dual-stage nanopositioning systems 2016 ,		8
72	IPMCs as EAPs: How to Start Experimenting with Them 2016 , 215-233		1
71	IPMCs as EAPs: How to Start Experimenting with Them 2016 , 1-19		
70	Position Sensors for Nanopositioning 2016 , 245-294		
69	Mechanical Design of High-Speed Nanopositioning Systems 2016 , 61-121		2
68	Tracking Control for Nanopositioning Systems 2016 , 213-244		0
67	Dynamic underactuated flying-walking (DUCK) robot 2016 ,		9

66	Adaptive repetitive visual-servo control of a low-flying unmanned aerial vehicle with an uncalibrated high-flying camera 2016 ,		2
65	Study of improved pilot performance using automatic collision avoidance for tele-operated unmanned aerial vehicles 2016 ,		1
64	Low-order continuous-time robust repetitive control: Application in nanopositioning. <i>Mechatronics</i> , 2015 , 30, 231-243	3	13
63	Slender tube-shaped and square rod-shaped IPMC actuators with integrated sensing for soft mechatronics. <i>Meccanica</i> , 2015 , 50, 2781-2795	2.1	9
62	Low-Order Damping and Tracking Control for Scanning Probe Systems. <i>Frontiers in Mechanical Engineering</i> , 2015 , 1,	2.6	5
61	Stochastic automatic collision avoidance for tele-operated unmanned aerial vehicles 2015 ,		6
60	A micro spherical rolling and flying robot 2015 ,		10
59	Fused filament 3D printing of ionic polymer-metal composites (IPMCs). <i>Smart Materials and Structures</i> , 2015 , 24, 125021	3.4	76
58	Design and Analysis of Scanning Probe Microscopy Cantilevers With Microthermal Actuation. <i>Journal of Microelectromechanical Systems</i> , 2015 , 24, 1768-1781	2.5	2
57	Chapter 11: Precision Feedback and Feedforward Control of Ionic Polymer Metal Composite Actuators. <i>RSC Smart Materials</i> , 2015 , 354-385	0.6	2
56	Nanothorn electrodes for ionic polymer-metal composite artificial muscles. <i>Scientific Reports</i> , 2014 , 4, 6176	4.9	47
55	Design, Modeling and Control of Nanopositioning Systems. <i>Advances in Industrial Control</i> , 2014 ,	0.3	83
54	. <i>IEEE Journal of Oceanic Engineering</i> , 2014 , 39, 540-551	3.3	66
53	Analog Robust Repetitive Control for Nanopositioning Using Bucket Brigade Devices. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2014 , 47, 1126-1133		1
52	Range-based control of dual-stage nanopositioning systems. <i>Review of Scientific Instruments</i> , 2014 , 85, 045003	1.7	11
51	Charge Drives. <i>Advances in Industrial Control</i> , 2014 , 317-336	0.3	
50	Mechanical Design: Flexure-Based Nanopositioners. <i>Advances in Industrial Control</i> , 2014 , 57-102	0.3	1
49	Noise in Nanopositioning Systems. <i>Advances in Industrial Control</i> , 2014 , 337-393	0.3	

48	Feedforward Control. <i>Advances in Industrial Control</i> , 2014 , 251-273	0.3	
47	Hysteresis Modeling and Control. <i>Advances in Industrial Control</i> , 2014 , 299-316	0.3	1
46	Command Shaping. <i>Advances in Industrial Control</i> , 2014 , 275-298	0.3	
45	Matlab Tricks and Tips [Focus on Education]. <i>IEEE Control Systems</i> , 2013 , 33, 39-40	2.9	1
44	Design and Control for High-Speed Nanopositioning: Serial-Kinematic Nanopositioners and Repetitive Control for Nanofabrication. <i>IEEE Control Systems</i> , 2013 , 33, 86-105	2.9	41
43	An IPMC-enabled bio-inspired bending/twisting fin for underwater applications. <i>Smart Materials and Structures</i> , 2013 , 22, 014003	3.4	80
42	Sector Tube-Shaped Ionic Polymer-Metal Composite Actuator With Integrated Sensor 2013 ,		2
41	Dual-stage repetitive control with Prandtl-Bhlinkii hysteresis inversion for piezo-based nanopositioning. <i>Mechatronics</i> , 2012 , 22, 271-281	3	33
40	. <i>IEEE/ASME Transactions on Mechatronics</i> , 2012 , 17, 356-369	5.5	245
39	. <i>IEEE/ASME Transactions on Mechatronics</i> , 2012 , 17, 345-355	5.5	50
38	Accounting for hysteresis in repetitive control design: Nanopositioning example. <i>Automatica</i> , 2012 , 48, 1751-1758	5.7	71
37	An Experiment for Teaching Students About Control at the Nanoscale [Focus on Education]. <i>IEEE Control Systems</i> , 2012 , 32, 66-68	2.9	1
36	Short Online Videos to Excite and Engage Students About Control [Focus on Education]. <i>IEEE Control Systems</i> , 2012 , 32, 70-71	2.9	0
35	Teaching the Difference Between Stiffness and Damping [Lecture Notes]. <i>IEEE Control Systems</i> , 2012 , 32, 95-97	2.9	2
34	Invited review article: high-speed flexure-guided nanopositioning: mechanical design and control issues. <i>Review of Scientific Instruments</i> , 2012 , 83, 121101	1.7	318
33	Robust damping PI repetitive control for nanopositioning 2012 ,		4
32	Introduction to the themed articles on ionic polymer-metal composites. <i>International Journal of Smart and Nano Materials</i> , 2012 , 3, 183-187	3.6	1
31	Mitigating IPMC back relaxation through feedforward and feedback control of patterned electrodes. <i>Smart Materials and Structures</i> , 2012 , 21, 085002	3.4	29

30	Cyclic energy harvesting from pyroelectric materials. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2011 , 58, 10-7	3.2	63
29	Compact ultra-fast vertical nanopositioner for improving scanning probe microscope scan speed. <i>Review of Scientific Instruments</i> , 2011 , 82, 123703	1.7	72
28	A Twistable Ionic Polymer-Metal Composite Artificial Muscle for Marine Applications. <i>Marine Technology Society Journal</i> , 2011 , 45, 83-98	0.5	34
27	Performance of Thin Piezoelectric Materials for Pyroelectric Energy Harvesting. <i>Journal of Intelligent Material Systems and Structures</i> , 2010 , 21, 243-249	2.3	57
26	Design, characterization, and control of a monolithic three-axis high-bandwidth nanopositioning stage 2010 ,		13
25	Emerging Challenges of Microactuators for Nanoscale Positioning, Assembly, and Manipulation. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2010 , 132,	3.3	32
24	Dual-Stage Repetitive Control for High-Speed Nanopositioning. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010 , 43, 105-110		
23	High Performance Nanopositioning with Integrated Strain and Force Feedback. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010 , 43, 117-124		1
22	Bridging the gap between conventional and video-speed scanning probe microscopes. <i>Ultramicroscopy</i> , 2010 , 110, 1205-14	3.1	82
21	Teaching Modules on Modeling and Control of Piezoactuators for System Dynamics, Controls, and Mechatronics Courses. <i>IEEE Transactions on Education</i> , 2010 , 53, 372-383	2.1	2
20	Integrated strain and force feedback for high-performance control of piezoelectric actuators. <i>Sensors and Actuators A: Physical</i> , 2010 , 161, 256-265	3.9	86
19	Iterative and Feedback Control for Hysteresis Compensation in SMA. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2009 , 131,	1.6	8
18	Design and Analysis of Discrete-Time Repetitive Control for Scanning Probe Microscopes. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2009 , 131,	1.6	57
17	A Review of Feedforward Control Approaches in Nanopositioning for High-Speed SPM. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2009 , 131,	1.6	251
16	Frequency-weighted feedforward control for dynamic compensation in ionic polymer-metal composite actuators. <i>Smart Materials and Structures</i> , 2009 , 18, 125016	3.4	26
15	High-speed serial-kinematic SPM scanner: design and drive considerations. <i>Asian Journal of Control</i> , 2009 , 11, 144-153	1.7	87
14	Feedforward control of piezoactuators in atomic force microscope systems. <i>IEEE Control Systems</i> , 2009 , 29, 70-82	2.9	185
13	Repetitive control with Prandtl-Ishlinskii hysteresis inverse for piezo-based nanopositioning 2009 ,		15

12	Optimal Output Transitions for Dual-Stage Systems. <i>IEEE Transactions on Control Systems Technology</i> , 2008 , 16, 869-881	4.8	21
11	. <i>IEEE/ASME Transactions on Mechatronics</i> , 2008 , 13, 700-709	5.5	31
10	High-speed serial-kinematic AFM scanner: Design and drive considerations 2008 ,		18
9	Evaluation of charge drives for scanning probe microscope positioning stages 2008 ,		12
8	Charge drives for scanning probe microscope positioning stages. <i>Ultramicroscopy</i> , 2008 , 108, 1551-7	3.1	79
7	Feedback-Linearized Inverse Feedforward for Creep, Hysteresis, and Vibration Compensation in AFM Piezoactuators. <i>IEEE Transactions on Control Systems Technology</i> , 2007 , 15, 927-935	4.8	278
6	. <i>Proceedings of the American Control Conference</i> , 2007 ,	1.2	2
5	Design of hysteresis-compensating iterative learning control for piezo-positioners: Application to atomic force microscopes. <i>Mechatronics</i> , 2006 , 16, 141-158	3	127
4	Control Issues in High-speed AFM for Biological Applications: Collagen Imaging Example. <i>Asian Journal of Control</i> , 2004 , 6, 164-178	1.7	68
3	Modeling and Analysis of a Soft Endoluminal Inchworm Robot Propelled by a Rotating Magnetic Dipole Field. <i>Journal of Mechanisms and Robotics</i> , 1-13	2.2	2
2	Ionic polymer metal composite compression sensors with 3D-structured interfaces. <i>Smart Materials and Structures</i> ,	3.4	1
1	Manufacturing for the Masses: A Novel Concept for Consumer 3D Printer Networks in the Context of Crisis Relief. <i>Advanced Intelligent Systems</i> , 2100121	6	