Zhenhua Xiong

List of Publications by Year
in descending order

84 papers	1,155 citations	394421 19 h-index	434195 31 g-index
84 all docs	84 docs citations	84 times ranked	999 citing authors

#	ARTICLE	IF	CITATIONS
1	Discrete-Time Sliding-Mode Control With Improved Quasi-Sliding-Mode Domain. IEEE Transactions on Industrial Electronics, 2016, 63, 6292-6304.	7.9	118
2	A Distance Function Based Approach for Localization and Profile Error Evaluation of Complex Surface. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2004, 126, 542-554.	2.2	59
3	An Optimal Weighted Wavelet Packet Entropy Method With Application to Real-Time Chatter Detection. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2004-2014.	5.8	58
4	High-Acceleration Precision Point-to-Point Motion Control With Look-Ahead Properties. IEEE Transactions on Industrial Electronics, 2011, 58, 4343-4352.	7.9	57
5	An Iterative Approach for Accurate Dynamic Model Identification of Industrial Robots. IEEE Transactions on Robotics, 2020, 36, 1577-1594.	10.3	55
6	Topology optimization of multi-material for the heat conduction problem based on the level set method. Engineering Optimization, 2010, 42, 811-831.	2.6	53
7	Discrete-Time Sliding-Mode Control With Enhanced Power Reaching Law. IEEE Transactions on Industrial Electronics, 2019, 66, 4629-4638.	7.9	48
8	Integral design of contour error model and control for biaxial system. International Journal of Machine Tools and Manufacture, 2015, 89, 159-169.	13.4	40
9	Active chatter suppression with displacement-only measurement in turning process. Journal of Sound and Vibration, 2017, 401, 255-267.	3.9	37
10	Motion stages for electronic packaging design and control. IEEE Robotics and Automation Magazine, 2006, 13, 51-61.	2.0	35
11	Temperature-Constrained Topology Optimization of Transient Heat Conduction Problems. Numerical Heat Transfer, Part B: Fundamentals, 2015, 68, 366-385.	0.9	33
12	A New Time Synchronization Method for Reducing Quantization Error Accumulation Over Real-Time Networks: Theory and Experiments. IEEE Transactions on Industrial Informatics, 2013, 9, 1659-1669.	11.3	32
13	Collision Detection of Robots Based on a Force/Torque Sensor at the Bedplate. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2565-2573.	5.8	26
14	A Near-Optimal Probing Strategy for Workpiece Localization. Journal of the American College of Radiology, 2004, 20, 668-676.	1.8	25
15	Robust controller based on friction compensation and disturbance observer for a motion platform driven by a linear motor. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2006, 220, 33-39.	1.0	25
16	Design of a Distributed Multiaxis Motion Control System Using the IEEE-1394 Bus. IEEE Transactions on Industrial Electronics, 2010, 57, 4209-4218.	7.9	25
17	A Global Heat Compliance Measure Based Topology Optimization for the Transient Heat Conduction Problem. Numerical Heat Transfer, Part B: Fundamentals, 2014, 65, 445-471.	0.9	24
18	Servo performance improvement through iterative tuning feedforward controller with disturbance compensator. International Journal of Machine Tools and Manufacture, 2017, 117, 1-10.	13.4	23

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19	A Scale Factor-Based Interpolated DFT for Chatter Frequency Estimation. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 2666-2678.	4.7	22
20	Topology Optimization of the Transient Heat Conduction Problem on a Triangular Mesh. Numerical Heat Transfer, Part B: Fundamentals, 2013, 64, 239-262.	0.9	21
21	Precise contour following for biaxial systems via an A-type iterative learning cross-coupled control algorithm. International Journal of Machine Tools and Manufacture, 2015, 93, 10-18.	13.4	20
22	Online Chatter Suppression in Turning by Adaptive Amplitude Modulation of Spindle Speed Variation. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2018, 140, .	2.2	18
23	An Active Control Method for Chatter Suppression in Thin Plate Turning. IEEE Transactions on Industrial Informatics, 2020, 16, 1742-1753.	11.3	18
24	High speed machining tool path generation for pockets using level sets. International Journal of Production Research, 2010, 48, 5749-5766.	7.5	17
25	Development of a decentralized multi-axis synchronous control approach for real-time networks. ISA Transactions, 2017, 68, 116-126.	5.7	16
26	High-precision time synchronization in real-time Ethernet-based CNC systems. International Journal of Advanced Manufacturing Technology, 2013, 65, 1157-1170.	3.0	15
27	Early chatter detection based on logistic regression with time and frequency domain features. , 2017, , .		12
28	Real-time chatter detection using the weighted wavelet packet entropy. , 2014, , .		10
29	Sliding Mode Control for Uncertain Discrete-Time Systems Using an Adaptive Reaching Law. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 722-726.	3.0	10
30	Beat Effect in Machining Chatter: Analysis and Detection. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2021, 143, .	2.2	10
31	Sliding mode control for uncertain discrete‐time systems based on fractional order reaching law. IET Control Theory and Applications, 2019, 13, 1963-1970.	2.1	9
32	Multi-Robot Object Transport Motion Planning With a Deformable Sheet. IEEE Robotics and Automation Letters, 2022, 7, 9350-9357.	5.1	9
33	Intelligent chatter detection based on wavelet packet node energy and LSSVM-RFE. , 2015, , .		8
34	A real-time interpolation strategy for transition tool path with C2 and G2 continuity. International Journal of Advanced Manufacturing Technology, 2018, 98, 905-918.	3.0	8
35	Temperature-constrained topology optimization of nonlinear heat conduction problems. Journal of Computational Design and Engineering, 2021, 8, 1059-1081.	3.1	8
36	BÃ©zier extraction based isogeometric approach to multiâ€objective topology optimization of periodic microstructures. International Journal for Numerical Methods in Engineering, 2021, 122, 6827-6866.	2.8	8

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37	A Generalized Input-output-based Digital Sliding-mode Control for Piezoelectric Actuators with Non-minimum Phase Property. International Journal of Control, Automation and Systems, 2019, 17, 773-782.	2.7	7
38	Adaptive removal of time-varying harmonics for chatter detection in thin-walled turning. International Journal of Advanced Manufacturing Technology, 2020, 106, 519-531.	3.0	7
39	Topology optimization of transient nonlinear heat conduction using an adaptive parameterized level-set method. Engineering Optimization, 2021, 53, 2017-2039.	2.6	7
40	Chatter Detection With Beat Effect Based on Beat Frequency Estimation. IEEE Transactions on Automation Science and Engineering, 2021, 18, 2166-2174.	5.2	7
41	Design of Discrete-Time Sliding Mode Control With Disturbance Compensator-Based Switching Function. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1268-1272.	3.0	7
42	Cooperative Transportation With Mobile Manipulator: A Capability Map-Based Framework for Physical Human–Robot Collaboration. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4396-4405.	5.8	7
43	Bézier extraction based isogeometric topology optimization with a locally-adaptive smoothed density model. Journal of Computational Physics, 2022, 467, 111469.	3.8	7
44	Nonlinear friction compensation and disturbance observer for a high-speed motion platform. , 2004, , .		6
45	Modeling, analysis, and removal of chatter marks in flexible turning. International Journal of Advanced Manufacturing Technology, 2017, 93, 4187-4196.	3.0	6
46	Active chatter control in turning processes with input constraint. International Journal of Advanced Manufacturing Technology, 2020, 108, 3737-3751.	3.0	6
47	Computerized Repairable Inventory Management with Reliability Growth and System Installations Increase. , 2006, , .		5
48	Exploring a solar photovoltaic-based energy solution for green manufacturing industry. , 2012, , .		5
49	Structural shape and topology optimization based on level-set modelling and the element-propagating method. Engineering Optimization, 2009, 41, 537-555.	2.6	4
50	PID saturation function sliding mode control for piezoelectric actuators. , 2014, , .		4
51	An Object-Oriented Semantic SLAM System towards Dynamic Environments for Mobile Manipulation. , 2019, , .		4
52	Distributed multi-robot formation control under dynamic obstacle interference. , 2020, , .		4
53	An Approximate Maximum Likelihood Estimator for Instantaneous Frequency Estimation of Multicomponent Nonstationary Signals. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	4.7	4
54	Precise motion control of piezoelectric actuators using modified ZPETC-based composite controller. , 2014, , .		3

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55	A Visual SLAM System with Laser Assisted Optimization. , 2019, , .		3
56	Asynchronous Fusion of Visual and Wheel Odometer for SLAM Applications. , 2020, , .		3
57	Global Place Recognition using An Improved Scan Context for LIDAR-based Localization System. , 2021, , .		3
58	3D Traversability Map Generation for Mobile Robots Based on Point Cloud. , 2021, , .		3
59	<i>In Situ</i> Calibration of Six-Axis Force–Torque Sensors for Industrial Robots With Tilting Base. IEEE Transactions on Robotics, 2022, 38, 2308-2321.	10.3	3
60	A computer-aided probing strategy for workpiece localization. , 0, , .		2
61	Von Mises Stress and Level Set Method based Structural Topology Optimization with Multi-phase Materials. , 2007, , .		2
62	Multi-objective topology optimization of compliant mechanism for fast tool servo. , 2013, , .		2
63	A Fast Global Method Combined with Local Features for 6D Object Pose Estimation. , 2019, , .		2
64	Force ripple compensation of the directly-driven linear motors via iterative tuning feed-forward controller. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2019, 233, 1239-1247.	1.0	2
65	A Segmentation-Driven Approach for 6D Object Pose Estimation in the Crowd. , 2019, , .		2
66	A convolution neural network based semi-parametric dynamic model for industrial robot. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2022, 236, 3683-3700.	2.1	2
67	Identification of robot dynamic model and joint frictions using a baseplate force sensor. Science China Technological Sciences, 0, , 1.	4.0	2
68	Design of funnel function–based discrete–time sliding mode control. IET Control Theory and Applications, 2020, 14, 2413-2418.	2.1	2
69	Servo System Identification Based on Curve Fitting to Phase-Plane Trajectory. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2020, 142, .	1.6	2
70	Model-Free Adaptive Sliding Mode Control-Based Active Chatter Suppression by Spindle Speed Variation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2022, 144, .	1.6	2
71	Time-stamped cross-coupled control in networked CNC systems. , 2011, , .		1
72	Efficiency analysis of sinusoidal stiffness variation method for chatter suppression. , 2015, , .		1

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73	Dual-mode type algorithm for chatter detection in turning considering beat vibration. , 2019, , .		1
74	Disturbance estimator-based switching function for discrete-time sliding mode control systems with control saturation. Transactions of the Institute of Measurement and Control, 2021, 43, 2715-2723.	1.7	1
75	A Distributed Current Source Model for Analyzing Motion-Induced Eddy-Current in a Conductor With Arbitrary Movements. IEEE/ASME Transactions on Mechatronics, 2022, 27, 3806-3818.	5.8	1
76	Cylinder Fitting of Coupler Using an Improved Genetic Algorithm. , 2021, , .		1
77	Minimize system failure rate considering variations of electronic components lifetime data [PCB design for reliability]. , 0, , .		0
78	Laser soldering system calibration based on computer vision. , 2006, , .		0
79	Experimental optimization of process parameters for diode laser soldering of BGA. , 2006, , .		0
80	Numerical and Experimental Investigations of Motion-induced Eddy Current for Contactless Speed Estimation based on Distributed Current Source Model. , 2021, , .		0
81	Nut Projection Welding Robotic System for Industrial Parts Based on Machine Vision. , 2021, , .		0
82	Deep learning based pose estimation method using 3D point clouds. , 2021, , .		0
83	A Feature Reserved Teaching Method for Pick-Place System under Robot Operating System. , 2021, , .		0
84	Introduction to the focused section on novel sensing and multi-sensor fusion in robotics. International Journal of Intelligent Robotics and Applications, 0, , .	2.8	0