Dawei Zhang

List of Publications by Year
in descending order

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126 papers	2,333 citations	279487 23 h-index	233125 45 g-index
126 all docs	126 docs citations	126 times ranked	1542 citing authors

#	Article	IF	Citations
1	A Novel Direct Inverse Modeling Approach for Hysteresis Compensation of Piezoelectric Actuator in Feedforward Applications. IEEE/ASME Transactions on Mechatronics, 2013, 18, 981-989.	3.7	213
2	Design of a Piezoelectric-Actuated Microgripper With a Three-Stage Flexure-Based Amplification. IEEE/ASME Transactions on Mechatronics, 2015, 20, 2205-2213.	3.7	140
3	Design and Control of a Compliant Microgripper With a Large Amplification Ratio for High-Speed Micro Manipulation. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1262-1271.	3.7	140
4	Multi-morphology transition hybridization CAD design of minimal surface porous structures for use in tissue engineering. CAD Computer Aided Design, 2014, 56, 11-21.	1.4	133
5	Design and Computational Optimization of a Decoupled 2-DOF Monolithic Mechanism. IEEE/ASME Transactions on Mechatronics, 2014, 19, 872-881.	3.7	126
6	Design issues in a decoupled XY stage: Static and dynamics modeling, hysteresis compensation, and tracking control. Sensors and Actuators A: Physical, 2013, 194, 95-105.	2.0	97
7	Design and control of a novel asymmetrical piezoelectric actuated microgripper for micromanipulation. Sensors and Actuators A: Physical, 2018, 269, 227-237.	2.0	93
8	Modeling and controller design of a 6-DOF precision positioning system. Mechanical Systems and Signal Processing, 2018, 104, 536-555.	4.4	75
9	Novel real function based method to construct heterogeneous porous scaffolds and additive manufacturing for use in medical engineering. Medical Engineering and Physics, 2015, 37, 1037-1046.	0.8	70
10	Design and control of a 6-degree-of-freedom precision positioning system. Robotics and Computer-Integrated Manufacturing, 2017, 44, 77-96.	6.1	68
11	Experimental Investigation of Robust Motion Tracking Control for a 2-DOF Flexure-Based Mechanism. IEEE/ASME Transactions on Mechatronics, 2014, 19, 1737-1745.	3.7	65
12	A novel monolithic piezoelectric actuated flexure-mechanism based wire clamp for microelectronic device packaging. Review of Scientific Instruments, 2015, 86, 045106.	0.6	55
13	A 2-DOF Monolithic Compliant Rotation Platform Driven by Piezoelectric Actuators. IEEE Transactions on Industrial Electronics, 2020, 67, 6963-6974.	5.2	54
14	A Flexure-Based Kinematically Decoupled Micropositioning Stage With a Centimeter Range Dedicated to Micro/Nano Manufacturing. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1055-1062.	3.7	49
15	Experimental Analysis of Laser Interferometry-Based Robust Motion Tracking Control of a Flexure-Based Mechanism. IEEE Transactions on Automation Science and Engineering, 2013, 10, 267-275.	3.4	48
16	Fabrication of hierarchical freeform surfaces by 2D compliant vibration-assisted cutting. International Journal of Mechanical Sciences, 2019, 152, 454-464.	3.6	41
17	Development of a high speed and precision wire clamp with both position and force regulations. Robotics and Computer-Integrated Manufacturing, 2017, 44, 208-217.	6.1	35
18	Investigation of Effects of Acid, Alkali, and Salt Solutions on Fluorinated Superhydrophobic Surfaces. Langmuir, 2019, 35, 17027-17036.	1.6	33

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19	Development and control methodologies for 2-DOF micro/nano positioning stage with high out-of-plane payload capacity. Robotics and Computer-Integrated Manufacturing, 2019, 56, 95-105.	6.1	33
20	Modeling and Analysis of Soft Pneumatic Network Bending Actuators. IEEE/ASME Transactions on Mechatronics, 2021, 26, 2195-2203.	3.7	33
21	A Contrastive Investigation on the Anticorrosive Performance of Stearic Acid and Fluoroalkylsilane-Modified Superhydrophobic Surface in Salt, Alkali, and Acid Solution. Langmuir, 2020, 36, 10279-10292.	1.6	29
22	A Two-Finger Soft-Robotic Gripper with Enveloping and Pinching Grasping Modes. IEEE/ASME Transactions on Mechatronics, 2020, , 1-1.	3.7	29
23	Effects of geometrical errors of guideways on the repeatability of positioning of linear axes of machine tools. International Journal of Advanced Manufacturing Technology, 2018, 98, 2319-2333.	1.5	27
24	A novel multi-probe method for separating spindle radial error from artifact roundness error. International Journal of Advanced Manufacturing Technology, 2017, 93, 623-634.	1.5	26
25	Machining forces prediction for peripheral milling of low-rigidity component with curved geometry. International Journal of Advanced Manufacturing Technology, 2013, 64, 1599-1610.	1.5	25
26	A new top-down design method for the stiffness of precision machine tools. International Journal of Advanced Manufacturing Technology, 2016, 83, 1887-1904.	1.5	24
27	A CAD/CAE-integrated structural design framework for machine tools. International Journal of Advanced Manufacturing Technology, 2017, 91, 545-568.	1.5	24
28	Hierarchical error model to estimate motion error of linear motion bearing table. International Journal of Advanced Manufacturing Technology, 2017, 93, 1915-1927.	1.5	23
29	Surface roughness modeling in micro end-milling. International Journal of Advanced Manufacturing Technology, 2018, 95, 1655-1664.	1.5	22
30	Grasping force hysteresis compensation of a piezoelectric-actuated wire clamp with a modified inverse Prandtl-Ishlinskii model. Review of Scientific Instruments, 2017, 88, 115101.	0.6	21
31	Conceptual Design and Dimensional Synthesis of a Reconfigurable Hybrid Robot. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2005, 127, 647-653.	1.3	20
32	Dynamic modeling and control of a novel XY positioning stage for semiconductor packaging. Transactions of the Institute of Measurement and Control, 2015, 37, 177-189.	1.1	20
33	Modeling and analyses of helical milling process. International Journal of Advanced Manufacturing Technology, 2017, 90, 1003-1022.	1.5	20
34	An XYZ micromanipulator for precise positioning applications. Journal of Micro-Bio Robotics, 2020, 16, 53-63.	2.1	19
35	A Dual-Driven High Precision Rotary Platform Based on Stick-Slip Principle. IEEE/ASME Transactions on Mechatronics, 2022, 27, 3053-3064.	3.7	17
36	Chatter detection based on wavelet coherence functions in micro-end-milling processes. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2019, 233, 1934-1945.	1.5	16

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37	Low-cost and fast fabrication of the ultrasonic embossing on polyethylene terephthalate (PET) films using laser processed molds. Microsystem Technologies, 2017, 23, 5653-5668.	1.2	15
38	Design, modelling and characterization of a 2-DOF precision positioning platform. Transactions of the Institute of Measurement and Control, 2015, 37, 396-405.	1.1	14
39	Simulation and analysis for accuracy predication and adjustment for machine tool assembly process. Advances in Mechanical Engineering, 2017, 9, 168781401773447.	0.8	14
40	Design of a flexure-based mechanism possessing low stiffness and constant force. Review of Scientific Instruments, 2019, 90, .	0.6	14
41	Design of a XYZ scanner for home-made high-speed atomic force microscopy. Microsystem Technologies, 2018, 24, 3123-3132.	1.2	13
42	Thermal simulation modeling of a hydrostatic machine feed platform. International Journal of Advanced Manufacturing Technology, 2015, 79, 1581-1595.	1.5	12
43	Modeling and tracking control of a novel XYÎ¸z stage. Microsystem Technologies, 2017, 23, 3575-3588.	1.2	11
44	Influence of external heat sources on volumetric thermal errors of precision machine tools. International Journal of Advanced Manufacturing Technology, 2018, 99, 475-495.	1.5	11
45	An experimental study on the rotational accuracy of variable preload spindle-bearing system. Advances in Mechanical Engineering, 2018, 10, 168781401877617.	0.8	11
46	Rate-dependent hysteresis modeling and compensation of piezo-driven flexure-based mechanism. Transactions of Tianjin University, 2012, 18, 157-167.	3.3	10
47	Dynamic modelling and simulation of electric bicycle ride comfort. , 2009, , .		9
48	An investigation of surface roughness in micro-end-milling of metals. Australian Journal of Mechanical Engineering, 2017, 15, 166-174.	1.5	9
49	Probe system design for three dimensional micro/nano scratching machine. Microsystem Technologies, 2017, 23, 2285-2295.	1.2	9
50	Design and characteristic analysis of an aerostatic decoupling table for microelectronic packaging. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 1079-1090.	1.1	9
51	Research on battery to ride comfort of electric bicycle based on multi-body dynamics theory. , 2009, , .		8
52	Inverse Kinematics of a 7R 6-DOF Robot with Nonspherical Wrist Based on Transformation into the 6R Robot. Mathematical Problems in Engineering, 2017, 2017, 1-12.	0.6	8
53	Antlion Optimized Robust Control Approach for Micropositioning Trajectory Tracking Tasks. IEEE Access, 2020, 8, 220889-220907.	2.6	8
54	Body diagonal error measurement and evaluation of a multiaxis machine tool using a multibeam laser interferometer. International Journal of Advanced Manufacturing Technology, 2020, 107, 4545-4559.	1.5	8

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55	Conceptual Design and Kinematic Performance Evaluation of a New Asymmetrical Parallel Robot. , 2007, , .		7
56	Laser-induced changes in titanium by femtosecond, picosecond and millisecond laser ablation. Radiation Effects and Defects in Solids, 2015, 170, 528-540.	0.4	7
57	Development of a novel 3-DOF suspension mechanism for multi-function stylus profiling systems. International Journal of Precision Engineering and Manufacturing, 2016, 17, 1415-1423.	1.1	7
58	Dodecyl Mercaptan Functionalized Copper Mesh for Water Repellence and Oil-water Separation. Journal of Bionic Engineering, 2021, 18, 887-899.	2.7	7
59	Thermal error compensation for telescopic spindle of CNC machine tool based on SIEMENS 840D system. Transactions of Tianjin University, 2011, 17, 340-343.	3.3	6
60	Structure design and experimental investigation of a multi-function stylus profiling system for characterization of engineering surfaces at micro/nano scales. Microsystem Technologies, 2018, 24, 2177-2187.	1.2	6
61	Modeling and control methodology for an XYZ micro manipulator. Review of Scientific Instruments, 2019, 90, .	0.6	6
62	Design of a novel parallel monolithic 3-DOF compliant micromanipulator. , 2019, , .		6
63	Mathematical modeling and experimental verification of surface roughness in micro-end-milling. International Journal of Advanced Manufacturing Technology, 2022, 120, 7627-7637.	1.5	6
64	Dynamic analysis of an XY positioning table. , 2013, , .		5
65	An Improved Algorithm for Calculating Friction Force and Torque in Involute Helical Gears. Mathematical Problems in Engineering, 2013, 2013, 1-13.	0.6	5
66	Laser-induced hydrophobicity on Ti-6Al-4V surface. , 2015, , .		5
67	Active and intelligent control onto thermal behaviors of a motorized spindle unit. International Journal of Advanced Manufacturing Technology, 2018, 98, 3133-3146.	1.5	5
68	Design and Modeling of a Decoupled 2-DOF Stick-slip Positioning Stage. , 2019, , .		5
69	Stiffness matching method for the ball screw feed drive system of machine tools. Journal of Mechanical Science and Technology, 2020, 34, 2985-2995.	0.7	5
70	Experimental System Identification, Feed-Forward Control, and Hysteresis Compensation of a 2-DOF Mechanism. International Journal of Intelligent Mechatronics and Robotics, 2013, 3, 1-21.	0.4	5
71	Acoustic absorption performance of polyacrylic composite latex. Journal of Applied Polymer Science, 1995, 58, 565-569.	1.3	4
72	Fabrication of polymer optical diffusers by buffer-assisted ultrasonic embossing. , 2015, , .		4

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73	A new method for measuring the rotational accuracy of rolling element bearings. Review of Scientific Instruments, 2016, 87, 125102.	0.6	4
74	A novel method and system for calibrating the spring constant of atomic force microscope cantilever based on electromagnetic actuation. Review of Scientific Instruments, 2018, 89, 125119.	0.6	4
75	Design and Characteristics of a Novel Compliant Symmetric Micrograpper Mechanism. , 2018, , .		4
76	A unified element stiffness matrix model for variable cross-section flexure hinges in compliant mechanisms for micro/nano positioning. Microsystem Technologies, 2019, 25, 4257-4268.	1.2	4
77	A Novel Soft-Robotic Gripper with Vertically Plane Contact of the Object. , 2019, , .		4
78	Temperature detection based transient load/boundary condition calculations for spindle thermal simulation. International Journal of Advanced Manufacturing Technology, 2020, 108, 35-46.	1.5	4
79	Adhesion performance study of a novel microstructured stamp for micro-transfer printing. Soft Matter, 2021, 17, 4989-4997.	1.2	4
80	Stiffness estimation of a parallel kinematic machine. Science in China Series D: Earth Sciences, 2001, 44, 473-485.	0.9	3
81	Design and Kinematics Analysis of Oblique Axis Non-spherical 3R Wrist. , 2007, , .		3
82	Stiffness estimation of the flexure-based five-bar micro-manipulator. , 2008, , .		3
83	Prediction of Dynamic Milling Stability considering Time Variation of Deflection and Dynamic Characteristics in Thin-Walled Component Milling Process. Shock and Vibration, 2016, 2016, 1-14.	0.3	3
84	Design and stiffness analysis of a XYZ scanning stage. , 2016, , .		3
85	Dynamic milling stability of thin-walled component considering time variation of coupling deflection and dynamic characteristics of tool-workpiece system. International Journal of Advanced Manufacturing Technology, 2018, 94, 3005-3016.	1.5	3
86	The Structure Design and Control of Precision Positioning System Driven by Rotary VCA. , 2007, , .		2
87	Design and kinematics analysis of a 3-DOF precision positioning stage. , 2009, , .		2
88	Fabrication of polymer electronic boards by ultrasonic embossing and welding. Microsystem Technologies, 2015, 21, 365-369.	1.2	2
89	Design of a novel asymmetrical piezoelectric actuated micrograpper for micromanipulation. , 2016, , .		2
90	Influences of linear and angular compensation on volumetric accuracy of precision machine tools. , 2018, , .		2

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91	Smooth Displacement/Force Switching Control of a Piezoelectric Actuated Microgripper for Micro Manipulation. , 2019, , .		2
92	ANTI-WEAR PERFORMANCE OF POLISHED MICROCRYSTALLINE DIAMOND FILMS SLIDING AGAINST Si₃N₄ UNDER WATER LUBRICATION. Surface Review and Letters, 2020, 27, 2050008.	0.5	2
93	Thermal simulation speculation-based active coolant control onto spindle bearings. International Journal of Advanced Manufacturing Technology, 2021, 113, 337-350.	1.5	2
94	Active coolant control onto thermal behaviors of precision ball screw unit. International Journal of Advanced Manufacturing Technology, 2022, 119, 1867-1882.	1.5	2
95	Dynamic Design of High Speed Precision Positioning System. , 2007, , .		1
96	Model-based dynamic characteristics investigation of ultrasonic transducers for MEMS packaging. , 2008, , .		1
97	Design methodology of high frequency ultrasonic transducer for wire bonding. , 2008, , .		1
98	Statics of a new asymmetrical parallel robot. , 2008, , .		1
99	The Control System Design of Thermal Experimental Platform for High-Speed Spindle Based PLC. , 2010, , .		1
100	Transverse vibration analyses of cantilevered boron nitride nanocones. Micro and Nano Letters, 2013, 8, 899-902.	0.6	1
101	A novel electromagnetic force method for micro/nano newton force measurement. , 2017, , .		1
102	Design and modeling of a 2-DOF decoupled rotation platform for micro-manipulation. , 2017, , .		1
103	Research on assembly deformation of machine tool guideway. , 2018, , .		1
104	Modification of Wettability Property of NITI Alloy by Laser Texturing and Carbon Ion Implantation. , 2019, , .		1
105	A Novel XY Nano Positioning Stage with a Three Stage Motion Amplification Mechanism. , 2019, , .		1
106	INFLUENCE OF FEMTOSECOND-LASER-INDUCED PERIODIC SURFACE STRUCTURES ON THE TRIBOLOGICAL PERFORMANCE OF CVD NANO-CRYSTALLINE DIAMOND FILMS. Surface Review and Letters, 2022, 29, .	0.5	1
107	Surface Roughness Modeling of High Speed Machining TC4 based on Artificial Neural Network Method. , 0, , .		0
108	Design and simulation of the Positioning System Using Computer Vision for IC Packaging. , 2007, , .		0

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109	Closed-form equations for the vibrations of a flexure-based Scott-Russell mechanism. , 2008, , .		0
110	A DBB-based accuracy measurement method for rotary axes of high speed 5-axis CNC machining center. , 2010, , .		0
111	Dynamic analysis of a flexure-based mechanism for precision machining operation. , 2010, , .		0
112	Dynamic and static analysis and design of the 3-axis double-column machine tool. , 2011, , .		0
113	Dynamic modeling and dynamic characteristic analysis of bonding wire. , 2011, , .		0
114	Motion control of a 2-DOF decoupled compliant mechanism using H<inf>∞</inf> synthesis. , 2012, , .		0
115	Design, analysis, and experimental investigations of a 2-DOF monolithic parallel mechanism. , 2013, , .		0
116	Development and Application of Molded Interconnect Devices. International Journal of Robotics Applications and Technologies, 2014, 2, 1-18.	0.4	0
117	Probe suspension mechanism design for nano machining system. , 2015, , .		0
118	Tip modeling of a probe for nanochannel fabrication. , 2016, , .		0
119	Characteristics of a Decoupled 2-Dof Nano-Positioning Stage. , 2018, , .		0
120	A Symmetry Flexure Structure and its Application in Micro/Nano Newton Force Generation. , 2018, , .		0
121	A Novel Archimedes Planar Springs Flexure Structure for Microforce Actuator. , 2018, , .		0
122	A Parasitic Motionless Piezoelectric Actuated Microgripper for Micro/Nano Manipulation. , 2019, , .		0
123	Design, Modeling and Analysis of a Novel Piezoactuated XYZ Compliant Mechanism for Large Workspace Nano-positioning. , 2019, , .		0
124	An adapted NSGA-II approach to the optimization design of oil circuits in a hydraulic manifold block. , 2017, , .		0
125	A shear force assisted tiny object releasing method of a 2-DOF microgripper. , 2021, , .		0
126	An optimized design method of 3-point support for precision horizontal machining center with T-shaped bed. International Journal of Advanced Manufacturing Technology, 0, , .	1.5	0