Hu Huang

List of Publications by Year
in descending order

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115	2,347	218677	276875
papers	citations	26 h-index	41 g-index

119	119	119	1082
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Model-based optimization for structure dimension and driving signal of a stick-slip piezoelectric actuator. Mechanical Systems and Signal Processing, 2022, 164, 108191.	8.0	7
2	Nitrogen assisted formation of large-area ripples on Ti6Al4V surface by nanosecond pulse laser irradiation. Precision Engineering, 2022, 73, 244-256.	3.4	15
3	Nanosecond pulsed laser-induced formation of nanopattern on Fe-based metallic glass surface. Applied Surface Science, 2022, 577, 151976.	6.1	15
4	Achieving high speed of the stickâ€“slip piezoelectric actuator at low frequency by using a two-stage amplification mechanism (TSAM). Review of Scientific Instruments, 2022, 93, 015010.	1.3	7
5	Microstructures and mechanical properties of Zr-based metallic glass ablated by nanosecond pulsed laser in various gas atmospheres. Journal of Alloys and Compounds, 2022, 901, 163717.	5.5	11
6	The effects of simultaneous laser nitriding and texturing on surface hardness and tribological properties of Ti6Al4V. Surface and Coatings Technology, 2022, 437, 128358.	4.8	13
7	A high-performance stick-slip piezoelectric actuator achieved by using the double-stator cooperative motion mode (DCMM). Mechanical Systems and Signal Processing, 2022, 172, 108999.	8.0	9
8	Visualization of indentation induced sub-surface shear bands of Zr-based metallic glass by nanosecond pulse laser irradiation. Vacuum, 2022, 202, 111141.	3.5	3
9	A novel method for fabricating micro-dimple arrays with good surface quality on metallic glass substrate by combining laser irradiation and mechanical polishing under wax sealing. Journal of Manufacturing Processes, 2022, 79, 911-923.	5.9	5
10	Fabrication of micro-array structures on material surface by a piezo-driven device. Vacuum, 2022, 203, 111267.	3.5	0
11	On the conversion of point-to-linear hierarchical micro/nano-structures on the glassy carbon surface by nanosecond pulsed laser irradiation. Applied Surface Science, 2022, 599, 153978.	6.1	0
12	Nanosecond laser polishing of laser nitrided Zr-based metallic glass surface. International Journal of Advanced Manufacturing Technology, 2022, 121, 4099-4113.	3.0	2
13	Development and analysis of a dynamic model for parasitic motion principle piezoelectric actuator. Mechanical Systems and Signal Processing, 2021, 147, 107079.	8.0	15
14	New evidences for understanding the serrated flow and shear band behavior in nanoindentation of metallic glasses. Journal of Alloys and Compounds, 2021, 857, 157587.	5.5	8
15	One-step fabrication of regular hierarchical micro/nano-structures on glassy carbon by nanosecond pulsed laser irradiation. Journal of Manufacturing Processes, 2021, 62, 108-118.	5.9	15
16	Performance dependence of a stick-slip piezoelectric actuator on the angle between the piezoelectric stack and mover. Review of Scientific Instruments, 2021, 92, 045005.	1.3	2
17	Analysis and comparison of flexible mechanisms for parasitic motion principle piezoelectric actuator. Smart Materials and Structures, 2021, 30, 075021.	3.5	10
18	A bionic inertial piezoelectric actuator with improved frequency bandwidth. Mechanical Systems and Signal Processing, 2021, 156, 107620.	8.0	29

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19	An inertial piezoelectric actuator with small structure but large loading capacity. Review of Scientific Instruments, 2021, 92, 085004.	1.3	2
20	A Novel Rotation-Structure Based Stick-Slip Piezoelectric Actuator with High Consistency in Forward and Reverse Motions. Actuators, 2021, 10, 189.	2.3	6
21	Design and Analysis of a Stepping Piezoelectric Actuator Free of Backward Motion. Actuators, 2021, 10, 200.	2.3	7
22	On the transformation between micro-concave and micro-convex in nanosecond laser ablation of a Zr-based metallic glass. Journal of Manufacturing Processes, 2021, 68, 1114-1122.	5.9	24
23	Laser nitriding of Zr-based metallic glass: An investigation by orthogonal experiments. Surface and Coatings Technology, 2021, 424, 127657.	4.8	18
24	A Dynamic Model of Stick-Slip Piezoelectric Actuators Considering the Deformation of Overall System. IEEE Transactions on Industrial Electronics, 2021, 68, 11266-11275.	7.9	33
25	Surface functionalization of Zr-based metallic glass by direct nanosecond laser texturing. Vacuum, 2021, 194, 110635.	3.5	5
26	Surface coloration of Zr-based metallic glass by nanosecond pulsed laser irradiation in ambient atmosphere. Materials Letters, 2021, 304, 130721.	2.6	11
27	Formation of leaf-shaped microstructure on Zr-based metallic glass via nanosecond pulsed laser irradiation. Journal of Manufacturing Processes, 2021, 72, 61-70.	5.9	13
28	On the Suppression of the Backward Motion of a Piezo-Driven Precision Positioning Platform Designed by the Parasitic Motion Principle. IEEE Transactions on Industrial Electronics, 2020, 67, 3870-3878.	7.9	66
29	Structure dependence of the output performances of a self-deformation driving (SDD) piezoelectric actuator. Sensors and Actuators A: Physical, 2020, 302, 111808.	4.1	5
30	A stickâ€“slip piezoelectric actuator with high consistency in forward and reverse motions. Review of Scientific Instruments, 2020, 91, 105005.	1.3	10
31	Laser induced micro-cracking of Zr-based metallic glass using 1011 W/m2 nano-pulses. Materials Today Communications, 2020, 25, 101554.	1.9	5
32	A low frequency operation high speed stick-slip piezoelectric actuator achieved by using a L-shape flexure hinge. Smart Materials and Structures, 2020, 29, 065007.	3.5	29
33	A stick-slip piezoelectric actuator with measurable contact force. Mechanical Systems and Signal Processing, 2020, 144, 106881.	8.0	51
34	Suppressing the backward motion of a stickâ€“slip piezoelectric actuator by means of the sequential control method (SCM). Mechanical Systems and Signal Processing, 2020, 143, 106855.	8.0	53
35	Development and analysis of a stick-slip rotary piezoelectric positioner achieving high velocity with compact structure. Mechanical Systems and Signal Processing, 2020, 145, 106895.	8.0	21
36	A compact 2-DOF piezo-driven positioning stage designed by using the parasitic motion of flexure hinge mechanism. Smart Materials and Structures, 2020, 29, 015022.	3.5	19

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37	A novel piezoelectric linear actuator designed by imitating skateboarding movement. Smart Materials and Structures, 2020, 29, 115038.	3.5	15
38	A novel stick-slip piezoelectric rotary actuator designed by employing a centrosymmetric flexure hinge mechanism. Smart Materials and Structures, 2020, 29, 125006.	3.5	11
39	The coupling effects of laser thermal shock and surface nitridation on mechanical properties of Zr-based metallic glass. Journal of Alloys and Compounds, 2019, 770, 864-874.	5.5	19
40	A novel piezoelectric rotary actuator with a constant contact status between the driving mechanism and rotor. Smart Materials and Structures, 2019, 28, 085045.	3.5	17
41	Actively controlling the contact force of a stick-slip piezoelectric linear actuator by a composite flexible hinge. Sensors and Actuators A: Physical, 2019, 299, 111606.	4.1	32
42	A novel single butterfly stator piezo driver. Sensors and Actuators A: Physical, 2019, 298, 111517.	4.1	5
43	A new motion mode of a parasitic motion principle (PMP) piezoelectric actuator by preloading the flexible hinge mechanism. Sensors and Actuators A: Physical, 2019, 295, 396-404.	4.1	11
44	Evolution of one-stepping characteristics of a stick-slip piezoelectric actuator under various initial gaps. Sensors and Actuators A: Physical, 2019, 295, 348-356.	4.1	36
45	Design and stepping characteristics of novel stickâ€“slip piezo-driven linear actuator. Smart Materials and Structures, 2019, 28, 075026.	3.5	36
46	Stepping piezoelectric actuators with large working stroke for nano-positioning systems: A review. Sensors and Actuators A: Physical, 2019, 292, 39-51.	4.1	173
47	Design and performance evaluation of a novel stickâ€“slip piezoelectric linear actuator with a centrosymmetric-type flexure hinge mechanism. Microsystem Technologies, 2019, 25, 3891-3898.	2.0	7
48	Active suppression of the backward motion in a parasitic motion principle (PMP) piezoelectric actuator. Smart Materials and Structures, 2019, 28, 125006.	3.5	21
49	Micro machining of bulk metallic glasses: a review. International Journal of Advanced Manufacturing Technology, 2019, 100, 637-661.	3.0	44
50	Laser Patterning of Metallic Glass. Toxinology, 2018, , 1-29.	0.2	0
51	A Piezoelectric-Driven Linear Actuator by Means of Coupling Motion. IEEE Transactions on Industrial Electronics, 2018, 65, 2458-2466.	7.9	121
52	Softening of Zr-based metallic glass induced by nanosecond pulsed laser irradiation. Journal of Alloys and Compounds, 2018, 754, 215-221.	5.5	22
53	Introductory Chapter: Properties and Processing of Metallic Glasses. , 2018, , .		0
54	Laser Patterning of Metallic Glass. Toxinology, 2018, , 1-29.	0.2	0

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55	Multi-scale dimple creation on metallic glass by a two-step method involving nanoindentation and polishing. Applied Surface Science, 2018, 462, 565-574.	6.1	14
56	Laser Patterning of Metallic Glass. Micro/Nano Technologies, 2018, , 499-527.	0.1	0
57	On the phase transformation of single-crystal 4Hâ€“SiC during nanoindentation. Journal Physics D: Applied Physics, 2017, 50, 265303.	2.8	40
58	Investigating shear band interaction in metallic glasses by adjacent nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 704, 375-385.	5.6	21
59	Surface patterning of Zr-based metallic glass by laser irradiation induced selective thermoplastic extrusion in nitrogen gas. Journal of Micromechanics and Microengineering, 2017, 27, 075007.	2.6	41
60	Comparative Study of Phase Transformation in Single-Crystal Germanium during Single and Cyclic Nanoindentation. Crystals, 2017, 7, 333.	2.2	5
61	Volumetric and timescale analysis of phase transformation in single-crystal silicon during nanoindentation. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	6
62	Micro-cutting of silicon implanted with hydrogen and post-implantation thermal treatment. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	9
63	Shield gas induced cracks during nanosecond-pulsed laser irradiation of Zr-based metallic glass. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	15
64	In situ characterization of formation and growth of high-pressure phases in single-crystal silicon during nanoindentation. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	1
65	Effects of pre-compression deformation on nanoindentation response of Zr65Cu15Al10Ni10 bulk metallic glass. Journal of Alloys and Compounds, 2016, 674, 223-228.	5.5	24
66	Nanosecond pulsed laser irradiation induced hierarchical micro/nanostructures on Zr-based metallic glass substrate. Materials and Design, 2016, 109, 153-161.	7.0	43
67	Microstructural changes of Zr-based metallic glass during micro-electrical discharge machining and grinding by a sintered diamond tool. Journal of Alloys and Compounds, 2016, 688, 14-21.	5.5	35
68	On the correlation between the structure and one stepping characteristic of a piezo-driven rotary actuator. Microsystem Technologies, 2016, 22, 2821-2827.	2.0	16
69	Possibility for rapid generation of high-pressure phases in single-crystal silicon by fast nanoindentation. Semiconductor Science and Technology, 2015, 30, 115001.	2.0	4
70	New insights into phase transformations in single crystal silicon by controlled cyclic nanoindentation. Scripta Materialia, 2015, 102, 35-38.	5.2	30
71	Evaluation of crack resistance of CrSiCN coatings as a function of Si concentration via nanoindentation. Surface and Coatings Technology, 2015, 272, 239-245.	4.8	26
72	On the mechanism of secondary pop-out in cyclic nanoindentation of single-crystal silicon. Journal of Materials Research, 2015, 30, 1861-1868.	2.6	16

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73	Non-ideal assembly of the driving unit affecting shape of load-displacement curves. Measurement Science and Technology, 2015, 26, 035601.	2.6	8
74	On the surface characteristics of a Zr-based bulk metallic glass processed by microelectrical discharge machining. Applied Surface Science, 2015, 355, 1306-1315.	6.1	57
75	Design and experiment performances of an inchworm type rotary actuator. Review of Scientific Instruments, 2014, 85, 085004.	1.3	28
76	A three-point method for evaluating the tilt status between the indenter axis and the sample surface. Measurement Science and Technology, 2014, 25, 017001.	2.6	4
77	Determination of residual indentation depthh_fin incomplete or irregular unloading curves. Measurement Science and Technology, 2014, 25, 087003.	2.6	2
78	Evaluation of repeated single-point diamond turning on the deformation behavior of monocrystalline silicon via molecular dynamic simulations. Applied Physics A: Materials Science and Processing, 2014, 116, 141-150.	2.3	36
79	Indenter Geometry Affecting Indentation Behaviors of the Zr-Based Bulk Metallic Glass. Materials Transactions, 2014, 55, 1400-1404.	1.2	9
80	Forward and Reverse Movements of a Linear Positioning Stage Based on the Parasitic Motion Principle. Advances in Mechanical Engineering, 2014, 6, 452560.	1.6	11
81	Molecular dynamics simulation of linearly varying cutting depth of single point diamond turning on Cu (111). International Journal of Nanomanufacturing, 2014, 10, 343.	0.3	3
82	A Study on Material Removal Caused by Phase Transformation of Monocrystalline Silicon During Nanocutting Process via Molecular Dynamics Simulation. Journal of Computational and Theoretical Nanoscience, 2014, 11, 291-296.	0.4	14
83	<I>In Situ</I> Nanoindentation and Scratch Testing Inside Scanning Electron Microscopes: Opportunities and Challenges. Science of Advanced Materials, 2014, 6, 875-889.	0.7	9
84	Multi-field nanoindentation apparatus for measuring local mechanical properties of materials in external magnetic and electric fields. Review of Scientific Instruments, 2013, 84, 063906.	1.3	23
85	Effects of probe tilt on nanoscratch results: An investigation by finite element analysis. Tribology International, 2013, 60, 64-69.	5.9	15
86	The evolution of machining-induced surface of single-crystal FCC copper via nanoindentation. Nanoscale Research Letters, 2013, 8, 211.	5.7	16
87	Note: A novel rotary actuator driven by only one piezoelectric actuator. Review of Scientific Instruments, 2013, 84, 096105.	1.3	25
88	A piezoelectric-driven rotary actuator by means of inchworm motion. Sensors and Actuators A: Physical, 2013, 194, 269-276.	4.1	122
89	Influence of double-tip scratch and single-tip scratch on nano-scratching process via molecular dynamics simulation. Applied Surface Science, 2013, 280, 751-756.	6.1	53
90	Analysis and experiments of a novel and compact 3-DOF precision positioning platform. Journal of Mechanical Science and Technology, 2013, 27, 3347-3356.	1.5	19

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91	Influences of sequential cuts on micro-cutting process studied by smooth particle hydrodynamic (SPH). Applied Surface Science, 2013, 284, 366-371.	6.1	24
92	Randomness and Statistical Laws of Indentation-Induced Pop-Out in Single Crystal Silicon. Materials, 2013, 6, 1496-1505.	2.9	22
93	A Study on Size Effect of Indenter in Nanoindentation via Molecular Dynamics Simulation. Key Engineering Materials, 2013, 562-565, 802-808.	0.4	5
94	A Novel Two-Axis Load Sensor Designed for in Situ Scratch Testing inside Scanning Electron Microscopes. Sensors, 2013, 13, 2552-2565.	3.8	6
95	Using residual indent morphology to measure the tilt between the triangular pyramid indenter and the sample surface. Measurement Science and Technology, 2013, 24, 105602.	2.6	10
96	A tension stress loading unit designed for characterizing indentation response of single crystal silicon under tension stress. AIP Advances, 2013, 3, .	1.3	3
97	Influence of friction on the residual morphology, the penetration load and the residual stress distribution of a Zr-based bulk metallic glass. AIP Advances, 2013, 3, 042116.	1.3	3
98	Design and experimental research of a novel inchworm type piezo-driven rotary actuator with the changeable clamping radius. Review of Scientific Instruments, 2013, 84, 015006.	1.3	29
99	Molecular dynamics simulation of self-rotation effects on ultra-precision polishing of single-crystal copper. AIP Advances, 2013, 3, .	1.3	23
100	Effects of Indenter Tilt on Nanoindentation Results of Fused Silica: an Investigation by Finite Element Analysis. Materials Transactions, 2013, 54, 958-963.	1.2	17
101	Design and Experimental Investigation of PZT-driving Type Micro/nanoindentation Device. Jixie Gongcheng Xuebao/Chinese Journal of Mechanical Engineering, 2013, 49, 1.	0.5	0
102	Design and Analysis of a Compact Precision Positioning Platform Integrating Strain Gauges and the Piezoactuator. Sensors, 2012, 12, 9697-9710.	3.8	19
103	A novel driving principle by means of the parasitic motion of the microgripper and its preliminary application in the design of the linear actuator. Review of Scientific Instruments, 2012, 83, 055002.	1.3	60
104	Effect of residual chips on the material removal process of the bulk metallic glass studied by in situ scratch testing inside the scanning electron microscope. AIP Advances, 2012, 2, .	1.3	25
105	A study on phase transformation of monocrystalline silicon due to ultra-precision polishing by molecular dynamics simulation. AIP Advances, 2012, 2, .	1.3	39
106	Research on the effects of machining-induced subsurface damages on mono-crystalline silicon via molecular dynamics simulation. Applied Surface Science, 2012, 259, 66-71.	6.1	59
107	Influences of Sample Preparation on Nanoindentation Behavior of a Zr-Based Bulk Metallic Glass. Materials, 2012, 5, 1033-1039.	2.9	21
108	Design, Analysis and Experiments of a Novel in situ SEM Indentation Device. , 2012, , .		1

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109	A novel and compact nanoindentation device for in situ nanoindentation tests inside the scanning electron microscope. AIP Advances, 2012, 2, .	1.3	22
110	Design and analysis of the precision-driven unit for nano-indentation and scratch test. Journal of Manufacturing Systems, 2012, 31, 76-81.	13.9	14
111	Experimental research on a modular miniaturization nanoindentation device. Review of Scientific Instruments, 2011, 82, 095101.	1.3	29
112	The compact Platform for In Situ Nanoindentation and Scratch Test. Advanced Materials Research, 2010, 97-101, 4342-4345.	0.3	0
113	Design and Analysis of a Miniaturization Nanoindentation and Scratch Device. Advanced Materials Research, 0, 314-316, 1792-1795.	0.3	1
114	Finite Element Simulations of an Inchworm Type Piezo-Driven Rotary Actuator. Advanced Materials Research, 0, 945-949, 1396-1399.	0.3	0
115	Parasitic Motion Principle (PMP) Piezoelectric Actuators: Definition and Recent Developments. , 0, , .		1