

# Wanqun Chen

## List of Publications by Year in descending order

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52  
papers

1,129  
citations

430442

18  
h-index

433756

31  
g-index

52  
all docs

52  
docs citations

52  
times ranked

619  
citing authors

#	ARTICLE	IF	CITATIONS
1	Aerostatic bearings design and analysis with the application to precision engineering: State-of-the-art and future perspectives. <i>Tribology International</i> , 2019, 135, 1-17.	3.0	103
2	Volumetric error modeling and sensitivity analysis for designing a five-axis ultra-precision machine tool. <i>International Journal of Advanced Manufacturing Technology</i> , 2013, 68, 2525-2534.	1.5	98
3	Design and dynamic optimization of an ultraprecision diamond flycutting machine tool for large KDP crystal machining. <i>International Journal of Advanced Manufacturing Technology</i> , 2013, 69, 237-244.	1.5	66
4	State-of-the-art review on vibration-assisted milling: principle, system design, and application. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 97, 2033-2049.	1.5	52
5	Surface texture formation by non-resonant vibration assisted micro milling. <i>Journal of Micromechanics and Microengineering</i> , 2018, 28, 025006.	1.5	46
6	Dynamic design approach of an ultra-precision machine tool used for optical parts machining. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2012, 226, 1930-1936.	1.5	41
7	Review of vibration devices for vibration-assisted machining. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 108, 1631-1651.	1.5	40
8	Measurement and analysis for frequency domain error of ultra-precision spindle in a flycutting machine tool. <i>Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture</i> , 2018, 232, 1501-1507.	1.5	39
9	Modeling the Influence of Tool Deflection on Cutting Force and Surface Generation in Micro-Milling. <i>Micromachines</i> , 2017, 8, 188.	1.4	32
10	Finite element simulation and experimental investigation on cutting mechanism in vibration-assisted micro-milling. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 105, 4539-4549.	1.5	31
11	Influence of ultra-precision flycutting spindle error on surface frequency domain error formation. <i>International Journal of Advanced Manufacturing Technology</i> , 2017, 88, 3233-3241.	1.5	30
12	Burr reduction mechanism in vibration-assisted micro milling. <i>Manufacturing Letters</i> , 2018, 16, 6-9.	1.1	30
13	Investigation on cutting mechanism of SiCp/Al composites in precision turning. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 100, 963-972.	1.5	30
14	An experimental study on tool wear behaviour in micro milling of nano Mg/Ti metal matrix composites. <i>International Journal of Advanced Manufacturing Technology</i> , 2018, 96, 2127-2140.	1.5	27
15	An improved cutting force model for micro milling considering machining dynamics. <i>International Journal of Advanced Manufacturing Technology</i> , 2017, 93, 3005-3016.	1.5	26
16	Simulation and experimental investigation on the cutting mechanism and surface generation in machining SiCp/Al MMCs. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 100, 1393-1404.	1.5	26
17	Design philosophy of an ultra-precision fly cutting machine tool for KDP crystal machining and its implementation on the structure design. <i>International Journal of Advanced Manufacturing Technology</i> , 2014, 70, 429-438.	1.5	25
18	Thermal optimization of an ultra-precision machine tool by the thermal displacement decomposition and counteraction method. <i>International Journal of Advanced Manufacturing Technology</i> , 2015, 76, 635-645.	1.5	24

#	ARTICLE	IF	CITATIONS
19	Effect of motor rotor eccentricity on aerostatic spindle vibration in machining processes. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 1331-1342.	1.1	21
20	A mechanical structure-based design method and its implementation on a fly-cutting machine tool design. International Journal of Advanced Manufacturing Technology, 2014, 70, 1915-1921.	1.5	20
21	Multi-scale surface simulation of the KDP crystal fly cutting machining. International Journal of Advanced Manufacturing Technology, 2014, 73, 289-297.	1.5	19
22	An experimental and theoretical investigation into multimode machine tool vibration with surface generation in flycutting. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2016, 230, 381-386.	1.5	18
23	Investigation on the fluid-structure interaction effect of an aerostatic spindle and the influence of structural dimensions on its performance. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 1434-1440.	1.0	18
24	Experimental investigation on burr formation in vibration-assisted micro-milling of Ti-6Al-4V. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2019, 233, 4112-4119.	1.1	18
25	Optimal design of an aerostatic spindle based on fluid-structure interaction method and its verification. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2016, 230, 690-696.	1.0	16
26	Aerostatic thrust bearing performances analysis considering the fluid-structure coupling effect. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2016, 230, 1588-1596.	1.0	16
27	Investigation of the tool-tip vibration and its influence upon surface generation in flycutting. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 2162-2167.	1.1	14
28	A novel machine tool design approach based on surface generation simulation and its implementation on a fly cutting machine tool. International Journal of Advanced Manufacturing Technology, 2015, 80, 829-837.	1.5	14
29	Investigation on the Tool Wear Suppression Mechanism in Non-Resonant Vibration-Assisted Micro Milling. Micromachines, 2020, 11, 380.	1.4	13
30	An integrated method for waviness simulation on large-size surface. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2015, 229, 178-182.	1.5	12
31	Dynamic error budget analysis of an ultraprecision flycutting machine tool. International Journal of Advanced Manufacturing Technology, 2015, 76, 1215-1224.	1.5	12
32	Investigation of the influence of constant pressure oil source fluctuations on ultra-precision machining. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2015, 229, 372-376.	1.5	11
33	An Mechatronics Coupling Design Approach for Aerostatic Bearing Spindles. International Journal of Precision Engineering and Manufacturing, 2019, 20, 1185-1196.	1.1	11
34	Investigation on the Influence of Machine Tool Dynamics on the Wavefront Gradient of KH <sub>2</sub> PO <sub>4</sub> Crystals. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2014, 136, .	1.3	10
35	Optimal design of an annular thrust air bearing using parametric computational fluid dynamics model and genetic algorithms. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2018, 232, 1203-1214.	1.0	10
36	Cutting Mechanism Investigation in Vibration-Assisted Machining. Nanomanufacturing and Metrology, 2018, 1, 268-276.	1.5	10

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37	Theoretical prediction and experimental verification of the unbalanced magnetic force in air bearing motor spindles. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2019, 233, 2330-2344.	1.5	10
38	Influence of Unbalanced Electromagnetic Force and Air Supply Pressure Fluctuation in Air Bearing Spindles on Machining Surface Topography. International Journal of Precision Engineering and Manufacturing, 2021, 22, 1-12.	1.1	10
39	External aerodynamic force on an ultra-precision diamond fly-cutting machine tool for KDP crystal machining. International Journal of Advanced Manufacturing Technology, 2017, 93, 4169-4178.	1.5	9
40	A New Surface Topography-Based Method to Quantify Axial Error of High Speed Milling Cutters. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2018, 140, .	1.3	8
41	A two-round design method for ultra-precision flycutting machine tools with stringent process requirements. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2015, 229, 1584-1594.	1.5	7
42	Modeling and simulation of the interaction of manufacturing process and machine tool structure in flycutting machining. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2015, 229, 2730-2736.	1.1	7
43	A novel simulation method for interaction of machining process and machine tool structure. International Journal of Advanced Manufacturing Technology, 2017, 88, 3467-3474.	1.5	7
44	Dynamic design and thermal analysis of an ultra-precision flycutting machine tool. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2018, 232, 404-411.	1.5	7
45	Investigation on the formation mechanism and controlling method of machined surface topography of ultra-precision flycutting machining. International Journal of Advanced Manufacturing Technology, 2020, 106, 3311-3320.	1.5	7
46	Dynamics design optimization and experimental validation of a miniaturized machine tool for micro-milling. Production Engineering, 2013, 7, 477-482.	1.1	6
47	Flatness improving method of KDP crystal in ICF system and its implementation in machine tool design. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2015, 229, 327-332.	1.4	6
48	An integrated system for ultra-precision machine tool design in conceptual and fundamental design stage. International Journal of Advanced Manufacturing Technology, 2015, 84, 1177.	1.5	5
49	A steady modeling method to study the effect of fluid-structure interaction on the thrust stiffness of an aerostatic spindle. Engineering Applications of Computational Fluid Mechanics, 2022, 16, 453-468.	1.5	4
50	Investigation on the Micro Cutting Mechanism and Surface Topography Generation in Ultraprecision Diamond Turning. Micromachines, 2022, 13, 381.	1.4	4
51	Multi-physics coupling analysis of an aerostatic spindle. Advances in Mechanical Engineering, 2017, 9, 168781401770186.	0.8	3
52	An integrated dynamic design system for aerostatic spindle development. , 2014, , .		0