Liang-Chi Zhang

List of Publications by Year
in descending order

75 papers	2,174 citations	304743 22 h-index	243625 44 g-index
75 all docs	75 docs citations	75 times ranked	1085 citing authors

#	Article	IF	Citations
1	Towards a deeper understanding of wear and friction on the atomic scaleâ€"a molecular dynamics analysis. Wear, 1997, 211, 44-53.	3.1	237
2	Atomic scale deformation in silicon monocrystals induced by two-body and three-body contact sliding. Tribology International, 1998, 31, 425-433.	5.9	197
3	Ultrasonic vibration-assisted machining: principle, design and application. Advances in Manufacturing, 2015, 3, 173-192.	6.1	124
4	On the Mechanics and Physics in the Nano-Indentation of Silicon Monocrystals.. JSME International Journal Series A-Solid Mechanics and Material Engineering, 1999, 42, 546-559.	0.4	120
5	A finite element model for the orthogonal cutting of fiber-reinforced composite materials. Journal of Materials Processing Technology, 2001, 113, 373-377.	6.3	101
6	Study of nanoindentation mechanical response of nanocrystalline structures using molecular dynamics simulations. Applied Surface Science, 2016, 364, 190-200.	6.1	94
7	Mechanics of fibre deformation and fracture in vibration-assisted cutting of unidirectional fibre-reinforced polymer composites. International Journal of Machine Tools and Manufacture, 2016, 103, 40-52.	13.4	86
8	Investigation into nanoscratching mechanical response of AlCrCuFeNi high-entropy alloys using atomic simulations. Applied Surface Science, 2017, 416, 470-481.	6.1	81
9	Amorphization and dislocation evolution mechanisms of single crystalline 6H-SiC. Acta Materialia, 2020, 182, 60-67.	7.9	73
10	Machining of particulate-reinforced metal matrix composites: An investigation into the chip formation and subsurface damage. Journal of Materials Processing Technology, 2019, 274, 116315.	6.3	57
11	Ultrasonic vibration-assisted metal forming: Constitutive modelling of acoustoplasticity and applications. Journal of Materials Processing Technology, 2019, 265, 122-129.	6.3	55
12	Revealing the deformation mechanisms of 6H-silicon carbide under nano-cutting. Computational Materials Science, 2017, 137, 282-288.	3.0	52
13	Understanding the friction and wear of KDP crystals by nanoscratching. Wear, 2015, 332-333, 900-906.	3.1	37
14	Nano-machining of materials: understanding the process through molecular dynamics simulation. Advances in Manufacturing, 2017, 5, 20-34.	6.1	37
15	An adaptive three-dimensional finite element algorithm for the orthogonal cutting of composite materials. Journal of Materials Processing Technology, 2001, 113, 368-372.	6.3	35
16	Effect of repeated nano-indentations on the deformation in monocrystalline silicon. Journal of Materials Science Letters, 2000, 19, 439-442.	0.5	34
17	Effect of tool vibration on chip formation and cutting forces in the machining of fiber-reinforced polymer composites. Machining Science and Technology, 2016, 20, 312-329.	2.5	32
18	Assessing microstructure changes in potassium dihydrogen phosphate crystals induced by mechanical stresses. Scripta Materialia, 2016, 113, 48-50.	5.2	32

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19	A novel multi-scale statistical characterization of interface pressure and friction in metal strip rolling. International Journal of Mechanical Sciences, 2014, 89, 391-402.	6.7	31
20	A unified method for characterizing multiple lubrication regimes involving plastic deformation of surface asperities. Tribology International, 2016, 100, 70-83.	5.9	29
21	Effect of structural anisotropy on the dislocation nucleation and evolution in 6H SiC under nanoindentation. Ceramics International, 2019, 45, 14229-14237.	4.8	24
22	A methodology for fuzzy modeling of engineering systems. Fuzzy Sets and Systems, 2001, 118, 181-197.	2.7	23
23	Interaction potential function for the deformation analysis of potassium dihydrogen phosphate using molecular dynamics simulation. Computational Materials Science, 2021, 187, 110122.	3.0	23
24	Three-dimensional characterization and modeling of diamond electroplated grinding wheels. International Journal of Mechanical Sciences, 2018, 144, 553-563.	6.7	22
25	Revealing Structural Relaxation of Optical Glass Through the Temperature Dependence of Young's Modulus. Journal of the American Ceramic Society, 2014, 97, 3475-3482.	3.8	21
26	A micromechanics analysis of the material removal mechanisms in the cutting of ceramic particle reinforced metal matrix composites. Machining Science and Technology, 2018, 22, 638-651.	2.5	21
27	A new method for predicting the three-dimensional surface texture transfer in the skin pass rolling of metal strips. Wear, 2019, 426-427, 1246-1264.	3.1	20
28	Predicting the evolution of sheet metal surface scratching by the technique of artificial intelligence. International Journal of Advanced Manufacturing Technology, 2021, 112, 853-865.	3.0	20
29	A simple approach for analysing the surface texture transfer in cold rolling of metal strips. International Journal of Advanced Manufacturing Technology, 2018, 95, 597-608.	3.0	19
30	Effect of abrasive grain position patterns on the deformation of 6H-silicon carbide subjected to nano-grinding. International Journal of Mechanical Sciences, 2021, 211, 106779.	6.7	19
31	Effect of Anisotropy of Potassium Dihydrogen Phosphate Crystals on Its Deformation Mechanisms Subjected to Nanoindentation. ACS Applied Materials & Interfaces, 2021, 13, 41351-41360.	8.0	18
32	Numerical insights into the effect of ITZ and aggregate strength on concrete properties. Theoretical and Applied Fracture Mechanics, 2022, 120, 103415.	4.7	18
33	A multi-field analysis of hydrodynamic lubrication in high speed rolling of metal strips. International Journal of Mechanical Sciences, 2018, 142-143, 468-479.	6.7	17
34	Mechanical properties and deformation mechanisms of surface-modified 6H-silicon carbide. Journal of Materials Science and Technology, 2021, 90, 58-65.	10.7	17
35	A numerical and experimental study on the interface friction of ball-on-disc test under high temperature. Wear, 2017, 376-377, 433-442.	3.1	16
36	On the Ultra-Precision Fabrication of Damage-Free Optical KDP Components: Mechanisms and Problems. Critical Reviews in Solid State and Materials Sciences, 2019, 44, 283-297.	12.3	16

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37	An investigation on the nano-abrasion wear mechanisms of KDP crystals. Wear, 2021, 476, 203692.	3.1	16
38	Critical loading conditions of amorphization, phase transformation, and dilation cracking in 6Hâ€silicon carbide. Journal of the American Ceramic Society, 2018, 101, 3585-3596.	3.8	15
39	Theoretical modelling of brittle-to-ductile transition load of KDP crystals on (001) plane during nanoindentation and nanoscratch tests. Journal of Materials Research and Technology, 2020, 9, 14142-14157.	5.8	15
40	Effect of the elastic deformation of rolls on the surface texture transfer in skin-pass rolling. International Journal of Mechanical Sciences, 2021, 198, 106358.	6.7	15
41	Surface texture transfer in skin-pass rolling with the effect of roll surface wear. Wear, 2021, 476, 203764.	3.1	15
42	Ultrasonic vibrationâ€“assisted incremental sheet metal forming. International Journal of Advanced Manufacturing Technology, 2021, 114, 3311-3323.	3.0	14
43	Microstructure-based three-dimensional characterization of chip formation and surface generation in the machining of particulate-reinforced metal matrix composites. International Journal of Extreme Manufacturing, 2020, 2, 045103.	12.7	14
44	Effects of grain size and protrusion height on the surface integrity generation in the nanogrinding of 6H-SiC. Tribology International, 2022, 171, 107563.	5.9	14
45	Understanding the formation mechanism of subsurface damage in potassium dihydrogen phosphate crystals during ultra-precision fly cutting. Advances in Manufacturing, 2019, 7, 270-277.	6.1	13
46	Stress-induced phase and structural changes in KDP crystals. Computational Materials Science, 2015, 109, 359-366.	3.0	11
47	Investigation into the room temperature creep-deformation of potassium dihydrogen phosphate crystals using nanoindentation. Advances in Manufacturing, 2018, 6, 376-383.	6.1	11
48	Characterization of mechanical properties and failure of potassium dihydrogen phosphate under mechanical stressing. Ceramics International, 2021, 47, 15875-15882.	4.8	11
49	On the numerical modelling of composite machining. Composites Part B: Engineering, 2022, 241, 110023.	12.0	10
50	Characterization and criteria of phase transformations and lattice slipping in potassium dihydrogen phosphate crystals. Journal of the American Ceramic Society, 2021, 104, 5955-5965.	3.8	9
51	Tribological performance of silicone oil based Al2O3 nano lubricant for an Mg alloy subjected to sliding at elevated temperatures. Tribology International, 2022, 175, 107779.	5.9	9
52	Mechanisms of the Complex Thermo-Mechanical Behavior of Polymer Glass Across a Wide Range of Temperature Variations. Polymers, 2018, 10, 1153.	4.5	8
53	HD-lubricated high-speed small reduction rolling of hard steel strips with elastically deformable work rolls. Tribology International, 2022, 165, 107295.	5.9	8
54	Debris effect on the surface wear and damage evolution of counterpart materials subjected to contact sliding. Advances in Manufacturing, 2022, 10, 72-86.	6.1	8

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55	The role of material model in the finite element simulation of high-speed machining of Ti6Al4V. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 2959-2967.	2.1	7
56	Elastic modulus evolution of rocks under heatingâ€“cooling cycles. Scientific Reports, 2020, 10, 13835.	3.3	7
57	An Investigation into the Texture Transfer in the Process of Lubricated Skin Pass Rolling. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2021, 143, .	2.2	7
58	Influence of Tool and Workpiece Properties on the Wear of the Counterparts in Contact Sliding. Journal of Tribology, 2022, 144, .	1.9	7
59	A new discrete element model for rock-like materials. Computers and Structures, 2022, 261-262, 106730.	4.4	7
60	A multiscale soft-contact modelling method for rough surfaces in contact with coupled slipping/sliding and rolling. Tribology International, 2022, 173, 107627.	5.9	7
61	Characterization of interface stresses and lubrication of rough elastic surfaces under ball-on-disc rolling. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2017, 231, 1552-1573.	1.8	6
62	On the Constitutive Models for Ultra-High Strain Rate Deformation of Metals. International Journal of Automotive Technology, 2019, 20, 31-37.	1.4	6
63	Elastic-plastic-brittle transitions of potassium dihydrogen phosphate crystals: characterization by nanoindentation. Advances in Manufacturing, 2020, 8, 447-456.	6.1	6
64	Effect of ultra-precision fly-cutting on the surface integrity of potassium dihydrogen phosphate crystals. Optical Materials Express, 2020, 10, 971.	3.0	6
65	Effects of sliding speed and lubrication on the tribological behaviour of stainless steel. International Journal of Advanced Manufacturing Technology, 2018, 94, 341-350.	3.0	5
66	Fuzzy modelling of surface scratching in contact sliding. IOP Conference Series: Materials Science and Engineering, 2020, 967, 012022.	0.6	5
67	Fracture mechanisms of intact rock-like materials under compression. Computers and Geotechnics, 2022, 148, 104845.	4.7	5
68	A note on the applicability of a constitutive model withÂacoustoplasticity to high strain rate deformation induced by high frequency impacts. International Journal of Impact Engineering, 2021, 157, 103977.	5.0	4
69	Multiscale Interface Stress Characterisation in Cold Rolling. Metals and Materials International, 2021, 27, 1997-2013.	3.4	4
70	Evaluation of critical wear transition loads of MMCs by rule based fuzzy modelling. Tribology Letters, 1996, 2, 89.	2.6	3
71	Material removal mechanisms and characteristics of potassium dihydrogen phosphate crystals under nanoscratching. Advances in Manufacturing, 2021, 9, 558.	6.1	3
72	Kinematic modeling of surface topography ground by an electroplated diamond wheel. International Journal of Advanced Manufacturing Technology, 2021, 114, 2753-2765.	3.0	2

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73	Effect of repeated nanoindentations on the deformation of potassium dihydrogen phosphate crystals. Ceramics International, 2022, 48, 9595-9601.	4.8	2
74	An investigation on the friction, wear and deformation of potassium dihydrogen phosphate. Wear, 2021, 476, 203624.	3.1	1
75	Rapid forming of nanowire array on PVDF polymer surfaces at room temperature by ultrasonic loading. Advanced Engineering Materials, 0, , .	3.5	0