

# Xiong Zhang

## List of Publications by Year in descending order

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110  
papers

3,230  
citations

147801

31  
h-index

175258

52  
g-index

111  
all docs

111  
docs citations

111  
times ranked

1814  
citing authors

#	ARTICLE	IF	CITATIONS
1	Meshless methods based on collocation with radial basis functions. Computational Mechanics, 2000, 26, 333-343.	4.0	212
2	Least-squares collocation meshless method. International Journal for Numerical Methods in Engineering, 2001, 51, 1089-1100.	2.8	189
3	Comparison study of MPM and SPH in modeling hypervelocity impact problems. International Journal of Impact Engineering, 2009, 36, 272-282.	5.0	163
4	Energy absorption of axially compressed thin-walled square tubes with patterns. Thin-Walled Structures, 2007, 45, 737-746.	5.3	129
5	Contact algorithms for the material point method in impact and penetration simulation. International Journal for Numerical Methods in Engineering, 2011, 85, 498-517.	2.8	124
6	The Sandia Fracture Challenge: blind round robin predictions of ductile tearing. International Journal of Fracture, 2014, 186, 5-68.	2.2	115
7	Enhancement of the material point method using B-spline basis functions. International Journal for Numerical Methods in Engineering, 2018, 113, 411-431.	2.8	91
8	An explicit material point finite element method for hyper-velocity impact. International Journal for Numerical Methods in Engineering, 2006, 66, 689-706.	2.8	87
9	Incompressible material point method for free surface flow. Journal of Computational Physics, 2017, 330, 92-110.	3.8	83
10	Coupling of finite element method with material point method by local multi-mesh contact method. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 3482-3494.	6.6	75
11	A MESHLESS METHOD BASED ON LEAST-SQUARES APPROACH FOR STEADY- AND UNSTEADY-STATE HEAT CONDUCTION PROBLEMS. Numerical Heat Transfer, Part B: Fundamentals, 2005, 47, 257-275.	0.9	71
12	Three-dimensional dynamic soil-structure interaction analysis in the time domain. Earthquake Engineering and Structural Dynamics, 1999, 28, 1501-1524.	4.4	68
13	An adaptive finite element material point method and its application in extreme deformation problems. Computer Methods in Applied Mechanics and Engineering, 2012, 241-244, 275-285.	6.6	63
14	A FEMP method and its application in modeling dynamic response of reinforced concrete subjected to impact loading. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1659-1670.	6.6	59
15	Sloshing impact simulation with material point method and its experimental validations. Computers and Fluids, 2014, 103, 86-99.	2.5	55
16	An extended Layerwise method for composite laminated beams with multiple delaminations and matrix cracks. International Journal for Numerical Methods in Engineering, 2015, 101, 407-434.	2.8	55
17	A layerwise/solid-element method of the linear static and free vibration analysis for the composite sandwich plates. Composites Part B: Engineering, 2013, 52, 187-198.	12.0	42
18	Low-velocity impact responses of the stiffened composite laminated plates based on the progressive failure model and the layerwise/solid-elements method. Composite Structures, 2014, 110, 249-275.	5.8	42

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19	Application of material point methods for cutting process simulations. Computational Materials Science, 2012, 57, 102-110.	3.0	41
20	Improved coupling of finite element method with material point method based on a particle-to-surface contact algorithm. Computer Methods in Applied Mechanics and Engineering, 2015, 293, 1-19.	6.6	41
21	Internal-structure-model based simulation research of shielding properties of honeycomb sandwich panel subjected to high-velocity impact. International Journal of Impact Engineering, 2015, 77, 120-133.	5.0	41
22	A multiscale framework for high-velocity impact process with combined material point method and molecular dynamics. International Journal of Mechanics and Materials in Design, 2013, 9, 127-139.	3.0	40
23	Free vibration analysis of corrugated-core sandwich plates using a meshfree Galerkin method based on the first-order shear deformation theory. International Journal of Mechanical Sciences, 2014, 78, 8-18.	6.7	40
24	The Material Point Method. , 2017, , 37-101.		39
25	An efficient staggered grid material point method. Computer Methods in Applied Mechanics and Engineering, 2019, 352, 85-109.	6.6	39
26	Response of Woodpecker's Head during Pecking Process Simulated by Material Point Method. PLoS ONE, 2015, 10, e0122677.	2.5	37
27	Material point method with enriched shape function for crack problems. Computer Methods in Applied Mechanics and Engineering, 2017, 322, 541-562.	6.6	37
28	Mechanical properties of super honeycomb structures based on carbon nanotubes. Nanotechnology, 2007, 18, 075711.	2.6	36
29	A 2-D meshless model for jointed rock structures. International Journal for Numerical Methods in Engineering, 2000, 47, 1649-1661.	2.8	35
30	Numerical simulation and analysis of an electroactuated beam using a radial basis function. Smart Materials and Structures, 2005, 14, 1163-1171.	3.5	35
31	Slope stability analysis based on the rigid finite element method. Geotechnique, 1999, 49, 585-593.	4.0	34
32	Dynamic wave-soil-structure interaction analysis in the time domain. Computers and Structures, 2005, 83, 2206-2214.	4.4	33
33	Numerical simulation of explosively driven metal by material point method. International Journal of Impact Engineering, 2011, 38, 238-246.	5.0	33
34	Continuous preparation of itraconazole nanoparticles using droplet-based microreactor. Chemical Engineering Journal, 2020, 393, 124721.	12.7	31
35	Imposition of essential boundary conditions by displacement constraint equations in meshless methods. Communications in Numerical Methods in Engineering, 2001, 17, 165-178.	1.3	30
36	Extended layerwise method for laminated composite plates with multiple delaminations and transverse cracks. Computational Mechanics, 2016, 58, 657-679.	4.0	29

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37	Coupling of membrane element with material point method for fluid-membrane interaction problems. <i>International Journal of Mechanics and Materials in Design</i> , 2014, 10, 199-211.	3.0	28
38	Three-Dimensional Multi-mesh Material Point Method for Solving Collision Problems. <i>Communications in Theoretical Physics</i> , 2008, 49, 1129-1138.	2.5	27
39	Numerical investigation of influences of porous density and strain-rate effect on dynamical responses of aluminum foam. <i>Computational Materials Science</i> , 2014, 91, 223-230.	3.0	27
40	Simulation of reactive mixing behaviors inside micro-droplets by a lattice Boltzmann method. <i>Chemical Engineering Science</i> , 2018, 181, 79-89.	3.8	27
41	Simulation of hyper-velocity impact on double honeycomb sandwich panel and its staggered improvement with internal-structure model. <i>International Journal of Mechanics and Materials in Design</i> , 2016, 12, 241-254.	3.0	25
42	Linear statics and free vibration sensitivity analysis of the composite sandwich plates based on a layerwise/solid-element method. <i>Composite Structures</i> , 2013, 106, 175-200.	5.8	24
43	Improved decohesion modeling with the material point method for simulating crack evolution. <i>International Journal of Fracture</i> , 2014, 186, 177-184.	2.2	24
44	Tied interface grid material point method for problems with localized extreme deformation. <i>International Journal of Impact Engineering</i> , 2014, 70, 50-61.	5.0	24
45	Investigation on high-velocity impact of micron particles using material point method. <i>International Journal of Impact Engineering</i> , 2015, 75, 241-254.	5.0	24
46	A mesh-grading material point method and its parallelization for problems with localized extreme deformation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 289, 291-315.	6.6	23
47	A new peridynamic mixed-mode bond failure model for interface delamination and homogeneous materials fracture analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 379, 113728.	6.6	23
48	Free-vibration analysis of a three-dimensional soil-structure system. <i>Earthquake Engineering and Structural Dynamics</i> , 2001, 30, 43-57.	4.4	21
49	Meshless Galerkin least-squares method. <i>Computational Mechanics</i> , 2005, 35, 182-189.	4.0	21
50	Meshless least-squares method for solving the steady-state heat conduction equation. <i>Tsinghua Science and Technology</i> , 2005, 10, 61-66.	6.1	21
51	Preparation of itraconazole nanoparticles by anti-solvent precipitation method using a cascaded microfluidic device and an ultrasonic spray drier. <i>Chemical Engineering Journal</i> , 2018, 334, 2264-2272.	12.7	21
52	Peridynamic modeling of elastic bimaterial interface fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 390, 114458.	6.6	21
53	Rigid finite element and its applications in engineering. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 1995, 11, 44-50.	3.4	20
54	Equivalent parameter study of the mechanical properties of super carbon nanotubes. <i>Nanotechnology</i> , 2007, 18, 295708.	2.6	19

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55	A frictional contact algorithm for implicit material point method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 321, 124-144.	6.6	19
56	v-p material point method for weakly compressible problems. <i>Computers and Fluids</i> , 2018, 176, 170-181.	2.5	19
57	Coupling between finite element method and material point method for problems with extreme deformation. <i>Theoretical and Applied Mechanics Letters</i> , 2012, 2, 021003.	2.8	17
58	A material point method model and ballistic limit equation for hyper velocity impact of multi-layer fabric coated aluminum plate. <i>International Journal of Mechanics and Materials in Design</i> , 2018, 14, 511-526.	3.0	17
59	NUMERICAL SIMULATION OF HUMAN HEAD IMPACT USING THE MATERIAL POINT METHOD. <i>International Journal of Computational Methods</i> , 2013, 10, 1350014.	1.3	16
60	Numerical simulation of liquid mixing inside soft droplets with periodic deformation by a lattice Boltzmann method. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2019, 98, 37-44.	5.3	16
61	Improved shielding structure with double honeycomb cores for hyper-velocity impact. <i>Mechanics Research Communications</i> , 2015, 69, 34-39.	1.8	15
62	An improved 2D MoF method by using high order derivatives. <i>Journal of Computational Physics</i> , 2017, 349, 176-190.	3.8	15
63	A precise critical time step formula for the explicit material point method. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 4989-5016.	2.8	15
64	Seamless coupling of molecular dynamics and material point method via smoothed molecular dynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2017, 112, 380-400.	2.8	14
65	A robust and efficient polyhedron subdivision and intersection algorithm for three-dimensional MMALE remapping. <i>Journal of Computational Physics</i> , 2017, 338, 1-17.	3.8	13
66	An augmented incompressible material point method for modeling liquid sloshing problems. <i>International Journal of Mechanics and Materials in Design</i> , 2018, 14, 141-155.	3.0	13
67	Mesoscopic modeling and simulation of 3D orthogonal woven composites using material point method. <i>Composite Structures</i> , 2018, 203, 425-435.	5.8	13
68	An improved 3D MoF method based on analytical partial derivatives. <i>Journal of Computational Physics</i> , 2016, 326, 156-170.	3.8	12
69	Coupled Shell-Material Point Method for Bird Strike Simulation. <i>Acta Mechanica Solida Sinica</i> , 2018, 31, 1-18.	1.9	12
70	Improved Incompressible Material Point Method Based on Particle Density Correction. <i>International Journal of Computational Methods</i> , 2018, 15, 1850061.	1.3	11
71	A predicted-Newton's method for solving the interface positioning equation in the MoF method on general polyhedrons. <i>Journal of Computational Physics</i> , 2019, 384, 60-76.	3.8	11
72	A transport point method for complex flow problems with free surface. <i>Computational Particle Mechanics</i> , 2020, 7, 377-391.	3.0	11

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73	Extended material point method for the three-dimensional crack problems. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 3044-3069.	2.8	11
74	A peridynamic model for contact problems involving fracture. <i>Engineering Fracture Mechanics</i> , 2022, 267, 108436.	4.3	11
75	Meshless method based on collocation with consistent compactly supported radial basis functions. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2004, 20, 551-557.	3.4	10
76	Nonlinear membrane-spring model for carbon nanotubes. <i>Physical Review B</i> , 2005, 72, .	3.2	10
77	A non-penetration FEM-MPM contact algorithm for complex fluid-structure interaction problems. <i>Computers and Fluids</i> , 2020, 213, 104749.	2.5	10
78	An adaptive peridynamics material point method for dynamic fracture problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 393, 114786.	6.6	10
79	An immersed finite element material point (IFEMP) method for free surface fluid-structure interaction problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 393, 114809.	6.6	10
80	UV-enhanced Gas-Solid Chlorination of Polyvinyl Chloride for Cleaner Production of Chlorinated Polyvinyl Chloride. <i>Chemical Engineering and Technology</i> , 2016, 39, 834-840.	1.5	9
81	Molecular dynamics-smoothed molecular dynamics (MD-SMD) adaptive coupling method with seamless transition. <i>International Journal for Numerical Methods in Engineering</i> , 2016, 108, 233-251.	2.8	9
82	A critical assessment and contact algorithm for the staggered grid material point method. <i>International Journal of Mechanics and Materials in Design</i> , 2021, 17, 743-766.	3.0	9
83	The carbon nanotube composite simulation by material point method. <i>Computational Materials Science</i> , 2012, 57, 23-29.	3.0	8
84	Adaptive smoothed molecular dynamics for multiscale modeling. <i>Computational Materials Science</i> , 2009, 46, 713-715.	3.0	7
85	Effect of defects on resonance of carbon nanotubes as mass sensors. <i>Applied Physics Letters</i> , 2006, 88, 113513.	3.3	6
86	A novel material point method (MPM) based needle-tissue interaction model. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2021, 24, 1393-1407.	1.6	6
87	Elasto-plastic behavior of pipe subjected to steady axial load and cyclic bending. <i>Nuclear Engineering and Design</i> , 2004, 229, 189-197.	1.7	5
88	Accurate modelling of the crush behaviour of thin tubular columns using material point method. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 1209-1219.	5.1	5
89	An improved smoothed molecular dynamics method by alternating with molecular dynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 296, 273-294.	6.6	5
90	An immersed MMALE material point method for FSI problems with structure fracturing. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 396, 115099.	6.6	5

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91	Plastic zone of semi-infinite crack in planar kagome and triangular lattices. Acta Mechanica Sinica, 2009, 22, 213-225.	1.9	4
92	Combining peridynamics and generalized interpolation material point method via volume modification for simulating transient responses. Computational Particle Mechanics, 2021, 8, 337-347.	3.0	4
93	Peridynamic analysis of materials interface fracture with thermal effect. Theoretical and Applied Fracture Mechanics, 2022, 120, 103420.	4.7	4
94	A membrane“spring model for carbon nanotubes with van der Waals interaction between non-bonded atoms. Nanotechnology, 2007, 18, 375706.	2.6	3
95	Constitutive Models. , 2017, , 175-219.		3
96	Experimental Study on Thermal and UV-enhanced Gas-Solid Chlorination of High-Density Polyethylene. International Journal of Chemical Reactor Engineering, 2018, 16, .	1.1	3
97	Preparation of smectic itraconazole nanoparticles with tunable periodic order using microfluidics-based anti-solvent precipitation. CrystEngComm, 2019, 21, 2362-2372.	2.6	3
98	A coupled MMALE-FE method for solving 3D fluid-solid interaction problems with multi-material flow. Engineering Computations, 2019, 36, 2766-2786.	1.4	3
99	Fluid-structure interaction analysis of a hypothetical core disruptive accident in LMFBRs. Nuclear Engineering and Design, 2005, 235, 701-712.	1.7	1
100	Applications of the MPM. , 2017, , 231-263.		1
101	Numerical Study of Dynamic Compression Process of Aluminum Foam with Material Point Method. CMES - Computer Modeling in Engineering and Sciences, 2011, 82, 195-214.	1.1	1
102	A Coupled Finite Element Material Point Method for Large Deformation Problems. Computational and Experimental Methods in Structures, 2018, , 251-288.	0.3	1
103	Recent Advances in Simulating Failure Evolution with the Material Point Method. Applied Mechanics and Materials, 0, 784, 193-199.	0.2	0
104	Computer Implementation of the MPM. , 2017, , 103-142.		0
105	Multiscale MPM. , 2017, , 221-229.		0
106	Coupling of the MPM with FEM. , 2017, , 143-173.		0
107	Governing Equations. , 2017, , 11-36.		0
108	Inelastic Behavior of Pipe Subjected to Steady Extension and Cyclic Bending. , 2003, , .		0

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109	A New Approach of Piping Dynamic Response Considering Plastic Effect. , 2006, , .		0
110	Multiscale computation based on material point method. Scientia Sinica: Physica, Mechanica Et Astronomica, 2017, 47, 070014.	0.4	0