

Jianfeng Wang

List of Publications by Year in descending order

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97
papers

3,347
citations

159585

30
h-index

161849

54
g-index

101
all docs

101
docs citations

101
times ranked

1453
citing authors

#	ARTICLE	IF	CITATIONS
1	An investigation of single sand particle fracture using X-ray micro-tomography. <i>Geotechnique</i> , 2015, 65, 625-641.	4.0	245
2	3D quantitative shape analysis on form, roundness, and compactness with μ CT. <i>Powder Technology</i> , 2016, 291, 262-275.	4.2	211
3	A novel three-dimensional contact model for granulates incorporating rolling and twisting resistances. <i>Computers and Geotechnics</i> , 2015, 65, 147-163.	4.7	181
4	Micromorphology characterization and reconstruction of sand particles using micro X-ray tomography and spherical harmonics. <i>Engineering Geology</i> , 2015, 184, 126-137.	6.3	171
5	Three-dimensional sphericity, roundness and fractal dimension of sand particles. <i>Geotechnique</i> , 2018, 68, 18-30.	4.0	134
6	On the role of particle breakage in the shear failure behavior of granular soils by DEM. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2013, 37, 832-854.	3.3	133
7	DEM investigation of particle anti-rotation effects on the micromechanical response of granular materials. <i>Granular Matter</i> , 2013, 15, 315-326.	2.2	112
8	DEM analysis of energy dissipation in crushable soils. <i>Soils and Foundations</i> , 2012, 52, 644-657.	3.1	109
9	Discrete element simulations of direct shear specimen scale effects. <i>Geotechnique</i> , 2010, 60, 395-409.	4.0	107
10	Generation of a realistic 3D sand assembly using X-ray micro-computed tomography and spherical harmonic-based principal component analysis. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2017, 41, 93-109.	3.3	99
11	Generation of realistic sand particles with fractal nature using an improved spherical harmonic analysis. <i>Computers and Geotechnics</i> , 2018, 104, 1-12.	4.7	89
12	Discrete-continuum analysis of shear banding in the direct shear test. <i>Geotechnique</i> , 2007, 57, 513-526.	4.0	86
13	Numerical studies of shear banding in interface shear tests using a new strain calculation method. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2007, 31, 1349-1366.	3.3	82
14	Experimental investigation of inter-particle contact evolution of sheared granular materials using X-ray micro-tomography. <i>Soils and Foundations</i> , 2018, 58, 1492-1510.	3.1	65
15	Unified soil behavior of interface shear test and direct shear test under the influence of lower moving boundaries. <i>Granular Matter</i> , 2011, 13, 631-641.	2.2	56
16	Random generation of natural sand assembly using micro x-ray tomography and spherical harmonics. <i>Geotechnique Letters</i> , 2015, 5, 6-11.	1.2	56
17	A particle-tracking method for experimental investigation of kinematics of sand particles under triaxial compression. <i>Powder Technology</i> , 2018, 328, 436-451.	4.2	55
18	A simple method for particle shape generation with spherical harmonics. <i>Powder Technology</i> , 2018, 330, 284-291.	4.2	54

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19	Particle-scale surface interactions of non-dilative interface systems. <i>Geotextiles and Geomembranes</i> , 2006, 24, 156-168.	4.6	53
20	DEM modelling of mini-triaxial test based on one-to-one mapping of sand particles. <i>Geotechnique</i> , 2021, 71, 714-727.	4.0	51
21	Investigation of particle breakage under one-dimensional compression of sand using X-ray microtomography. <i>Canadian Geotechnical Journal</i> , 2020, 57, 754-762.	2.8	50
22	Study on the effect of particle morphology on single particle breakage using a combined finite-discrete element method. <i>Computers and Geotechnics</i> , 2020, 122, 103532.	4.7	48
23	Limit equilibrium method for rock slope stability analysis by using the Generalized Hoek's Brown criterion. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2016, 89, 176-184.	5.8	47
24	DEM-Aided Discovery of the Relationship between Energy Dissipation and Shear Band Formation Considering the Effects of Particle Rolling Resistance. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2013, 139, 1512-1527.	3.0	46
25	Particle classification and intra-particle pore structure of carbonate sands. <i>Engineering Geology</i> , 2020, 279, 105889.	6.3	44
26	Discrete-continuum analysis of monotonic pile penetration in crushable sands. <i>Canadian Geotechnical Journal</i> , 2014, 51, 1095-1110.	2.8	36
27	A comprehensive study on the smooth joint model in DEM simulation of jointed rock masses. <i>Granular Matter</i> , 2015, 17, 775-791.	2.2	36
28	A new probabilistic approach for predicting particle crushing in one-dimensional compression of granular soil. <i>Soils and Foundations</i> , 2014, 54, 833-844.	3.1	34
29	A novel particle tracking method for granular sands based on spherical harmonic rotational invariants. <i>Geotechnique</i> , 2018, 68, 1116-1123.	4.0	34
30	Anisotropy-Based Failure Criterion for Interphase Systems. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2007, 133, 599-608.	3.0	33
31	Distinct simulation of earth pressure against a rigid retaining wall considering inter-particle rolling resistance in sandy backfill. <i>Granular Matter</i> , 2014, 16, 797-814.	2.2	33
32	Quantification of the strain field of sands based on X-ray micro-tomography: A comparison between a grid-based method and a mesh-based method. <i>Powder Technology</i> , 2019, 344, 314-334.	4.2	32
33	Determining particulate's solid interphase strength using shear-induced anisotropy. <i>Granular Matter</i> , 2007, 9, 231-240.	2.2	29
34	DEM Analysis of Geomechanical Properties of Cemented Methane Hydrate-bearing Soils at Different Temperatures and Pressures. <i>International Journal of Geomechanics</i> , 2016, 16, .	2.7	29
35	A miniature triaxial apparatus for investigating the micromechanics of granular soils with in situ X-ray micro-tomography scanning. <i>Frontiers of Structural and Civil Engineering</i> , 2020, 14, 357-373.	2.9	29
36	A generalized contact potential and its application in discontinuous deformation analysis. <i>Computers and Geotechnics</i> , 2018, 99, 104-114.	4.7	27

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37	Reassembling fractured sand particles using fracture-region matching algorithm. Powder Technology, 2018, 338, 55-66.	4.2	25
38	Modeling of the simple shear deformation of sand: effects of principal stress rotation. Acta Geotechnica, 2009, 4, 193-201.	5.7	24
39	Particle shape quantification using rotation-invariant spherical harmonic analysis. Geotechnique Letters, 2017, 7, 190-196.	1.2	24
40	An investigation of the breakage behaviour of a pre-crushed carbonate sand under shear using X-ray micro-tomography. Engineering Geology, 2021, 293, 106286.	6.3	23
41	The micro-mechanical behaviour of sand-rubber mixtures under shear: An experimental study based on X-ray micro-tomography. Soils and Foundations, 2020, 60, 1251-1268.	3.1	22
42	Non-coaxial version of Rowe's stress-dilatancy relation. Granular Matter, 2009, 11, 129-137.	2.2	21
43	Depth-independent cone penetration mechanism by a discrete element method (DEM)-based stress normalization approach. Canadian Geotechnical Journal, 2016, 53, 871-883.	2.8	21
44	Registration of point cloud data for matching crushed sand particles. Powder Technology, 2019, 347, 227-242.	4.2	21
45	Numerical modeling of geomaterial fracture using a cohesive crack model in grain-based DEM. Computational Particle Mechanics, 2020, 7, 645-654.	3.0	21
46	A DEM investigation on crushing of sand particles containing intrinsic flaws. Soils and Foundations, 2020, 60, 562-572.	3.1	20
47	DEM simulations of cemented sands with a statistical representation of micro-bond parameters. Powder Technology, 2021, 379, 96-107.	4.2	20
48	DEM modeling of one-dimensional compression of sands incorporating statistical particle fragmentation scheme. Canadian Geotechnical Journal, 2022, 59, 144-157.	2.8	18
49	3D DEM Simulation of Crushable Granular Soils under Plane Strain Compression Condition. Procedia Engineering, 2011, 14, 1713-1720.	1.2	17
50	Quantification of particle crushing in consideration of grading evolution of granular soils in biaxial shearing: A probability-based model. International Journal for Numerical and Analytical Methods in Geomechanics, 2018, 42, 488-515.	3.3	16
51	Recent Progress on Plant-Inspired Soft Robotics with Hydrogel Building Blocks: Fabrication, Actuation and Application. Micromachines, 2021, 12, 608.	2.9	16
52	Discrete element analysis of the mechanical properties of deep-sea methane hydrate-bearing soils considering interparticle bond thickness. Comptes Rendus - Mecanique, 2017, 345, 868-889.	2.1	15
53	Improved region growing method for image segmentation of three-phase materials. Powder Technology, 2020, 368, 80-89.	4.2	15
54	Gene mutation of particle morphology through spherical harmonic-based principal component analysis. Powder Technology, 2021, 386, 176-192.	4.2	15

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55	Discontinuous deformation analysis for SH-body. <i>Computers and Geotechnics</i> , 2020, 117, 103234.	4.7	14
56	Role of normal boundary condition in interface shear test for the determination of skin friction along pile shaft. <i>Canadian Geotechnical Journal</i> , 2017, 54, 1245-1256.	2.8	13
57	Variational inequality-based particle discontinuous deformation analysis. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2019, 43, 1995-2019.	3.3	13
58	DEM investigations of failure mode of sands under oedometric loading. <i>Advanced Powder Technology</i> , 2022, 33, 103599.	4.1	13
59	A Novel Multi-Scale Particle Morphology Descriptor with the Application of SPHERICAL Harmonics. <i>Materials</i> , 2020, 13, 3286.	2.9	12
60	Tracking particles in sands based on particle shape parameters. <i>Advanced Powder Technology</i> , 2020, 31, 2005-2019.	4.1	12
61	Particle shape effect on the shear banding in DEM-simulated sands. <i>Granular Matter</i> , 2022, 24, 1.	2.2	12
62	Constitutive modelling of natural sands using a deep learning approach accounting for particle shape effects. <i>Powder Technology</i> , 2022, 404, 117439.	4.2	12
63	DEM Simulation of Creep in One-Dimensional Compression of Crushable Sand. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2019, 145, .	3.0	11
64	DEM study on effect of particle roundness on biaxial shearing of sand. <i>Underground Space (China)</i> , 2021, 6, 678-694.	7.5	11
65	DEM Analyses of an Uplift Failure Mechanism with Pipe Buried in Cemented Granular Ground. <i>International Journal of Geomechanics</i> , 2015, 15, .	2.7	10
66	Exploring the effect of 3D grain shape on the packing and mechanical behaviour of sands. <i>Geotechnique Letters</i> , 2019, 9, 299-304.	1.2	10
67	Dynamic Modeling of Sphere, Cylinder, Cone, and their Assembly. <i>Archives of Computational Methods in Engineering</i> , 2020, 27, 725-772.	10.2	10
68	DEM study of creep and stress relaxation behaviors of dense sand. <i>Computers and Geotechnics</i> , 2021, 134, 104142.	4.7	10
69	DEM simulation of particle crushing in a triaxial test considering the influence of particle morphology and coordination number. <i>Computers and Geotechnics</i> , 2022, 148, 104769.	4.7	10
70	Investigation of the fabric evolution and the stress-transmission behaviour of sands based on X-ray μ CT images. <i>Advanced Powder Technology</i> , 2019, 30, 1858-1869.	4.1	9
71	Estimation of contact forces of granular materials under uniaxial compression based on a machine learning model. <i>Granular Matter</i> , 2022, 24, 1.	2.2	9
72	Visualization of Failure and the Associated Grain-Scale Mechanical Behavior of Granular Soils under Shear using Synchrotron X-Ray Micro-Tomography. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	7

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73	Blind matching of crushed sand particles via branch and bound. Powder Technology, 2020, 359, 268-281.	4.2	7
74	Insight into the mechanism of microbially induced carbonate precipitation treatment of bio-improved calcareous sand particles. Acta Geotechnica, 2023, 18, 985-999.	5.7	7
75	Stress-strain behaviour of carbon nanotubes under cyclic loading. Micro and Nano Letters, 2007, 2, 111.	1.3	6
76	Nanoscale Simulations of Rock and Clay Minerals. , 2007, , 1.		5
77	Influence and countermeasure of specimen misalignment to small-strain behavior of soft marine clay. Marine Georesources and Geotechnology, 2017, 35, 170-175.	2.1	5
78	Molecular Simulations of Cyclic Loading Behavior of Carbon Nanotubes Using the Atomistic Finite Element Method. Journal of Nanomaterials, 2009, 2009, 1-9.	2.7	4
79	Static fatigue of sand particles. Canadian Geotechnical Journal, 2018, 55, 1682-1687.	2.8	4
80	Estimating Contact Force Chains Using Artificial Neural Network. Applied Sciences (Switzerland), 2021, 11, 6278.	2.5	4
81	Modeling Of Scale Effects On The Micromechanics Of Granular Media Under Direct Shear Condition. , 2009, , .		3
82	Evolution of sand crushability and its effect on particle-scale energy allocation. , 2013, , .		2
83	Application of spherical harmonics analysis on LBS particles and LBS fragments. EPJ Web of Conferences, 2017, 140, 05002.	0.3	2
84	Evolution of Granular Contact Gain, Loss and Movement Under Shear Studied Using Synchrotron X-ray Micro-tomography. Trends in Mathematics, 2018, , 81-88.	0.1	2
85	Prediction of 3D contact force chains using artificial neural networks. Engineering Geology, 2022, 296, 106444.	6.3	2
86	On the tracking of shelly carbonate sands using deep learning. Geotechnique, 2023, 73, 974-985.	4.0	2
87	Molecular simulations of clay minerals: a study considering the change of cell size and shape. Acta Geotechnica, 2010, 5, 151-167.	5.7	1
88	Structural Transformation of Clay Minerals by a New Molecular Dynamics Simulation Method. , 2010, , .		0
89	Molecular Structural Transformation of 2:1 Clay Minerals by a Constant-Pressure Molecular Dynamics Simulation Method. Journal of Nanomaterials, 2010, 2010, 1-13.	2.7	0
90	Investigation of the Deformable Behavior of Loose and Dense Sand through DEM. Advanced Materials Research, 0, 871, 124-128.	0.3	0

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91	DEM Study on Energy Allocation Behavior in Crushable Soils. Advanced Materials Research, 2013, 871, 119-123.	0.3	0
92	Investigation of the fracture behaviour of individual LBS particle using Nanofocus X-ray CT. , 2014, , 1125-1129.		0
93	An Investigation of 3D Sand Particle Fragment Reassembly. Trends in Mathematics, 2018, , 383-390.	0.1	0
94	Exploring the micromechanical behaviour of sand-rubber mixtures using X-ray micro-tomography. EPJ Web of Conferences, 2021, 249, 11009.	0.3	0
95	Steady state strength behavior of a particulate-solid interphase system. , 2010, , 537-541.		0
96	MICROMECHANICAL STUDY OF STRAIN LOCALIZATION AND FAILURE IN THE DIRECT SHEAR TEST OF GRANULAR SOILS. Springer Series in Geomechanics and Geoengineering, 2011, , 17-20.	0.1	0
97	Multiscale failure modeling in granular soils. , 2014, , 758-763.		0