Zhijun Wu

List of Publications by Year
in descending order

90 papers	3,812 citations	94381 37 h-index	143943 57 g-index
91 all docs	91 docs citations	91 times ranked	1548 citing authors

#	Article	IF	Citations
1	Frictional crack initiation and propagation analysis using the numerical manifold method. Computers and Geotechnics, 2012, 39, 38-53.	2.3	276
2	Experimental investigation of thermal effects on dynamic behavior of granite. Applied Thermal Engineering, 2017, 125, 94-103.	3.0	250
3	An investigation of thermal effects on micro-properties of granite by X-ray CT technique. Applied Thermal Engineering, 2018, 140, 505-519.	3.0	185
4	Micro-mechanical modeling of the macro-mechanical response and fracture behavior of rock using the numerical manifold method. Engineering Geology, 2017, 225, 49-60.	2.9	163
5	Spatial gradient distributions of thermal shock-induced damage to granite. Journal of Rock Mechanics and Geotechnical Engineering, 2020, 12, 917-926.	3.7	120
6	Effects of particle size on crushing and deformation behaviors of rockfill materials. Geoscience Frontiers, 2020, 11, 375-388.	4.3	116
7	A zero-thickness cohesive element-based numerical manifold method for rock mechanical behavior with micro-Voronoi grains. Engineering Analysis With Boundary Elements, 2018, 96, 94-108.	2.0	102
8	Rock strengthening or weakening upon heating in the mild temperature range?. Engineering Geology, 2020, 272, 105619.	2.9	88
9	Application of the numerical manifold method to model progressive failure in rock slopes. Engineering Fracture Mechanics, 2014, 119, 1-20.	2.0	77
10	Modeling cracking behavior of rock mass containing inclusions using the enriched numerical manifold method. Engineering Geology, 2013, 162, 1-13.	2.9	75
11	Micro/macro physical and mechanical variation of red sandstone subjected to cyclic heating and cooling: an experimental study. Bulletin of Engineering Geology and the Environment, 2019, 78, 1485-1499.	1.6	72
12	Coupled analytical solutions for deep-buried circular lined tunnels considering tunnel face advancement and soft rock rheology effects. Tunnelling and Underground Space Technology, 2019, 94, 103111.	3.0	70
13	Experimental and discrete element modeling on cracking behavior of sandstone containing a single oval flaw under uniaxial compression. Engineering Fracture Mechanics, 2018, 194, 154-174.	2.0	66
14	Investigation of the characteristics of rock fracture process zone using coupled FEM/DEM method. Engineering Fracture Mechanics, 2018, 200, 355-374.	2.0	63
15	Energy dissipation and dynamic fragmentation of dry and water-saturated siltstones under sub-zero temperatures. Engineering Fracture Mechanics, 2019, 220, 106659.	2.0	60
16	Numerical study of the effect of confining pressure on the rock breakage efficiency and fragment size distribution of a TBM cutter using a coupled FEM-DEM method. Tunnelling and Underground Space Technology, 2019, 88, 260-275.	3.0	59
17	A Cohesive Element-Based Numerical Manifold Method for Hydraulic Fracturing Modelling with Voronoi Grains. Rock Mechanics and Rock Engineering, 2019, 52, 2335-2359.	2.6	58
18	Analytical Solution for Lined Circular Tunnels in Deep Viscoelastic Burgers Rock Considering the Longitudinal Discontinuous Excavation and Sequential Installation of Liners. Journal of Engineering Mechanics - ASCE, 2021, 147, .	1.6	58

#	Article	IF	Citations
19	Wave transmission across linearly jointed complex rock masses. International Journal of Rock Mechanics and Minings Sciences, 2018, 112, 193-200.	2.6	57
20	Mesodamage Characteristics of Rock with a Pre-cut Opening Under Combined Staticâ€“Dynamic Loads: A Nuclear Magnetic Resonance (NMR) Investigation. Rock Mechanics and Rock Engineering, 2018, 51, 2339-2354.	2.6	54
21	Dynamic Study on Fracture Problems in Viscoelastic Sedimentary Rocks Using the Numerical Manifold Method. Rock Mechanics and Rock Engineering, 2013, 46, 1415-1427.	2.6	52
22	Evolutions of the unfrozen water content of saturated sandstones during freezing process and the freeze-induced damage characteristics. International Journal of Rock Mechanics and Minings Sciences, 2021, 142, 104757.	2.6	52
23	Influence of heating/cooling cycles on the micro/macrocracking characteristics of Rucheng granite under unconfined compression. Bulletin of Engineering Geology and the Environment, 2020, 79, 1289-1309.	1.6	51
24	Effects of Microfracture on Wave Propagation through Rock Mass. International Journal of Geomechanics, 2017, 17, .	1.3	50
25	Dynamic Mechanical Properties of Dry and Water-Saturated Siltstones Under Sub-Zero Temperatures. Rock Mechanics and Rock Engineering, 2020, 53, 4381-4401.	2.6	48
26	Study of microstructure effect on the nonlinear mechanical behavior and failure process of rock using an image-based-FDEM model. Computers and Geotechnics, 2020, 121, 103480.	2.3	46
27	Elasticâ€“plastic cracking analysis for brittleâ€“ductile rocks using manifold method. International Journal of Fracture, 2013, 180, 71-91.	1.1	45
28	Numerical determination of the effective permeability coefficient of soilâ€“rock mixtures using the numerical manifold method. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 381-414.	1.7	45
29	Extension of numerical manifold method for coupled fluid flow and fracturing problems. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 1990-2008.	1.7	44
30	Investigating the effects of micro-defects on the dynamic properties of rock using Numerical Manifold method. Construction and Building Materials, 2014, 72, 72-82.	3.2	44
31	Mesomechanism of the dynamic tensile fracture and fragmentation behaviour of concrete with heterogeneous mesostructure. Construction and Building Materials, 2019, 217, 573-591.	3.2	44
32	Real-time rock mass condition prediction with TBM tunneling big data using a novel rockâ€“machine mutual feedback perception method. Journal of Rock Mechanics and Geotechnical Engineering, 2021, 13, 1311-1325.	3.7	44
33	The numerical manifold method for elastic wave propagation in rock with time-dependent absorbing boundary conditions. Engineering Analysis With Boundary Elements, 2014, 46, 41-50.	2.0	43
34	Micro-mechanism study on rock breaking behavior under water jet impact using coupled SPH-FEM/DEM method with Voronoi grains. Engineering Analysis With Boundary Elements, 2019, 108, 472-483.	2.0	43
35	Evaluating the Microstructure Evolution Behaviors of Saturated Sandstone Using NMR Testing Under Uniaxial Short-Term and Creep Compression. Rock Mechanics and Rock Engineering, 2021, 54, 4905-4927.	2.6	42
36	Analytical Solutions for Deep-Buried Lined Tunnels Considering Longitudinal Discontinuous Excavation in Rheological Rock Mass. Journal of Engineering Mechanics - ASCE, 2020, 146, .	1.6	40

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37	Investigation of the excavation damaged zone around deep TBM tunnel using a Voronoi-element based explicit numerical manifold method. International Journal of Rock Mechanics and Minings Sciences, 2018, 112, 158-170.	2.6	39
38	Effects of cyclic freezing and thawing on the mechanical behavior of dried and saturated sandstone. Bulletin of Engineering Geology and the Environment, 2020, 79, 755-765.	1.6	39
39	Deterioration of dynamic mechanical properties of granite due to freeze-thaw weathering: Considering the effects of moisture conditions. Cold Regions Science and Technology, 2020, 176, 103092.	1.6	39
40	Bounding surface plasticity model for stress-strain and grain-crushing behaviors of rockfill materials. Geoscience Frontiers, 2020, 11, 495-510.	4.3	36
41	Evaluating Damage and Microcracking Behavior of Granite Using NMR Testing under Different Levels of Unconfined Compression. International Journal of Geomechanics, 2019, 19, .	1.3	34
42	Numerical investigation of rock heterogeneity effect on rock dynamic strength and failure process using cohesive fracture model. Engineering Geology, 2015, 197, 198-210.	2.9	32
43	A Voronoi element based-numerical manifold method (VE-NMM) for investigating micro/macro-mechanical properties of intact rocks. Engineering Fracture Mechanics, 2018, 199, 71-85.	2.0	32
44	Modelling transient heat conduction of granular materials by numerical manifold method. Engineering Analysis With Boundary Elements, 2018, 86, 45-55.	2.0	31
45	Micro-mechanism of brittle creep in saturated sandstone and its mechanical behavior after creep damage. International Journal of Rock Mechanics and Minings Sciences, 2022, 149, 104994.	2.6	30
46	An extended numerical manifold method for simulation of grouting reinforcement in deep rock tunnels. Tunnelling and Underground Space Technology, 2021, 115, 104020.	3.0	29
47	Real-time characterization of the grouting diffusion process in fractured sandstone based on the low-field nuclear magnetic resonance technique. International Journal of Rock Mechanics and Minings Sciences, 2022, 152, 105060.	2.6	29
48	Seepage characteristics of chemical grout flow in porous sandstone with a fracture under different temperature conditions: An NMR based experimental investigation. International Journal of Rock Mechanics and Minings Sciences, 2021, 142, 104764.	2.6	28
49	Modeling Wave Propagation in Rock Masses Using the Contact Potential-Based Three-Dimensional Discontinuous Deformation Analysis Method. Rock Mechanics and Rock Engineering, 2021, 54, 2465-2490.	2.6	27
50	A New Way to Replicate the Highly Stressed Soft Rock: 3D Printing Exploration. Rock Mechanics and Rock Engineering, 2020, 53, 467-476.	2.6	26
51	Investigation of the Rock Fragmentation Process by a Single TBM Cutter Using a Voronoi Element-Based Numerical Manifold Method. Rock Mechanics and Rock Engineering, 2018, 51, 1137-1152.	2.6	24
52	Debris characteristics and scattering pattern analysis of reinforced concrete slabs subjected to internal blast loadsâ€“a numerical study. International Journal of Impact Engineering, 2019, 131, 1-16.	2.4	24
53	Tensile Strength and Fracture Surface Morphology of Granite Under Confined Direct Tension Test. Rock Mechanics and Rock Engineering, 2021, 54, 4755-4769.	2.6	24
54	Effect of Open-Fire-Induced Damage on Brazilian Tensile Strength and Microstructure of Granite. Rock Mechanics and Rock Engineering, 2019, 52, 4189-4202.	2.6	22

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55	A GPU-based numerical manifold method for modeling the formation of the excavation damaged zone in deep rock tunnels. Computers and Geotechnics, 2020, 118, 103351.	2.3	22
56	Investigation of thermal-induced damage in fractured rock mass by coupled FEM-DEM method. Computational Geosciences, 2020, 24, 1833-1843.	1.2	22
57	Effect of Nonlinear Deformational Macrojoint on Stress Wave Propagation Through a Double-Scale Discontinuous Rock Mass. Rock Mechanics and Rock Engineering, 2021, 54, 1077-1090.	2.6	22
58	Quantitative relationships between the mineral composition and macro mechanical behaviors of granite under different temperatures: Insights from mesostructure-based DEM investigations. Computers and Geotechnics, 2022, 148, 104838.	2.3	21
59	Creep crack analysis of viscoelastic material by numerical manifold method. Engineering Analysis With Boundary Elements, 2017, 80, 72-86.	2.0	20
60	Investigation of stress wave induced cracking behavior of underground rock mass by the numerical manifold method. Tunnelling and Underground Space Technology, 2019, 92, 103032.	3.0	20
61	An explicit representation of cracks in the variational phase field method for brittle fractures. Computer Methods in Applied Mechanics and Engineering, 2021, 387, 114127.	3.4	20
62	Numerical modeling of acoustic emission during rock failure process using a Voronoi element based â€“ explicit numerical manifold method. Tunnelling and Underground Space Technology, 2018, 79, 175-189.	3.0	19
63	China's early warning system progress. Science, 2019, 365, 332-332.	6.0	19
64	Study of the Failure Mechanism and Progressive Failure Process of Intact Rock Patches of Rock Slope with Weak Surfaces. Rock Mechanics and Rock Engineering, 2017, 50, 951-966.	2.6	17
65	Effects of Hydraulic Gradient, Intersecting Angle, Aperture, and Fracture Length on the Nonlinearity of Fluid Flow in Smooth Intersecting Fractures: An Experimental Investigation. Geofluids, 2018, 2018, 1-14.	0.3	17
66	Thermal-Stress-Aperture Coupled Model for Analyzing the Thermal Failure of Fractured Rock Mass. International Journal of Geomechanics, 2020, 20, .	1.3	17
67	A Split Three-Characteristics Method for Stress Wave Propagation Through a Rock Mass with Double-Scale Discontinuities. Rock Mechanics and Rock Engineering, 2020, 53, 5767-5779.	2.6	17
68	Underground rockfall stability analysis using the numerical manifold method. Advances in Engineering Software, 2014, 76, 69-85.	1.8	16
69	Semianalytical Three-Dimensional Solutions for the Transient Response of Functionally Graded Material Rectangular Plates. Journal of Engineering Mechanics - ASCE, 2015, 141, 04015027.	1.6	14
70	A fracture aperture dependent thermal-cohesive coupled model for modelling thermal conduction in fractured rock mass. Computers and Geotechnics, 2019, 114, 103108.	2.3	14
71	Study of interaction mechanisms between multiple parallel weak planes and hydraulic fracture using the bonded-particle model based on moment tensors. Journal of Natural Gas Science and Engineering, 2020, 76, 103176.	2.1	14
72	How do thermally induced microcracks alter microcracking mechanisms in Hong Kong granite?. Engineering Geology, 2021, 292, 106268.	2.9	14

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73	An extended numerical manifold method for two-phase seepageâ€“stress coupling process modelling in fractured porous medium. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114514.	3.4	14
74	Evaluation of stress wave propagation through rock mass using a modified dominate frequency method. Journal of Applied Geophysics, 2016, 132, 53-59.	0.9	13
75	An extended numerical manifold method for unsaturated soilâ€“water interaction analysis at microâ€scale. International Journal for Numerical and Analytical Methods in Geomechanics, 2021, 45, 1500-1525.	1.7	12
76	A novel 3D-FDEM method using finite-thickness cohesive elements to simulate the nonlinear mechanical behaviors of rocks. Computers and Geotechnics, 2021, 140, 104478.	2.3	12
77	Mechanical response of inclined TBM tunnel due to drainage settlement of deep sandstone aquifer. Tunnelling and Underground Space Technology, 2022, 122, 104393.	3.0	12
78	Numerical Analysis of Degradation Characteristics for Heterogeneous Rock under Coupled Thermomechanical Conditions. International Journal of Geomechanics, 2019, 19, 04019111.	1.3	11
79	Numerical Investigation of Coupled Effects of Temperature and Confining Pressure on Rock Mechanical Properties in Fractured Rock Mass Using Thermal-Stress-Aperture Coupled Model. International Journal of Geomechanics, 2021, 21, .	1.3	11
80	Geothermal-Related Thermo-Elastic Fracture Analysis by Numerical Manifold Method. Energies, 2018, 11, 1380.	1.6	10
81	Validation of a flight model for predicting debris trajectory from the explosion of an ammunition storage magazine. Journal of Wind Engineering and Industrial Aerodynamics, 2015, 136, 114-126.	1.7	7
82	Investigation of stress wave transmission across a nonlinearly jointed complex rock mass. International Journal of Rock Mechanics and Minings Sciences, 2020, 136, 104485.	2.6	7
83	Optimum Scheme Selection for Multilayer Perceptron-Based Monte Carlo Simulation of Slope System Reliability. International Journal of Geomechanics, 2021, 21, .	1.3	6
84	Experimental study on the whole failure process of anti-dip rock slopes subjected to external loading. Bulletin of Engineering Geology and the Environment, 2021, 80, 6597-6613.	1.6	5
85	Experimental and numerical studies of the impact breakage of granite with high ejection velocities. PLoS ONE, 2022, 17, e0266241.	1.1	5
86	An investigation of propagation direction induced difference of transmission coefficient in complex rock mass. International Journal of Rock Mechanics and Minings Sciences, 2020, 135, 104504.	2.6	4
87	An Improved Wave Velocity Model for Acoustic Emission Source Localization in Heterogeneous Rock Materials with Unknown Inclusions. Journal of Engineering Mechanics - ASCE, 2022, 148, .	1.6	4
88	Mesoscopic investigation on the mechanism of concrete dynamic tensile strength enhancement based on the E(A, B) algorithm. Construction and Building Materials, 2022, 329, 127183.	3.2	4
89	Effect of confining pressure on deformation and strength of granite in confined direct tension tests. Bulletin of Engineering Geology and the Environment, 2022, 81, 1.	1.6	3
90	Numerical Study on the Dynamic Fracture Energy of Concrete Based on a Rate-Dependent Cohesive Model. Materials, 2021, 14, 7421.	1.3	0