Tao Xu

List of Publications by Year in Descending Order

120 papers	1,482 citations	25 h-index	32 g-index
124 ext. papers	1,982 ext. citations	3.5 avg, IF	5.38 L-index

#	Paper	IF	Citations
120	Preparation, properties and compound modification mechanism of waterborne epoxy resin/styrene butadiene rubber latex modified emulsified asphalt. *Construction and Building Materials*, **2022**, 318, 126178	6.7	6
119	Nanoindentation-based characterization of micromechanical properties of greenish mudstone from deep Fushun West open-pit mine (Fushun city, China). *Geomechanics and Geophysics for Geo-Energy and Geo-Resources*, **2022**, 8, 1	3.8	1
118	Syncretization mechanism between emulsified asphalt and aged asphalt in cold recycled asphalt mixture using developed demulsification-dehydration method. *Construction and Building Materials*, **2022**, 326, 126860	6.7	0
117	Full-field quantification of time-dependent and -independent deformation and fracturing of double-notch flawed rock using digital image correlation. *Geomechanics and Geophysics for Geo-Energy and Geo-Resources*, **2021**, 7,	3.8	3
116	Preparation, properties and modification mechanism of vulcanized eucommia ulmoides gum modified asphalt. *Construction and Building Materials*, **2021**, 274, 121992	6.7	5
115	Effects of Prepared Carbon Nanofibers on Properties of Emulsified Asphalt. *Journal of Testing and Evaluation*, **2021**, 49, 20200589	1	0
114	A Numerical Meso-Scale Elasto-Plastic Damage Model for Modeling the Deformation and Fracturing of Sandstone Under Cyclic Loading. *Rock Mechanics and Rock Engineering*, **2021**, 54, 4569-4591	5.7	11
113	Inhibitory effects of developed composite anti-aging agent on microbial degradation of asphalt. *Construction and Building Materials*, **2021**, 292, 123399	6.7	0
112	Flame retarding and smoke suppressing mechanisms of nano composite flame retardants on bitumen and bituminous mixture. *Construction and Building Materials*, **2021**, 266, 121203	6.7	8
111	Microstructures and optical performances of nitrogen-vanadium co-doped TiO with enhanced purification efficiency to vehicle exhaust. *Environmental Research*, **2021**, 193, 110560	7.9	10
110	Microwave-assisted damage and fracturing of hard rocks and its implications for effective mineral resources recovery. *Minerals Engineering*, **2021**, 160, 106663	4.9	9
109	Inhibitory effects of developed composite flame retardant on bituminous combustion and volatile emissions. *Journal of Cleaner Production*, **2021**, 279, 123538	10.3	7
108	Experimental investigation of influence of alternating cyclic loadings on creep behaviors of sandstone. *Mechanics of Time-Dependent Materials*, **2021**, 25, 1-19	1.2	3
107	Inhibitory action of halogen-free fire retardants on combustion and volatile emission of bituminous components. *Science Progress*, **2021**, 104, 368504211035215	1.1	2
106	Method for Evaluating Compatibility between SBS Modifier and Asphalt Matrix Using Molecular Dynamics Models. *Journal of Materials in Civil Engineering*, **2021**, 33, 04021207	3	4
105	Development on recycling, aging simulation and regeneration methods of reclaimed styrene-butadiene-styrene modified asphalt. *Journal of Cleaner Production*, **2021**, 312, 127767	10.3	7
104	A meso-mechanical approach to time-dependent deformation and fracturing of partially saturated sandstone. *International Journal of Rock Mechanics and Minings Sciences*, **2021**, 145, 104840	6	2

103	Experimental study on creep of double-rock samples disturbed by dynamic impact. *International Journal of Rock Mechanics and Minings Sciences*, **2021**, 146, 104895	6	2
102	Effects of healing agent on shape memory, mechanical and self- healing properties of joint filler on cement concrete pavement. *Construction and Building Materials*, **2021**, 304, 124592	6.7	0
101	Dynamic disaster control of backfill mining under thick magmatic rock in one side goaf: A case study. *Journal of Central South University*, **2020**, 27, 3103-3117	2.1	8
100	Time-dependent deformation and fracture evolution around underground excavations. *Geomatics, Natural Hazards and Risk*, **2020**, 11, 2615-2633	3.6	6
99	Thermal-oxidative aging mechanism of asphalt binder based on isothermal thermal analysis at the SARA level. *Construction and Building Materials*, **2020**, 255, 119349	6.7	19
98	Developed compound flame retardant for bitumen based on thermal properties of four components. *Construction and Building Materials*, **2020**, 250, 118692	6.7	3
97	Developed photocatalytic semi-flexible pavement for automobile exhaust purification using iron-doped titanium dioxide. *Construction and Building Materials*, **2020**, 262, 119924	6.7	1
96	Effects of different modifiers on thermal stability, constituents and microstructures of asphalt-based sealant. *Journal of Thermal Analysis and Calorimetry*, **2020**, 142, 1183-1192	4.1	3
95	Effects of microbial degradation on morphology, chemical compositions and microstructures of bitumen. *Construction and Building Materials*, **2020**, 248, 118569	6.7	4
94	Mesoscopic Damage and Fracturing of Heterogeneous Brittle Rocks Based on Three-dimensional Polycrystalline Discrete Element Method. *Rock Mechanics and Rock Engineering*, **2020**, 53, 5389-5409	5.7	21
93	The Difference in Molecular Orientation and Interphase Structure of SiO/Shape Memory Polyurethane in Original, Programmed and Recovered States during Shape Memory Process. *Polymers*, **2020**, 12,	4.5	3
92	Improvements of Developed Graphite Based Composite Anti-Aging Agent on Thermal Aging Properties of Asphalt. *Materials*, **2020**, 13,	3.5	4
91	Thermal effects of asphalt SARA fractions, kinetic parameter calculation using isoconversional method and distribution models. *Journal of Thermal Analysis and Calorimetry*, **2020**, 1	4.1	5
90	Thermal Characteristics, Kinetic Models, and Volatile Constituents during the Energy Conversion of Bituminous SARA Fractions in Air. *ACS Omega*, **2020**, 5, 20831-20841	3.9	4
89	Preparation, shape memory performance and microstructures of emulsified asphalt modified by multi-walled carbon nanotubes. *Construction and Building Materials*, **2020**, 230, 116954	6.7	23
88	Combustion kinetics of asphalt binder components and the release processes of gaseous products. *Combustion and Flame*, **2019**, 206, 322-333	5.3	16
87	Effects of N Doping on the Microstructures and Optical Properties of TiO2. *Journal Wuhan University of Technology, Materials Science Edition*, **2019**, 34, 55-63	1	18
86	Thermal behaviors and harmful volatile constituents released from asphalt components at high temperature. *Journal of Hazardous Materials*, **2019**, 373, 741-752	12.8	37

85	Study on the effect of transition temperature on shape memory behavior in polyurethane based on molecular dynamics simulation. *Materials Research Express*, **2019**, 6, 115323	1.7	2
84	Mass loss evolution of bituminous fractions at different heating rates and constituent conformation of emitted volatiles. *Energy Science and Engineering*, **2019**, 7, 2782-2796	3.4	5
83	Preparation and effectiveness of composite phase change material for performance improvement of Open Graded Friction Course. *Journal of Cleaner Production*, **2019**, 214, 259-269	10.3	30
82	The Modeling of Time-Dependent Deformation and Fracturing of Brittle Rocks Under Varying Confining and Pore Pressures. *Rock Mechanics and Rock Engineering*, **2018**, 51, 3241-3263	5.7	27
81	Effects of flame retardants on thermal decomposition of SARA fractions separated from asphalt binder. *Construction and Building Materials*, **2018**, 173, 209-219	6.7	14
80	Development of shape memory polyurethane based sealant for concrete pavement. *Construction and Building Materials*, **2018**, 174, 474-483	6.7	29
79	Microstructural and mechanical property evolutions of shape memory polyurethane during a thermodynamic cycle. *Journal of Applied Polymer Science*, **2018**, 135, 45703	2.9	9
78	Microcrack Evolution and Associated Deformation and Strength Properties of Sandstone Samples Subjected to Various Strain Rates. *Minerals (Basel, Switzerland)*, **2018**, 8, 231	2.4	6
77	Synthesis and Performance Evaluation of Epoxy Resin Modified Shape Memory Polyurethane Sealant. *Journal of Testing and Evaluation*, **2018**, 46, 20170298	1	6
76	Rock Stability Assessment Based on the Chronological Order of the Characteristic Acoustic Emission Phenomena. *Shock and Vibration*, **2018**, 2018, 1-10	1.1	3
75	Preparation, properties and modification mechanism of polyurethane modified emulsified asphalt. *Construction and Building Materials*, **2018**, 189, 375-383	6.7	41
74	Combustion properties of saturates, aromatics, resins, and asphaltenes in asphalt binder. *Construction and Building Materials*, **2017**, 136, 515-523	6.7	41
73	Photocatalytic degradation properties of V-doped TiO to automobile exhaust. *Science of the Total Environment*, **2017**, 586, 347-354	10.2	31
72	Programming effects on thermal decomposition of shape memory polymer-based composites. *Journal of Thermal Analysis and Calorimetry*, **2017**, 130, 1953-1960	4.1	4
71	Combustion mechanism of four components separated from asphalt binder. *Fuel*, **2017**, 192, 18-26	7.1	37
70	Effects of two-dimensional programming on microstructures and thermal properties of shape memory polymer-based composites. *Journal of Applied Polymer Science*, **2017**, 134, 45480	2.9	1
69	Formation process and mechanism of seepage channels around grout curtain from microseismic monitoring: A case study of Zhangmatun iron mine, China. *Engineering Geology*, **2017**, 226, 301-315	6	20
68	Effects of vanadium doping on microstructures and optical properties of TiO2. *Ceramics International*, **2017**, 43, 1558-1564	5.1	11

67	Aggregate Gradation Influence on Grouting Results and Mix Design of Asphalt Mixture Skeleton for Semi-Flexible Pavement. *Journal of Testing and Evaluation*, **2017**, 45, 20150190	1	14
66	Mesoscale Modeling of Spallation Failure in Fiber-Reinforced Concrete Slab due to Impact Loading. *International Journal of Geomechanics*, **2016**, 16,	3.1	2
65	Experimental and Numerical Study on Stress Relaxation of Sandstones Disturbed by Dynamic Loading. *Rock Mechanics and Rock Engineering*, **2016**, 49, 3963-3982	5.7	16
64	The feasibility of DEM to analyze the temperature field of asphalt mixture. *Construction and Building Materials*, **2016**, 106, 592-599	6.7	18
63	Impact of stylolites on the mechanical strength of limestone. *Tectonophysics*, **2016**, 690, 4-20	3.1	34
62	Investigation into engineering properties and strength mechanism of grouted macadam composite materials. *International Journal of Pavement Engineering*, **2016**, 17, 878-886	2.6	40
61	Numerical analysis on scale effect of elasticity, strength and failure patterns of jointed rock masses. *Geosciences Journal*, **2016**, 20, 539-549	1.4	24
60	Laboratory Study on Cement Slurry Formulation and Its Strength Mechanism for Semi-Flexible Pavement. *Journal of Testing and Evaluation*, **2016**, 44, 20150230	1	20
59	The strength of heterogeneous volcanic rocks: A 2D approximation. *Journal of Volcanology and Geothermal Research*, **2016**, 319, 1-11	2.8	25
58	Study of a Seepage Channel Formation Using the Combination of Microseismic Monitoring Technique and Numerical Method in Zhangmatun Iron Mine. *Rock Mechanics and Rock Engineering*, **2016**, 49, 3699-3708	5.7	25
57	Heating effects of asphalt pavement during hot in-place recycling using DEM. *Construction and Building Materials*, **2016**, 115, 62-69	6.7	21
56	A comparative study of hydraulic fracturing with various boreholes in coal seam. *Geosciences Journal*, **2015**, 19, 489-502	1.4	8
55	Fracture of magma containing overpressurised pores. *Journal of Volcanology and Geothermal Research*, **2015**, 301, 180-190	2.8	12
54	Deformational behavior of underground opening using a stress-seepage coupled model considering anisotropic characteristics. *Arabian Journal of Geosciences*, **2015**, 8, 6635-6642	1.8	9
53	Microseismicity Induced by Fault Activation During the Fracture Process of a Crown Pillar. *Rock Mechanics and Rock Engineering*, **2015**, 48, 1673-1682	5.7	33
52	Anisotropic characteristics of jointed rock mass: A case study at Shirengou iron ore mine in China. *Tunnelling and Underground Space Technology*, **2015**, 48, 129-139	5.7	29
51	Numerical Tests on Failure Process of Rock Particle under Impact Loading. *Shock and Vibration*, **2015**, 2015, 1-12	1.1	9
50	Physicochemical and pyrolysis properties of SARA fractions separated from asphalt binder. *Journal of Thermal Analysis and Calorimetry*, **2015**, 122, 241-249	4.1	30

49	Combustion mechanism of asphalt binder with TG-MS technique based on components separation. *Construction and Building Materials*, **2015**, 80, 125-131	6.7	28
48	A numerical analysis of rock creep-induced slide: a case study from Jiweishan Mountain, China. *Environmental Earth Sciences*, **2014**, 72, 2111-2128	2.9	39
47	Modeling of Transverse Thermal Cracking of FRP Bars Embedded in Concrete. *Arabian Journal for Science and Engineering*, **2014**, 39, 2621-2629		3
46	The influence of porosity and vesicle size on the brittle strength of volcanic rocks and magma. *Bulletin of Volcanology*, **2014**, 76, 1	2.4	61
45	Mechanical behavior and failure analysis of brittle sandstone specimens containing combined flaws under uniaxial compression. *Journal of Central South University*, **2014**, 21, 2059-2073	2.1	31
44	Dynamic evolution of emitted volatiles from thermal decomposed bituminous materials. *Construction and Building Materials*, **2014**, 64, 47-53	6.7	12
43	Rheological Characteristics of Weak Rock Mass and Effects on the Long-Term Stability of Slopes. *Rock Mechanics and Rock Engineering*, **2014**, 47, 2253-2263	5.7	20
42	Study of the Effect of Joint Trace Lengths on Failure Strength of Rock. *Applied Mechanics and Materials*, **2014**, 501-504, 603-606	0.3	
41	Stability Analysis of Steep Bedding Rock Slope with Strength Reduction Method. *Applied Mechanics and Materials*, **2014**, 501-504, 399-402	0.3	
40	Study of Reasonable Length of Coal Seam Mining under Different Fault Dips. *Advanced Materials Research*, **2014**, 919-921, 747-750	0.5	0
39	The evolution of rock failure with discontinuities due to shear creep. *Acta Geotechnica*, **2013**, 8, 567-581	4.9	41
38	Inhibitory action of flame retardant on the dynamic evolution of asphalt pyrolysis volatiles. *Fuel*, **2013**, 105, 757-763	7.1	26
37	Hydro-Mechanical Coupled Analysis of the Stability of Surrounding Rock Mass of Underground Water-Sealed Oil Storage. *Applied Mechanics and Materials*, **2013**, 405-408, 402-405	0.3	2
36	Dynamic Performance Analysis of Steel Truss Bridge. *Applied Mechanics and Materials*, **2013**, 423-426, 1548-1551	0.3	
35	Numerical Simulation of the Effect of Joint Orientation on the Failure Strength of Rock. *Applied Mechanics and Materials*, **2013**, 477-478, 577-581	0.3	
34	Hydro-Mechanical Coupled Analysis of the Variable Permeability Coefficient of Fractured Rock Mass. *Applied Mechanics and Materials*, **2013**, 477-478, 531-534	0.3	
33	Numerical Simulation of the Effect of Temperature on the Failure Strength of Rock. *Advanced Materials Research*, **2013**, 690-693, 1737-1740	0.5	
32	Modelling the time-dependent rheological behaviour of heterogeneous brittle rocks. *Geophysical Journal International*, **2012**, 189, 1781-1796	2.6	74

31	Numerical Study of Zonal Disintegration within a Rock Mass around a Deep Excavated Tunnel. *International Journal of Geomechanics*, **2012**, 12, 471-483	3.1	19
30	Modeling of Rheological Deformation of Inhomogeneous Rock and Associated Time-Dependent Response of Tunnels. *International Journal of Geomechanics*, **2012**, 12, 147-159	3.1	25
29	Combustion properties of asphalt binder containing flame retardant. *Fire and Materials*, **2012**, 36, 97-106	1.8	15
28	Numerical Study of Stress Intensity Factor in Notched Specimens Using Extended Finite Element Method. *Applied Mechanics and Materials*, **2012**, 166-169, 2995-2998	0.3	
27	Gradation Design of the Aggregate Skeleton in Asphalt Mixture. *Journal of Testing and Evaluation*, **2012**, 40, 20120142	1	11
26	A shape memory polymer based syntactic foam with negative Poisson's ratio. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2011**, 528, 6804-6811	5.3	36
25	Pyrolysis properties and kinetic model of an asphalt binder containing a flame retardant. *Journal of Applied Polymer Science*, **2011**, 119, 2661-2665	2.9	8
24	Combustion Properties and Multistage Kinetics Models of Asphalt Binder Filled with Flame Retardant. *Combustion Science and Technology*, **2011**, 183, 1027-1038	1.5	11
23	Thermomechanical Characterization of Shape Memory Polymer Based Self-Healing Syntactic Foam Sealant for Expansion Joints. *Journal of Transportation Engineering*, **2011**, 137, 805-814		43
22	Spallation of Concrete under Dynamic Loading: Mesh Size Effect. *Applied Mechanics and Materials*, **2011**, 50-51, 929-933	0.3	1
21	A Numerical Study on the Effect of Bond Length on the Bonding Performance of FRP-Concrete Interface. *Advanced Materials Research*, **2011**, 268-270, 857-862	0.5	1
20	Study of Strength Criterion for Dynamic Compression of Concrete under Biaxial Equal Proportion Loading. *Advanced Materials Research*, **2010**, 163-167, 1819-1822	0.5	
19	Modeling of Stress-Induced Permeability Evolution and Damage of Rock. *Advanced Materials Research*, **2008**, 33-37, 609-616	0.5	3
18	Application of RFPA2D in Sublevel Caving Mining Extra-Thick Coal Seams. *Materials Science Forum*, **2008**, 575-578, 1246-1251	0.4	2
17	Numerical Simulation of Thermal Induced Crack Propagation in Laminated Composites. *Materials Science Forum*, **2008**, 575-578, 886-891	0.4	1
16	Effect of Non-Homogeneity on Limit Bearing Capacity of Rock Block. *Advanced Materials Research*, **2008**, 33-37, 631-638	0.5	
15	Numerical Simulation of Fracture Process Zone in Concrete Tension Specimen. *Key Engineering Materials*, **2007**, 353-358, 1045-1048	0.4	
14	Modelling of Thermal Cracking Behaviours of Fiber-Reinforced Composites. *Key Engineering Materials*, **2007**, 334-335, 237-240	0.4	

13	Numerical Simulation on Fracture Formation on Surfaces of Bi-Layered Materials. *Key Engineering Materials*, **2007**, 353-358, 993-996	0.4	1
12	Three Dimensional Numerical Approach to Splitting Failure of Rock Discs. *Key Engineering Materials*, **2007**, 353-358, 921-924	0.4	1
11	Sustained Loading Fracture and Strength of Concrete Modelled by Creep-Damage Interaction. *Key Engineering Materials*, **2006**, 324-325, 51-54	0.4	
10	Numerical Study of Crack Propagation in Stiff Clays. *Key Engineering Materials*, **2006**, 324-325, 201-204	0.4	
9	Numerical Simulation and Analysis on Crack Path Deviation in Brittle Solid. *Key Engineering Materials*, **2006**, 324-325, 931-934	0.4	2
8	Numerical Approach to Investigating Pre-Existed Cracks in Rocks. *Key Engineering Materials*, **2005**, 297-300, 2612-2616	0.4	3
7	Numerical Study on Shear Strength and Failure Pattern of Jointed Rock under Shear Testing. *Key Engineering Materials*, **2005**, 297-300, 2617-2622	0.4	
6	Three-Dimensional Material Failure Process Analysis. *Key Engineering Materials*, **2005**, 297-300, 1196-1201	1.4	8
5	Avalanche Behaviour in Microfracturing Process of 3-D Brittle Disordered Material. *Key Engineering Materials*, **2005**, 297-300, 2567-2572	0.4	3
4	3-D Micromechanics Model for Progressive Failure Analysis of Laminated Cylindrical Composite Shell. *Key Engineering Materials*, **2005**, 297-300, 1113-1119	0.4	8
3	Theoretical, Numerical and Experimental Study of Deformation and Failure Process of Rock. *Key Engineering Materials*, **2004**, 261-263, 1529-1534	0.4	1
2	Temperature Changes of Interlaminar Bonding Layer in Different Seasons and Effects on Mechanical Properties of Asphalt Pavement. *International Journal of Pavement Research and Technology*,1	2	0
1	Displacemental and Mesomechanical Responses of Semi-flexible Pavement Based on Discrete Element Method. *International Journal of Pavement Research and Technology*,1	2	1