

Yixiang Gan

List of Publications by Year in Descending Order

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Version: 2024-04-28

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

133
papers

2,440
citations

24
h-index

44
g-index

144
ext. papers

3,003
ext. citations

3.9
avg, IF

5.73
L-index

#	Paper	IF	Citations
133	Towards idealized thermal stratification in a novel phase change emulsion storage tank. <i>Applied Energy</i> , 2022 , 310, 118526	10.7	1
132	Mechanical, Acoustic and Thermal Performances of Australian Hempcretes. <i>Lecture Notes in Civil Engineering</i> , 2022 , 753-761	0.3	0
131	A pore-resolved interface tracking algorithm for simulating multiphase flow in arbitrarily structured porous media. <i>Advances in Water Resources</i> , 2022 , 162, 104152	4.7	1
130	Phase change material thermal energy storage design of packed bed units. <i>Journal of Energy Storage</i> , 2022 , 51, 104576	7.8	0
129	Self-repair of cracks and defects in clay: a review of evidence, mechanisms, theories and nomenclature. <i>Acta Geotechnica</i> , 2021 , 16, 3741	4.9	0
128	The promise and challenges of utility-scale compressed air energy storage in aquifers. <i>Applied Energy</i> , 2021 , 286, 116513	10.7	7
127	Permeability of Uniformly Graded 3D Printed Granular Media. <i>Geophysical Research Letters</i> , 2021 , 48,	4.9	5
126	Tuning capillary flow in porous media with hierarchical structures. <i>Physics of Fluids</i> , 2021 , 33, 034107	4.4	8
125	Morphological characterisation of 2D packing with bi-disperse particles. <i>International Journal of Advances in Engineering Sciences and Applied Mathematics</i> , 2021 , 13, 89-97	0.6	1
124	Modeling the Influence of Particle Shape on Mechanical Compression and Effective Transport Properties in Granular Lithium-Ion Battery Electrodes. <i>Energy Technology</i> , 2021 , 9, 2000886	3.5	1
123	Stress-dependent electrical impedance behaviours at fractal rough interfaces. <i>Surface Topography: Metrology and Properties</i> , 2021 , 9, 025014	1.5	1
122	Effect of Grain Shape on Quasi-Static Fluid-Fluid Displacement in Porous Media. <i>Water Resources Research</i> , 2021 , 57, e2020WR029415	5.4	1
121	Measurements of the relative permeability to CO ₂ -and-brine multiphase fluid of Paaratte formation at near-reservoir conditions 2021 , 11, 697-711		
120	Towards the End of Drying of Granular Materials: Enhanced Evaporation and Drying-Induced Collapse. <i>Water Resources Research</i> , 2021 , 57, e2021WR030125	5.4	1
119	Enhancing Spontaneous Droplet Motion on Structured Surfaces with Tailored Wedge Design. <i>Advanced Materials Interfaces</i> , 2021 , 8, 2000520	4.6	5
118	Packing of wet monodisperse spheres. <i>Powder Technology</i> , 2021 , 378, 60-64	5.2	1
117	Predicting mechanical properties of 316L stainless steel subjected to SMAT: A sequential DEM-FEM investigation. <i>International Journal of Mechanical Sciences</i> , 2021 , 193, 106173	5.5	2

116	Nanoindentation on micromechanical properties and microstructure of geopolymer with nano-SiO ₂ and nano-TiO ₂ . <i>Cement and Concrete Composites</i> , 2021 , 117, 103883	8.6	13
115	Droplet Transport: Enhancing Spontaneous Droplet Motion on Structured Surfaces with Tailored Wedge Design (Adv. Mater. Interfaces 2/2021). <i>Advanced Materials Interfaces</i> , 2021 , 8, 2170010	4.6	
114	Compaction mechanics of a polydisperse crushable spherical granular assembly using discrete element method. <i>International Journal of Advances in Engineering Sciences and Applied Mathematics</i> , 2021 , 13, 114-121	0.6	0
113	Effects of topological disorder in unsaturated granular media via a pore-scale lattice Boltzmann investigation. <i>Advances in Water Resources</i> , 2021 , 149, 103855	4.7	3
112	Nanoscratch on mechanical properties of interfacial transition zones (ITZs) in fly ash-based geopolymer composites. <i>Composites Science and Technology</i> , 2021 , 214, 109001	8.6	7
111	DEM simulations of vibrated sphere packings in slender prismatic containers. <i>Powder Technology</i> , 2021 , 393, 31-59	5.2	1
110	Cyclic thermo-mechanical performance of granular beds: Effect of elastoplasticity. <i>Powder Technology</i> , 2021 , 394, 705-713	5.2	2
109	Mechanically robust nitrogen-rich plasma polymers: Biofunctional interfaces for surface engineering of biomedical implants. <i>Materials Today Advances</i> , 2021 , 12, 100188	7.4	1
108	Maximum likelihood estimation for nanoindentation on sodium aluminosilicate hydrate gel of geopolymer under different silica modulus and curing conditions. <i>Composites Part B: Engineering</i> , 2020 , 198, 108185	10	22
107	An experimental investigation on cemented sand particles using different loading paths: Failure modes and fabric quantifications. <i>Construction and Building Materials</i> , 2020 , 258, 119487	6.7	2
106	Applying grid nanoindentation and maximum likelihood estimation for N-A-S-H gel in geopolymer paste: Investigation and discussion. <i>Cement and Concrete Research</i> , 2020 , 135, 106112	10.3	24
105	Numerical investigation of microscale dynamic contact angles of the CO ₂ /water/silica system using coarse-grained molecular approach. <i>Computational Mechanics</i> , 2020 , 66, 707-722	4	
104	Physical properties of Australian hurd used as aggregate for hemp concrete. <i>Materials Today Communications</i> , 2020 , 24, 100986	2.5	12
103	Evolution of fabric in spherical granular assemblies under the influence of various loading conditions through DEM. <i>Granular Matter</i> , 2020 , 22, 1	2.6	9
102	Effect of Wetting Transition during Multiphase Displacement in Porous Media. <i>Langmuir</i> , 2020 , 36, 2449-2458	4.58	8
101	An LBM-PNM framework for immiscible flow: With applications to droplet spreading on porous surfaces. <i>Chemical Engineering Science</i> , 2020 , 218, 115577	4.4	8
100	Contact behaviour of simulated rough spheres generated with spherical harmonics. <i>International Journal of Solids and Structures</i> , 2020 , 193-194, 54-68	3.1	6
99	Modeling acoustic emission in the Brazilian test using moment tensor inversion. <i>Computers and Geotechnics</i> , 2020 , 123, 103567	4.4	11

98	Fingering patterns in hierarchical porous media. <i>Physical Review Fluids</i> , 2020 , 5,	2.8	9
97	3d tomography analysis of the packing structure of spherical particles in slender prismatic containers. <i>International Journal of Materials Research</i> , 2020 , 111, 65-77	0.5	13
96	The role of particle morphology on concrete fracture behaviour: A meso-scale modelling approach. <i>Cement and Concrete Research</i> , 2020 , 134, 106096	10.3	14
95	Performance optimization for shell-and-tube PCM thermal energy storage. <i>Journal of Energy Storage</i> , 2020 , 30, 101421	7.8	25
94	Roughness effects of gas diffusion layers on droplet dynamics in PEMFC flow channels. <i>International Journal of Hydrogen Energy</i> , 2020 , 45, 17869-17881	6.7	17
93	Morphodynamics of a dense particulate medium under radial explosion. <i>Soft Matter</i> , 2020 , 16, 1498-1513	3.6	3
92	Experimental and numerical investigation on hydrothermal performance of nanofluids in micro-tubes. <i>Energy</i> , 2020 , 193, 116658	7.9	22
91	Precipitation of (Ti, Zr, Nb, Ta, Hf)C high entropy carbides in a steel matrix. <i>Materialia</i> , 2020 , 9, 100540	3.2	6
90	Cracking to curling transition in drying colloidal films. <i>European Physical Journal E</i> , 2020 , 43, 64	1.5	2
89	Rupture of Liquid Bridges on Porous Tips: Competing Mechanisms of Spontaneous Imbibition and Stretching. <i>Langmuir</i> , 2020 , 36, 13642-13648	4	0
88	Long-term thermo-mechanical behaviour of energy piles in clay. <i>Environmental Geotechnics</i> , 2020 , 7, 237-248	2.4	6
87	Numerical study on mechanical and hydraulic behaviour of blast-induced fractured rock. <i>Engineering With Computers</i> , 2020 , 36, 915-929	4.5	13
86	Analytical estimation of the effective thermal conductivity of a granular bed in a stagnant gas including the Smoluchowski effect. <i>Granular Matter</i> , 2019 , 21, 1	2.6	9
85	The effects of packing structure on the effective thermal conductivity of granular media: A grain scale investigation. <i>International Journal of Thermal Sciences</i> , 2019 , 142, 266-279	4.1	36
84	Effects of variable injection rate on reservoir responses and implications for CO2 storage in saline aquifers 2019 , 9, 652-671		5
83	Particle-shape-, temperature-, and concentration-dependent thermal conductivity and viscosity of nanofluids. <i>Physical Review E</i> , 2019 , 99, 043109	2.4	21
82	Discrete Element Analysis of Heat Transfer in the Breeder Beds of the European Solid Breeder Blanket Concept. <i>Fusion Science and Technology</i> , 2019 , 75, 283-298	1.1	7
81	Modes of wall induced granular crystallisation in vibrational packing. <i>Granular Matter</i> , 2019 , 21, 1	2.6	19

80	Modified smoothed particle hydrodynamics approach for modelling dynamic contact angle hysteresis. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019 , 35, 472-485	2	8
79	Atomistic Study of Dynamic Contact Angles in CO-Water-Silica System. <i>Langmuir</i> , 2019 , 35, 5324-5332	4	10
78	Modeling the effective conductivity of the solid and the pore phase in granular materials using resistor networks. <i>Powder Technology</i> , 2019 , 351, 54-65	5.2	16
77	Explosively driven hierarchical particle jetting. <i>Chemical Engineering Science</i> , 2019 , 202, 250-269	4.4	6
76	An FDEM study of particle breakage under rotational point loading. <i>Engineering Fracture Mechanics</i> , 2019 , 212, 221-237	4.2	24
75	Pore-scale modelling of gravity-driven drainage in disordered porous media. <i>International Journal of Multiphase Flow</i> , 2019 , 114, 19-27	3.6	9
74	Radical-functionalized plasma polymers: Stable biomimetic interfaces for bone implant applications. <i>Applied Materials Today</i> , 2019 , 16, 456-473	6.6	23
73	Discrete element simulation of surface mechanical attrition treatment with rough-surface sonotrode. <i>International Journal of Mechanical Sciences</i> , 2019 , 161-162, 105060	5.5	2
72	Modeling twinning, detwinning, and dynamic recrystallization of magnesium alloys. <i>MRS Bulletin</i> , 2019 , 44, 873-877	3.2	4
71	Disorder characterization of porous media and its effect on fluid displacement. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	33
70	Modelling Imbibition Processes in Heterogeneous Porous Media. <i>Transport in Porous Media</i> , 2019 , 126, 615-631	3.1	10
69	Numerical Simulation of Liquid Patch Formation and Retention in Porous Media. <i>Springer Series in Geomechanics and Geoenvironment</i> , 2019 , 410-417	0.1	
68	Tailoring porous media for controllable capillary flow. <i>Journal of Colloid and Interface Science</i> , 2019 , 539, 379-387	9.3	7
67	Multiscale modeling of the effective elastic properties of fluid-filled porous materials. <i>International Journal of Solids and Structures</i> , 2019 , 162, 36-44	3.1	4
66	Dual hierarchical particle jetting of a particle ring undergoing radial explosion. <i>Soft Matter</i> , 2018 , 14, 4422-4431	3.6	11
65	Discrete element method for effective thermal conductivity of packed pebbles accounting for the Smoluchowski effect. <i>Fusion Engineering and Design</i> , 2018 , 127, 192-201	1.7	52
64	Effective thermal conductivity of a compacted pebble bed in a stagnant gaseous environment: An analytical approach together with DEM. <i>Fusion Engineering and Design</i> , 2018 , 130, 80-88	1.7	22
63	Tuning capillary penetration in porous media: Combining geometrical and evaporation effects. <i>International Journal of Heat and Mass Transfer</i> , 2018 , 123, 239-250	4.9	20

62	Dynamics of Viscous Entrapped Saturated Zones in Partially Wetted Porous Media. <i>Transport in Porous Media</i> , 2018 , 125, 193-210	3.1	8
61	Dynamic contact angle hysteresis in liquid bridges. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2018 , 555, 365-371	5.1	49
60	The onset of shock-induced particle jetting. <i>Powder Technology</i> , 2018 , 336, 220-229	5.2	1
59	Stress-dependent electrical transport and its universal scaling in granular materials. <i>Extreme Mechanics Letters</i> , 2018 , 22, 83-88	3.9	5
58	A reliable approach for calculating thermophysical properties of liquid using molecular dynamics simulations. <i>Chemical Physics Letters</i> , 2018 , 712, 44-53	2.5	7
57	Coarse-grained modeling of multiphase interactions at microscale. <i>Journal of Chemical Physics</i> , 2018 , 149, 124505	3.9	4
56	Improved Mathematical Model for Analysis of the Payne Effect of Magnetorheological Elastomers. <i>Journal of Aerospace Engineering</i> , 2018 , 31, 04018046	1.4	7
55	Microstructure and mechanical properties of hard <i>Acrocomia mexicana</i> fruit shell. <i>Scientific Reports</i> , 2018 , 8, 9668	4.9	19
54	Cyclic behavior of ceramic pebble beds under mechanical loading. <i>Fusion Engineering and Design</i> , 2018 , 134, 11-21	1.7	14
53	Stress-Dependent Electrical Contact Resistance at Fractal Rough Surfaces. <i>Journal of Engineering Mechanics - ASCE</i> , 2017 , 143,	2.4	17
52	Influence of gas pressure on the effective thermal conductivity of ceramic breeder pebble beds. <i>Fusion Engineering and Design</i> , 2017 , 118, 45-51	1.7	23
51	A Discrete Element Method to simulate the mechanical behavior of ellipsoidal particles for a fusion breeding blanket. <i>Fusion Engineering and Design</i> , 2017 , 121, 22-31	1.7	17
50	Mechanical properties in crumple-formed paper derived materials subjected to compression. <i>Heliyon</i> , 2017 , 3, e00329	3.6	6
49	X-ray tomography investigations of mono-sized sphere packing structures in cylindrical containers. <i>Powder Technology</i> , 2017 , 318, 471-483	5.2	50
48	Universality of the emergent scaling in finite random binary percolation networks. <i>PLoS ONE</i> , 2017 , 12, e0172298	3.7	4
47	Electrical transport in granular metals. <i>EPJ Web of Conferences</i> , 2017 , 140, 05010	0.3	0
46	The distribution of saturated clusters in wetted granular materials. <i>EPJ Web of Conferences</i> , 2017 , 140, 09031	0.3	
45	Contact stiffness of multiscale surfaces by truncation analysis. <i>International Journal of Mechanical Sciences</i> , 2017 , 131-132, 305-316	5.5	12

44	Measurement of effective thermal conductivity of compacted granular media by the transient plane source technique. <i>EPJ Web of Conferences</i> , 2017 , 140, 02016	0.3	
43	Discrete element simulation of dynamic behaviour of partially saturated sand. <i>International Journal of Mechanics and Materials in Design</i> , 2016 , 12, 495-507	2.5	19
42	3D printable geomaterials. <i>Geotechnique</i> , 2016 , 66, 323-332	3.4	36
41	Analytical solutions for elastic response of coated mesoporous materials to pore pressure. <i>International Journal of Engineering Science</i> , 2016 , 107, 68-76	5.7	7
40	The Role of Surface Structure in Normal Contact Stiffness. <i>Experimental Mechanics</i> , 2016 , 56, 359-368	2.6	41
39	Static friction at fractal interfaces. <i>Tribology International</i> , 2016 , 93, 229-238	4.9	42
38	The pore-load modulus of ordered nanoporous materials with surface effects. <i>AIP Advances</i> , 2016 , 6, 035324	1.5	11
37	Mechanics of binary crushable granular assembly through discrete element method. <i>Nuclear Materials and Energy</i> , 2016 , 9, 237-241	2.1	9
36	Interfacial electro-mechanical behaviour at rough surfaces. <i>Extreme Mechanics Letters</i> , 2016 , 9, 422-429	3.9	23
35	Two-dimensional modeling of the self-limiting oxidation in silicon and tungsten nanowires. <i>Theoretical and Applied Mechanics Letters</i> , 2016 , 6, 195-199	1.8	13
34	Evaporation Limited Radial Capillary Penetration in Porous Media. <i>Langmuir</i> , 2016 , 32, 9899-904	4	33
33	Numerical and experimental characterization of ceramic pebble beds under cycling mechanical loading. <i>Fusion Engineering and Design</i> , 2016 , 112, 162-168	1.7	20
32	An improved semi-analytical solution for stress at round-tip notches. <i>Engineering Fracture Mechanics</i> , 2015 , 149, 134-143	4.2	23
31	Solution based synthesis of mixed-phase materials in the $\text{Li}_2\text{TiO}_3\text{-Li}_4\text{SiO}_4$ system. <i>Journal of Nuclear Materials</i> , 2015 , 456, 151-161	3.3	31
30	Static friction between rigid fractal surfaces. <i>Physical Review E</i> , 2015 , 92, 032405	2.4	2
29	Modelling wrinkling interactions produced by patterned defects in metal thin films. <i>Extreme Mechanics Letters</i> , 2015 , 4, 175-185	3.9	6
28	Contact mechanics of fractal surfaces by spline assisted discretisation. <i>International Journal of Solids and Structures</i> , 2015 , 59, 121-131	3.1	63
27	Size-Dependent Crush Analysis of Lithium Orthosilicate Pebbles. <i>Fusion Science and Technology</i> , 2014 , 66, 136-141	1.1	16

26	Thermal Discrete Element Analysis of EU Solid Breeder Blanket Subjected to Neutron Irradiation. <i>Fusion Science and Technology</i> , 2014 , 66, 83-90	1.1	24
25	Scalable surface area characterization by electrokinetic analysis of complex anion adsorption. <i>Langmuir</i> , 2014 , 30, 15143-52	4	70
24	Failure initiation and propagation of Li ₄ SiO ₄ pebbles in fusion blankets. <i>Fusion Engineering and Design</i> , 2013 , 88, 8-16	1.7	13
23	Influence of plate material on the contact strength of Li ₄ SiO ₄ pebbles in crush tests and evaluation of the contact strength in pebble-pebble contact. <i>Engineering Fracture Mechanics</i> , 2013 , 100, 28-37	4.2	20
22	Experimental and numerical determination of mechanical properties of polygonal wood particles and their flow analysis in silos. <i>Granular Matter</i> , 2013 , 15, 811-826	2.6	40
21	A micromechanical model for effective conductivity in granular electrode structures. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2013 , 29, 682-698	2	29
20	A particle-water based model for water retention hysteresis. <i>Geotechnique Letters</i> , 2013 , 3, 152-161	1.7	13
19	Effects of surface structure deformation on static friction at fractal interfaces. <i>Geotechnique Letters</i> , 2013 , 3, 52-58	1.7	32
18	Spherical ceramic pebbles subjected to multiple non-concentrated surface loads. <i>International Journal of Solids and Structures</i> , 2012 , 49, 658-671	3.1	5
17	Phase transitions and cyclic pseudotachylite formation in simulated faults. <i>Philosophical Magazine</i> , 2012 , 92, 3405-3417	1.6	5
16	Mechanics of binary and polydisperse spherical pebble assembly. <i>Fusion Engineering and Design</i> , 2012 , 87, 853-858	1.7	35
15	Status of ceramic breeder pebble bed thermo-mechanics R&D and impact on breeder material mechanical strength. <i>Fusion Engineering and Design</i> , 2012 , 87, 1130-1137	1.7	54
14	Measurement of Young's modulus of anisotropic materials using microcompression testing. <i>Journal of Materials Research</i> , 2012 , 27, 2752-2759	2.5	19
13	Mechanics of a crushable pebble assembly using discrete element method. <i>Journal of Nuclear Materials</i> , 2012 , 430, 90-95	3.3	20
12	Crush probability analysis of ceramic breeder pebble beds under mechanical stresses. <i>Journal of Nuclear Materials</i> , 2011 , 417, 706-709	3.3	18
11	Thermo-mechanical modelling of pebble bed-wall interfaces. <i>Fusion Engineering and Design</i> , 2010 , 85, 24-32	1.7	17
10	Discrete element modelling of pebble beds: With application to uniaxial compression tests of ceramic breeder pebble beds. <i>Journal of the Mechanics and Physics of Solids</i> , 2010 , 58, 129-144	5	81
9	Computer simulation of packing structure in pebble beds. <i>Fusion Engineering and Design</i> , 2010 , 85, 1782-1787	1.7	58

8	Thermo-mechanical analyses of HELICA and HEXCALIBER mock-ups. <i>Journal of Nuclear Materials</i> , 2009 , 386-388, 1060-1064	3.3	10
7	Experimental observations of stress-driven grain boundary migration. <i>Science</i> , 2009 , 326, 1686-90	33.3	455
6	Thermo-mechanical analysis of pebble beds in HELICA mock-up experiments. <i>Fusion Engineering and Design</i> , 2008 , 83, 1313-1316	1.7	4
5	Identification of material parameters of a thermo-mechanical model for pebble beds in fusion blankets. <i>Fusion Engineering and Design</i> , 2007 , 82, 189-206	1.7	24
4	Thermo-Mechanical Modelling of Pebble Beds in Fusion Blankets and its Implementation by a Return-Mapping Algorithm. <i>Materials Research Society Symposia Proceedings</i> , 2006 , 981, 1		
3	Three-dimensional modeling of the mechanical property of linearly elastic open cell foams. <i>International Journal of Solids and Structures</i> , 2005 , 42, 6628-6642	3.1	96
2	Desiccation crack formation and prevention in thin bentonite layers. <i>Environmental Geotechnics</i> , 1-15	1.2	3
1	Size effect analysis of quasi-brittle fracture with localizing gradient damage model. <i>International Journal of Damage Mechanics</i> , 105678952098387	3	3