

# Tian Fu Guo

## List of Publications by Citations

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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.

76  
papers

1,352  
citations

21  
h-index

34  
g-index

83  
ext. papers

1,556  
ext. citations

3.7  
avg. IF

4.62  
L-index

#	Paper	IF	Citations
76	Atomic scale fluctuations govern brittle fracture and cavitation behavior in metallic glasses. <i>Physical Review Letters</i> , <b>2011</b> , 107, 215501	7.4	144
75	Continuum modeling of a porous solid with pressure-sensitive dilatant matrix. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2008</b> , 56, 2188-2212	5	110
74	Mixed mode near-tip fields for cracks in materials with strain-gradient effects. <i>Journal of the Mechanics and Physics of Solids</i> , <b>1997</b> , 45, 439-465	5	94
73	Void interaction and coalescence in polymeric materials. <i>International Journal of Solids and Structures</i> , <b>2007</b> , 44, 1787-1808	3.1	77
72	Analytic and numerical studies on mode I and mode II fracture in elastic-plastic materials with strain gradient effects. <i>International Journal of Fracture</i> , <b>1999</b> , 100, 1-27	2.3	57
71	Void behaviors from low to high triaxialities: Transition from void collapse to void coalescence. <i>International Journal of Plasticity</i> , <b>2016</b> , 84, 183-202	7.6	55
70	Atomistic origin of size effects in fatigue behavior of metallic glasses. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2017</b> , 104, 84-95	5	52
69	Modeling vapor pressure effects on void rupture and crack growth resistance. <i>Acta Materialia</i> , <b>2002</b> , 50, 3487-3500	8.4	45
68	Effects of pressure-sensitivity and plastic dilatancy on void growth and interaction. <i>International Journal of Solids and Structures</i> , <b>2006</b> , 43, 6380-6397	3.1	44
67	Vapor pressure and void size effects on failure of a constrained ductile film. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2003</b> , 51, 993-1014	5	35
66	Cavitation in materials with distributed weak zones: Implications on the origin of brittle fracture in metallic glasses. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2013</b> , 61, 1047-1064	5	34
65	Shear bands mediate cavitation in brittle metallic glasses. <i>Scripta Materialia</i> , <b>2013</b> , 68, 567-570	5.6	34
64	On the energetics of tensile and shear void coalescences. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2015</b> , 82, 259-286	5	33
63	Surface instability maps for soft materials. <i>Soft Matter</i> , <b>2010</b> , 6, 5743	3.6	31
62	Quasi-cleavage processes driven by dislocation pileups. <i>Acta Materialia</i> , <b>1996</b> , 44, 3049-3058	8.4	24
61	Evolution of crack tip process zones. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>1994</b> , 2, 767-782	2	23
60	Phase field modeling of fracture in nonlinearly elastic solids via energy decomposition. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 347, 477-494	5.7	23

59	Tuning the thermal conductivity of multi-layer graphene with interlayer bonding and tensile strain. <i>Applied Physics A: Materials Science and Processing</i> , <b>2015</b> , 120, 1275-1281	2.6	22
58	Pressure-sensitive ductile layers II. Modeling the growth of extensive damage. <i>International Journal of Solids and Structures</i> , <b>2007</b> , 44, 2553-2570	3.1	22
57	Thermal and vapor pressure effects on cavitation and void growth. <i>Journal of Materials Science</i> , <b>2001</b> , 36, 5871-5876	4.3	22
56	Vapor pressure and residual stress effects on failure of an adhesive film. <i>International Journal of Solids and Structures</i> , <b>2005</b> , 42, 4795-4810	3.1	21
55	Vapor Pressure Assisted Void Growth and Cracking of Polymeric Films and Interfaces. <i>Journal of Materials Science</i> , <b>2003</b> , 11, 277-290		18
54	Cavitation in brittle metallic glasses I Effects of stress state and distributed weak zones. <i>International Journal of Solids and Structures</i> , <b>2014</b> , 51, 4373-4385	3.1	17
53	Void-sheet analysis on macroscopic strain localization and void coalescence. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2018</b> , 118, 172-203	5	16
52	Rate effects on toughness in elastic nonlinear viscous solids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2008</b> , 56, 974-992	5	15
51	Vapor pressure and residual stress effects on the toughness of polymeric adhesive joints. <i>Engineering Fracture Mechanics</i> , <b>2004</b> , 71, 2435-2448	4.2	15
50	Tunnel reinforcement via topology optimization. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , <b>2000</b> , 24, 201-213	4	14
49	Vapor Pressure and Residual Stress Effects on Mixed Mode Toughness of an Adhesive Film. <i>International Journal of Fracture</i> , <b>2005</b> , 134, 349-368	2.3	13
48	Mode mixity and nonlinear viscous effects on toughness of interfaces. <i>International Journal of Solids and Structures</i> , <b>2008</b> , 45, 2493-2511	3.1	12
47	Dimension-controlled formation of crease patterns on soft solids. <i>Soft Matter</i> , <b>2017</b> , 13, 619-626	3.6	11
46	Pressure-sensitive ductile layers III. 3D models of extensive damage. <i>International Journal of Solids and Structures</i> , <b>2007</b> , 44, 5349-5368	3.1	11
45	Phase field simulation for fracture behavior of hyperelastic material at large deformation based on edge-based smoothed finite element method. <i>Engineering Fracture Mechanics</i> , <b>2020</b> , 238, 107233	4.2	11
44	Force prediction in blow-out preventer shearing of drill pipes. <i>Engineering Failure Analysis</i> , <b>2017</b> , 74, 1593-171	3.7	10
43	Tension-compression asymmetry at finite strains: A theoretical model and exact solutions. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2020</b> , 143, 104084	5	10
42	Transition of surface-interface creasing in bilayer hydrogels. <i>Soft Matter</i> , <b>2017</b> , 13, 6011-6020	3.6	10

41	Fracture in tension-compression-asymmetry solids via phase field modeling. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 357, 112573	5.7	9
40	Vapor pressure assisted crack growth at interfaces under mixed mode loading. <i>Computational Materials Science</i> , <b>2004</b> , 30, 425-432	3.2	9
39	Uniaxial stress-driven grain boundary migration in Hexagonal Close-packed (HCP) metals: Theory and MD simulations. <i>International Journal of Plasticity</i> , <b>2017</b> , 95, 82-104	7.6	8
38	A phase-field model for fracture in water-containing soft solids. <i>Engineering Fracture Mechanics</i> , <b>2019</b> , 212, 180-196	4.2	8
37	Deformation and pattern transformation of porous soft solids under biaxial loading: Experiments and simulations. <i>Extreme Mechanics Letters</i> , <b>2018</b> , 20, 81-90	3.9	8
36	In situ TEM investigation on void coalescence in metallic materials. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 734, 260-268	5.3	8
35	Dynamic toughness in elastic nonlinear viscous solids. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2009</b> , 57, 384-400	5	8
34	Voiding and fracture in high-entropy alloy under multi-axis stress states. <i>Materials Letters</i> , <b>2019</b> , 237, 220-223	3.3	8
33	Humidity-driven bifurcation in a hydrogel-actuated nanostructure: A three-dimensional computational analysis. <i>International Journal of Solids and Structures</i> , <b>2010</b> , 47, 2034-2042	3.1	7
32	Fracture in strain gradient elasticity. <i>Metals and Materials International</i> , <b>1998</b> , 4, 593-600		7
31	twin nucleation at prismatic/basal boundary in hexagonal close-packed metals. <i>Philosophical Magazine</i> , <b>2019</b> , 99, 2584-2603	1.6	6
30	. <i>IEEE Transactions on Components and Packaging Technologies</i> , <b>2009</b> , 32, 12-19		6
29	Vapor pressure and voiding effects on thin film damage. <i>Thin Solid Films</i> , <b>2006</b> , 504, 325-330	2.2	6
28	Crack Tip Profiles Generated by Anisotropic Damage. <i>International Journal of Damage Mechanics</i> , <b>1993</b> , 2, 364-384	3	6
27	Crack tip superblunting: experiment, theory and numerical simulation. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , <b>1993</b> , 9, 131-141	2	6
26	Near-Tip Fields for Cracks in Materials with Strain Gradient Effects. <i>Solid Mechanics and Its Applications</i> , <b>1997</b> , 231-243	0.4	6
25	Formation of gears through buckling multilayered film-hydrogel structures. <i>Thin Solid Films</i> , <b>2010</b> , 518, 6048-6051	2.2	5
24	Influence of Nonuniform Initial Porosity Distribution on Adhesive Failure in Electronic Packages. <i>IEEE Transactions on Components and Packaging Technologies</i> , <b>2008</b> , 31, 277-284		5

23	C*-controlled creep crack growth by grain boundary cavitation. <i>Acta Materialia</i> , <b>2008</b> , 56, 5293-5303	8.4	5
22	Surface Instability of Bilayer Hydrogel Subjected to Both Compression and Solvent Absorption. <i>Polymers</i> , <b>2018</b> , 10,	4.5	4
21	Modeling hydrogen attack effect on creep fracture toughness. <i>International Journal of Solids and Structures</i> , <b>2011</b> , 48, 2909-2919	3.1	4
20	Popcorn Failure and Unstable Void Growth in Plastic Electronic Packages. <i>Key Engineering Materials</i> , <b>2002</b> , 227, 61-66	0.4	4
19	Void nucleation in alloys with lamella particles under biaxial loadings. <i>Extreme Mechanics Letters</i> , <b>2018</b> , 22, 42-50	3.9	4
18	The role of autocatalysis and transformation shear in crack tip zone shape and toughening of zirconia ceramics. <i>International Journal of Solids and Structures</i> , <b>1997</b> , 34, 4213-4236	3.1	3
17	Instability analysis of a programmed hydrogel plate under swelling. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 063527	2.5	2
16	Effect of dual-scale microstructure on the toughness of laminar zirconia composites. <i>International Journal of Fracture</i> , <b>1996</b> , 78, 315-330	2.3	2
15	An Effective Multiscale Methodology for the Analysis of Marine Flexible Risers. <i>Journal of Marine Science and Engineering</i> , <b>2019</b> , 7, 340	2.4	2
14	Creep fracture toughness using conventional and cell element approaches. <i>Computational Materials Science</i> , <b>2008</b> , 44, 138-144	3.2	1
13	<b>2007</b> ,		1
12	An Alternative Decomposition of the Strain Gradient Tensor. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2002</b> , 69, 139-141	2.7	1
11	FEM solutions for plane stress mode-I and mode-II cracks in strain gradient plasticity. <i>Science in China Series A: Mathematics</i> , <b>2000</b> , 43, 969-979		1
10	The analytical solutions based on the concept of finite element methods. <i>Applied Mathematics and Mechanics (English Edition)</i> , <b>1990</b> , 11, 321-331	3.2	1
9	Mixed Graph-FEM phase field modeling of fracture in plates and shells with nonlinearly elastic solids. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 389, 114282	5.7	1
8	The Effect of Void Arrangement on the Pattern Transformation of Porous Soft Solids under Biaxial Loading. <i>Materials</i> , <b>2021</b> , 14,	3.5	1
7	Computational Modeling of the Effect of Sulci during Tumor Growth and Cerebral Edema. <i>Journal of Nanomaterials</i> , <b>2016</b> , 2016, 1-9	3.2	1
6	Tunnel reinforcement via topology optimization <b>2000</b> , 24, 201		1

- 5 VOID GROWTH AND INTERACTION IN A SOFT MATERIAL. *International Journal of Modern Physics B*, **2010**, 24, 295-304 1.1
- 4 Vapor Pressure Assisted Interface Delamination and Failure of Plastic IC Packages: A Micromechanics Approach **2003**, 391
- 3 318 A Mechanism-Based Approach for Interface Toughness of Ductile Layer Joining Elastic Solids. *The Proceedings of the JSME Materials and Processing Conference (M&P)*, **2002**, 10.1, 570-575
- 2 Mechanism-Based Modeling of Thermal- and Moisture-Induced Failure of IC Devices **2010**, 301-331
- 1 Role of Vapor Pressure on Popcorn Cracking in IC Packages. *Materials Performance and Characterization*, **2014**, 3, 20130044 0.5