

# Shan-Tung Tu

## List of Publications by Year in descending order

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111  
papers

2,003  
citations

257450

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docs citations

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times ranked

1185  
citing authors

#	ARTICLE	IF	CITATIONS
1	CO <sub>2</sub> Capture Using Amine Solution Mixed with Ionic Liquid. <i>Industrial &amp; Engineering Chemistry Research</i> , 2014, 53, 2790-2799.	3.7	118
2	A multiaxial creep-damage model for creep crack growth considering cavity growth and microcrack interaction. <i>Engineering Fracture Mechanics</i> , 2014, 123, 197-210.	4.3	107
3	Effect of constraint induced by crack depth on creep crack-tip stress field in CT specimens. <i>International Journal of Solids and Structures</i> , 2010, 47, 51-57.	2.7	101
4	Effect and mechanism of out-of-plane constraint on creep crack growth behavior of a Cr-Mo-V steel. <i>Engineering Fracture Mechanics</i> , 2013, 99, 324-334.	4.3	82
5	Load-independent creep constraint parameter and its application. <i>Engineering Fracture Mechanics</i> , 2014, 116, 41-57.	4.3	69
6	One-step solvothermal synthesis of nickel selenide series: Composition and morphology control. <i>CrystEngComm</i> , 2012, 14, 2145.	2.6	50
7	Unified characterization of in-plane and out-of-plane creep constraint based on crack-tip equivalent creep strain. <i>Engineering Fracture Mechanics</i> , 2015, 142, 1-20.	4.3	49
8	Chemical short-range order strengthening mechanism in CoCrNi medium-entropy alloy under nanoindentation. <i>Scripta Materialia</i> , 2022, 209, 114364.	5.2	48
9	Characterization and correlation of 3-D creep constraint between axially cracked pipelines and test specimens. <i>Engineering Fracture Mechanics</i> , 2015, 136, 96-114.	4.3	46
10	Prediction of creep crack growth behavior in Cr-Mo-V steel specimens with different constraints for a wide range of $\sigma$ . <i>Engineering Fracture Mechanics</i> , 2014, 132, 70-84.	4.3	45
11	Influence of repair length on residual stress in the repair weld of a clad plate. <i>Nuclear Engineering and Design</i> , 2012, 246, 211-219.	1.7	42
12	Mercaptopropionic acid capped CdSe/ZnS quantum dots as fluorescence probe for lead(II). <i>Journal of Nanoparticle Research</i> , 2012, 14, 1.	1.9	39
13	The influence of stress-regime dependent creep model and ductility in the prediction of creep crack growth rate in Cr-Mo-V steel. <i>Materials &amp; Design</i> , 2015, 65, 644-651.	5.1	38
14	One-step synthesis of pure pyrite FeS <sub>2</sub> with different morphologies in water. <i>New Journal of Chemistry</i> , 2015, 39, 3571-3577.	2.8	36
15	Effects of Different Mechanical Surface Enhancement Techniques on Surface Integrity and Fatigue Properties of Ti-6Al-4V: A Review. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2019, 44, 445-469.	12.3	35
16	Unified correlation of in-plane and out-of-plane constraints with cleavage fracture toughness. <i>Theoretical and Applied Fracture Mechanics</i> , 2015, 80, 121-132.	4.7	33
17	Creep constraint analysis and constraint parameter solutions for axial semi-elliptical surface cracks in pressurized pipes. <i>Engineering Fracture Mechanics</i> , 2014, 132, 1-15.	4.3	32
18	In-plane and out-of-plane unified constraint-dependent creep crack growth rate of 316H steel. <i>Engineering Fracture Mechanics</i> , 2016, 155, 88-101.	4.3	31

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19	Unified constraint parameter based on crack-tip opening displacement. <i>Engineering Fracture Mechanics</i> , 2018, 200, 175-188.	4.3	31
20	Biaxial residual stress measurement by indentation energy difference method: Theoretical and experimental study. <i>International Journal of Pressure Vessels and Piping</i> , 2022, 195, 104573.	2.6	30
21	First-principles study of half-fluorinated silicene sheets. <i>RSC Advances</i> , 2015, 5, 6238-6245.	3.6	28
22	Characterization of 3-D creep constraint and creep crack growth rate in test specimens in ASTM-E1457 standard. <i>Engineering Fracture Mechanics</i> , 2016, 168, 131-146.	4.3	28
23	Creep crack growth prediction and assessment incorporating constraint effect for pressurized pipes with axial surface cracks. <i>Engineering Fracture Mechanics</i> , 2016, 154, 92-110.	4.3	27
24	Removal of Catalyst Particles from Oil Slurry by Hydrocyclone. <i>Separation Science and Technology</i> , 2009, 44, 2067-2077.	2.5	26
25	Mismatch effect in creep properties on creep crack growth behavior in welded joints. <i>Materials &amp; Design</i> , 2014, 63, 600-608.	5.1	26
26	Effect of constraint on creep crack initiation time in test specimens in ASTM-E1457 standard. <i>Engineering Fracture Mechanics</i> , 2017, 176, 61-73.	4.3	25
27	Creep fracture mechanics parameters for internal axial surface cracks in pressurized cylinders and creep crack growth analysis. <i>International Journal of Pressure Vessels and Piping</i> , 2011, 88, 452-464.	2.6	24
28	Effects of the stress state on plastic deformation and ductile failure: Experiment and numerical simulation using a newly designed tension-shear specimen. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2019, 42, 2079-2092.	3.4	24
29	Ductile fracture prediction based on J-integral and unified constraint parameters for cracked pipes. <i>Engineering Fracture Mechanics</i> , 2019, 215, 1-15.	4.3	24
30	A primary plus secondary local PWHT method for mitigating weld residual stresses in pressure vessels. <i>International Journal of Pressure Vessels and Piping</i> , 2021, 192, 104431.	2.6	24
31	Facile synthesis of flake-like FeSe <sub>2</sub> particles in open-air conditions. <i>New Journal of Chemistry</i> , 2012, 36, 2101.	2.8	23
32	Evaluation of C* integral for interacting cracks in plates under tension. <i>Engineering Fracture Mechanics</i> , 2009, 76, 2192-2201.	4.3	22
33	Study of formaldehyde adsorption on silicene with point defects by DFT method. <i>RSC Advances</i> , 2015, 5, 65255-65263.	3.6	22
34	Engineering estimation method of unified constraint parameters for semi-elliptical surface cracks in plates. <i>Engineering Fracture Mechanics</i> , 2020, 229, 106935.	4.3	22
35	An Improved Metal-Packaged Strain Sensor Based on A Regenerated Fiber Bragg Grating in Hydrogen-Loaded Boron-Germanium Co-Doped Photosensitive Fiber for High-Temperature Applications. <i>Sensors</i> , 2017, 17, 431.	3.8	21
36	Effects of initial crack positions and load levels on creep failure behavior in P92 steel welded joint. <i>Engineering Failure Analysis</i> , 2015, 47, 56-66.	4.0	19

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37	Unified correlation of in-plane and out-of-plane creep constraints with creep crack growth rate. International Journal of Pressure Vessels and Piping, 2016, 139-140, 47-60.	2.6	19
38	Creep constraint analysis and constraint parameter solutions for circumferential surface cracks in pressurized pipes. Engineering Fracture Mechanics, 2015, 148, 1-14.	4.3	18
39	Prediction of creep crack initiation behavior considering constraint effects for cracked pipes. Engineering Fracture Mechanics, 2018, 190, 213-231.	4.3	18
40	Unified constraint parameter solutions for axial and circumferential surface cracks in pressurized pipes under creep condition. Engineering Fracture Mechanics, 2018, 189, 307-329.	4.3	18
41	Green Synthesis of CuInS <sub>2</sub> /ZnS Nanocrystals with High Photoluminescence and Stability. Journal of Nanomaterials, 2015, 2015, 1-9.	2.7	17
42	Fracture assessment based on unified constraint parameter for pressurized pipes with circumferential surface cracks. Engineering Fracture Mechanics, 2017, 175, 201-218.	4.3	17
43	Effect of Stress Ratio on the Fatigue Crack Propagation Behavior of the Nickel-based GH4169 Alloy. Acta Metallurgica Sinica (English Letters), 2017, 30, 809-821.	2.9	16
44	Unified correlation of geometry and material constraints with creep crack growth rate of welded joints. Engineering Fracture Mechanics, 2016, 163, 220-235.	4.3	15
45	Analytical Modeling on Stress Assisted Oxidation and its Effect on Creep Response of Metals. Oxidation of Metals, 2014, 82, 311-330.	2.1	14
46	Two-parameter fracture prediction for cracked plates under bending. Engineering Fracture Mechanics, 2021, 255, 107974.	4.3	14
47	Creep of brazed plate-fin structures in high temperature compact heat exchangers. Frontiers of Mechanical Engineering in China, 2009, 4, 355-362.	0.4	13
48	Local fracture properties and dissimilar weld integrity in nuclear power plants. Frontiers of Mechanical Engineering, 2013, 8, 283-290.	4.3	13
49	Validation and application of a two-parameter $\alpha$ - $\beta$ approach for fracture behaviour prediction. Fatigue and Fracture of Engineering Materials and Structures, 2020, 43, 2998-3011.	3.4	13
50	In-plane and out-of-plane constraint characterization of different constraint parameters for semi-elliptical surface cracks in pipes. Engineering Fracture Mechanics, 2020, 235, 107161.	4.3	13
51	Reduction of welding residual stress in the head-cylinder joint of a large rectifying tower by finite element method and experimental study. International Journal of Pressure Vessels and Piping, 2021, 191, 104311.	2.6	12
52	Effects of side-groove depth on creep crack tip constraint and creep crack growth rate in C(T) specimens. Fatigue and Fracture of Engineering Materials and Structures, 2018, 41, 260-272.	3.4	12
53	Laser surface nitriding of Ti6Al4V alloy coupled with an external stress field. Journal of Materials Research, 2010, 25, 344-349.	2.6	11
54	Optimization of the recipe for the synthesis of CuInS <sub>2</sub> /ZnS nanocrystals supported by mechanistic considerations. Green Processing and Synthesis, 2017, 6, 133-146.	3.4	11

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55	Design of Waveguide Bars for Transmitting a Pure Shear Horizontal Wave to Monitor High Temperature Components. <i>Materials</i> , 2017, 10, 1027.	2.9	11
56	Creep constraint and fracture parameter $C^*$ — for axial semi-elliptical surface cracks with high aspect ratio in pressurized pipes. <i>Engineering Fracture Mechanics</i> , 2018, 199, 358-371.	4.3	11
57	Coordinated bilateral ultrasonic surface rolling process on aero-engine blades. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 105, 4415-4428.	3.0	11
58	Ductile tearing analyses of cracked TP304 pipes using the multiaxial fracture strain energy model and the Gurson–Tvergaard–Needleman model. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2020, 43, 2402-2415.	3.4	11
59	Size effect in creep–fatigue crack growth interaction in P2M steel. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2021, 44, 3301-3319.	3.4	11
60	Corrosion Behavior and Thermal Conductivity of Plasma Sprayed AlN/Al <sub>2</sub> O <sub>3</sub> Coating. <i>Materials Transactions</i> , 2006, 47, 1649-1653.	1.2	10
61	The effect of a constraining metal tube on flux pinning induced stress in a long cylindrical superconductor. <i>Journal of Applied Physics</i> , 2012, 112, 023909.	2.5	10
62	Characteristics of high-temperature equipment monitoring using dry-coupled ultrasonic waveguide transducers. <i>Ultrasonics</i> , 2020, 108, 106236.	3.9	10
63	Correlation of material constraint with fracture toughness of interface regions in a dissimilar metal welded joint. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2016, 39, 1251-1262.	3.4	9
64	Microstructural Evolution, Mechanical Properties and Thermal Stability of Gradient Structured Pure Nickel. <i>Acta Metallurgica Sinica (English Letters)</i> , 2019, 32, 951-960.	2.9	9
65	Unified constraint-based FAD assessments for ductile fracture in cracked pipes. <i>International Journal of Pressure Vessels and Piping</i> , 2020, 185, 104132.	2.6	9
66	Correlation of the Master curve reference temperature $T$ with unified constraint parameter. <i>Engineering Fracture Mechanics</i> , 2021, 253, 107867.	4.3	9
67	The Mechanical Behavior and Martensitic Transformation of Porous NiTi Alloys Based on Geometrical Reconstruction. <i>International Journal of Applied Mechanics</i> , 2017, 09, 1750038.	2.2	8
68	On Residual Stress and Relief for an Ultra-Thick Cylinder Weld Joint Based on Mixed Hardening Model: Numerical and Experimental Studies. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2018, 140, .	0.6	8
69	Critical Excitation of the Fundamental Quasi-Shear Mode Wave in Waveguide Bars for Elevated Temperature Applications. <i>Sensors</i> , 2019, 19, 793.	3.8	8
70	Development of Highly-Sensitive and Reliable Fiber Bragg Grating Temperature Sensors With Gradient Metallic Coatings for Cryogenic Temperature Applications. <i>IEEE Sensors Journal</i> , 2021, 21, 4652-4663.	4.7	8
71	A study of ultra-low cycle fatigue failure based on a fracture strain energy model. <i>International Journal of Fatigue</i> , 2021, 146, 106149.	5.7	8
72	Effect of stress regime–dependent creep behaviour on measurement of creep strain rate based on small specimen techniques. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2019, 42, 187-196.	3.4	7

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73	A creep crack growth life assessment method for pressurized pipes based on a two-parameter approach. <i>Engineering Fracture Mechanics</i> , 2019, 220, 106676.	4.3	7
74	Comparisons of creep constraint and fracture parameter $C^*$ of different types of surface cracks in pressurized pipes. <i>International Journal of Pressure Vessels and Piping</i> , 2019, 172, 360-372.	2.6	7
75	Compression, Shear and Bending Performance of X-type Lattice Truss Panel Structure by Theoretical Method and Simulation. <i>International Journal of Steel Structures</i> , 2020, 20, 259-271.	1.3	7
76	Effects of material properties and mismatch on unified constraint parameter. <i>Engineering Fracture Mechanics</i> , 2022, 269, 108526.	4.3	7
77	Precipitation and heterogeneous strengthened CoCrNi-based medium entropy alloy with excellent strength-ductility combination from room to cryogenic temperatures. <i>Science China Technological Sciences</i> , 2022, 65, 1780-1797.	4.0	7
78	CFD studies on the separation performance of a new combined gas-liquid separator used in TMSR-SF. <i>Nuclear Science and Techniques/Hewuli</i> , 2019, 30, 1.	3.4	6
79	Creep fracture parameter $C^*$ solutions for axial internal and external surface cracks in pressurized cylinders. <i>Engineering Fracture Mechanics</i> , 2020, 231, 107026.	4.3	6
80	Ductile failure of flat plates containing two through-wall cracks: Experimental investigation and numerical modeling. <i>International Journal of Pressure Vessels and Piping</i> , 2021, 191, 104377.	2.6	6
81	Effect of ambient temperature on compressibility and recovery of NiTi shape memory alloys as static seals. <i>Advances in Mechanical Engineering</i> , 2017, 9, 168781401769228.	1.6	5
82	Effects of creep properties of materials on unified creep constraint parameter $C_c$ for cracked pipes. <i>Materials at High Temperatures</i> , 2019, 36, 417-429.	1.0	5
83	Effect of ultrasonic surface deep rolling combined with oxygen boost diffusion treatment on fatigue properties of pure titanium. <i>Scientific Reports</i> , 2021, 11, 17840.	3.3	5
84	A Study of Tensile and Fatigue Loading Effects on the Performance of Metal-Packaged FBG Strain Sensor Developed for Cryogenic Applications. <i>IEEE Sensors Journal</i> , 2022, 22, 11763-11774.	4.7	4
85	Application of unified constraint-dependent Master Curve in fracture assessment of cracked pressure vessels. <i>International Journal of Pressure Vessels and Piping</i> , 2022, 199, 104741.	2.6	4
86	Emerging challenges to structural integrity technology for high-temperature applications. <i>Frontiers of Mechanical Engineering in China</i> , 2007, 2, 375-387.	0.4	3
87	Creep fracture parameter $C^*$ solutions for circumferential surface cracks in pressurized cylinders. <i>Engineering Fracture Mechanics</i> , 2020, 236, 107204.	4.3	3
88	Neural network modeling and simulation of the synthesis of $\text{CuInS}_2/\text{ZnS}$ quantum dots. <i>Engineering Reports</i> , 2020, 2, e12122.	1.7	3
89	Control of the Pore Structure of Plasma-Sprayed Thermal Barrier Coatings through the Addition of Unmelted Porous YSZ Particles. <i>Coatings</i> , 2021, 11, 360.	2.6	3
90	Size Matching Criterion of High Temperature Waveguide Transducer for Quasi-Fundamental Shear Horizontal Wave. <i>IEEE Sensors Journal</i> , 2021, 21, 16721-16730.	4.7	3

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91	Prediction of creep crack initiation time based on constraint parameters in specimens with different geometries. International Journal of Pressure Vessels and Piping, 2021, 192, 104430.	2.6	3
92	Establishment of unified creep-fatigue life prediction under various temperatures and investigation of failure physical mechanism for Type 304 stainless steel. Fatigue and Fracture of Engineering Materials and Structures, 2022, 45, 3086-3101.	3.4	3
93	Durability of plasma-sprayed Cr <sub>3</sub> C <sub>2</sub> -NiCr coatings under rolling contact conditions. Frontiers of Mechanical Engineering in China, 2011, 6, 118.	0.4	2
94	Effect of substrates and underlayer on CNT synthesis by plasma enhanced CVD. Advances in Manufacturing, 2013, 1, 236-240.	6.1	2
95	Effect of Laser-Induced Heating on Raman Measurement within a Silicon Microfluidic Channel. Micromachines, 2015, 6, 813-830.	2.9	2
96	Quantum-dots-sensitized solar cells based on vertically ranged titanium dioxide nanotubes. International Journal of Green Energy, 2016, 13, 840-844.	3.8	2
97	Brazing Coupling Performance of Piezoelectric Waveguide Transducers for the Monitoring of High Temperature Components. Sensors, 2021, 21, 94.	3.8	2
98	Creep fracture parameter C* solutions for semi-elliptical surface cracks in plates under tensile and bending loads. Fatigue and Fracture of Engineering Materials and Structures, 0, , .	3.4	2
99	Creep-Fatigue Crack Initiation Simulation of a Modified 12% Cr Steel Based on Grain Boundary Cavitation and Plastic Slip Accumulation. Materials, 2021, 14, 6565.	2.9	2
100	A new calculation formula to describe the dynamic pressure of water jet peening with elliptical nozzle for high-efficiency treatment. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 0, , 095440622110586.	2.1	2
101	Study on enhanced heat transfer performance of open-cell metal foams based on a hexahedron model. Numerical Heat Transfer; Part A: Applications, 0, , 1-21.	2.1	2
102	Stresses from Oxide Film Imperfections During Metal Dusting. Oxidation of Metals, 2012, 78, 295-305.	2.1	1
103	Residual Stress Distribution in Hard-Facing of Pressure Relief Valve Seat. Journal of Pressure Vessel Technology, Transactions of the ASME, 2014, 136, .	0.6	1
104	Electron and ion kinetics in three-dimensional confined microwave-induced microplasmas at low gas pressures. AIP Advances, 2016, 6, 045016.	1.3	1
105	The single-blow transient test technique using pulse change inlet condition with optimized pulse width and matching time. Heat and Mass Transfer, 2020, 56, 963-972.	2.1	1
106	Optimal Design Methodology of Tapered Waveguide Transducers for Thickness Monitoring. Sensors, 2020, 20, 1892.	3.8	1
107	Unified creep constraint parameter solutions for surface cracks in plates under tensile and bending loads. Fatigue and Fracture of Engineering Materials and Structures, 2022, 45, 1703-1718.	3.4	1
108	Active Carbon-ceramic Sphere as Support of Ruthenium Catalysts: Characterization and Catalytic Wet Air Oxidation (CWAO) of Resin Effluent. , 2010, , .		0

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109	The glass-silicon-glass sandwich structured microplasma chip as the electron source of a micro mass spectrometer. , 2014, , .		0
110	Investigations of heat transfer and friction characteristics of compact cross-corrugated recuperators. Heat and Mass Transfer, 2014, 50, 1301-1310.	2.1	0
111	Operational Limitation and Instability of a Microwave-Induced Microplasma Enclosed in a Microcavity at Low Gas Pressures. IEEE Transactions on Plasma Science, 2016, 44, 2314-2322.	1.3	0