

Sheng-Chuan Wu

List of Publications by Year in descending order

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102
papers

3,495
citations

117625

34
h-index

155660

55
g-index

103
all docs

103
docs citations

103
times ranked

1697
citing authors

#	ARTICLE	IF	CITATIONS
1	The effect of manufacturing defects on the fatigue life of selective laser melted Ti-6Al-4V structures. <i>Materials and Design</i> , 2020, 192, 108708.	7.0	209
2	The imaging of failure in structural materials by synchrotron radiation X-ray microtomography. <i>Engineering Fracture Mechanics</i> , 2017, 182, 127-156.	4.3	168
3	A machine-learning fatigue life prediction approach of additively manufactured metals. <i>Engineering Fracture Mechanics</i> , 2021, 242, 107508.	4.3	149
4	The effect of defect population on the anisotropic fatigue resistance of AlSi10Mg alloy fabricated by laser powder bed fusion. <i>International Journal of Fatigue</i> , 2021, 151, 106317.	5.7	144
5	A new approach to correlate the defect population with the fatigue life of selective laser melted Ti-6Al-4V alloy. <i>International Journal of Fatigue</i> , 2020, 136, 105584.	5.7	133
6	An edge-based smoothed finite element method (ES-FEM) for analyzing three-dimensional acoustic problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 199, 20-33.	6.6	128
7	Thermal crack growth-based fatigue life prediction due to braking for a high-speed railway brake disc. <i>International Journal of Fatigue</i> , 2016, 87, 359-369.	5.7	99
8	Corrosion fatigue lifetime assessment of high-speed railway axle EA4T steel with artificial scratch. <i>Engineering Fracture Mechanics</i> , 2021, 245, 107588.	4.3	86
9	Probabilistic fatigue assessment for high-speed railway axles due to foreign object damages. <i>International Journal of Fatigue</i> , 2018, 117, 90-100.	5.7	78
10	On the fatigue performance of laser hybrid welded high Zn 7000 alloys for next generation railway components. <i>International Journal of Fatigue</i> , 2016, 91, 1-10.	5.7	76
11	A node-based smoothed point interpolation method (NS-PIM) for three-dimensional heat transfer problems. <i>International Journal of Thermal Sciences</i> , 2009, 48, 1367-1376.	4.9	75
12	Determination of the fatigue P-S-N curves "A critical review and improved backward statistical inference method. <i>International Journal of Fatigue</i> , 2020, 139, 105789.	5.7	75
13	The potency of defects on fatigue of additively manufactured metals. <i>International Journal of Mechanical Sciences</i> , 2022, 221, 107185.	6.7	72
14	Defect-correlated fatigue resistance of additively manufactured Al-Mg4.5Mn alloy with in situ micro-rolling. <i>Journal of Materials Processing Technology</i> , 2021, 291, 117039.	6.3	71
15	An edge-based smoothed point interpolation method (ES-PIM) for heat transfer analysis of rapid manufacturing system. <i>International Journal of Heat and Mass Transfer</i> , 2010, 53, 1938-1950.	4.8	65
16	Defect evolution during high temperature tension-tension fatigue of SLM AlSi10Mg alloy by synchrotron tomography. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 792, 139809.	5.6	62
17	Electric field induced intermediate phase and polarization rotation path in alkaline niobate based piezoceramics close to the rhombohedral and tetragonal phase boundary. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	60
18	On the fatigue performance and residual life of intercity railway axles with inside axle boxes. <i>Engineering Fracture Mechanics</i> , 2018, 197, 176-191.	4.3	60

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19	A novel virtual node method for polygonal elements. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Overlock	3.6	54
20	A node-based smoothed point interpolation method (NS-PIM) for thermoelastic problems with solution bounds. International Journal of Heat and Mass Transfer, 2009, 52, 1464-1471.	4.8	52
21	Corner fatigue cracking behavior of hybrid laser AA7020 welds by synchrotron X-ray computed microtomography. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 651, 604-614.	5.6	52
22	A physically short fatigue crack growth approach based on low cycle fatigue properties. International Journal of Fatigue, 2017, 103, 185-195.	5.7	52
23	Fatigue evaluation for high-speed railway axles with surface scratch. International Journal of Fatigue, 2019, 123, 79-86.	5.7	50
24	Cyclic plastic strain based damage tolerance for railway axles in China. International Journal of Fatigue, 2016, 93, 64-70.	5.7	48
25	Porosity induced fatigue damage of laser welded 7075-T6 joints investigated via synchrotron X-ray microtomography. Science and Technology of Welding and Joining, 2015, 20, 11-19.	3.1	46
26	On the residual life assessment of high-speed railway axles due to induction hardening. International Journal of Rail Transportation, 2018, 6, 218-232.	2.7	43
27	In situ X-ray imaging of fatigue crack growth from multiple defects in additively manufactured AlSi10Mg alloy. International Journal of Fatigue, 2022, 155, 106616.	5.7	42
28	A novel twice-interpolation finite element method for solid mechanics problems. Acta Mechanica Sinica/Lixue Xuebao, 2010, 26, 265-278.	3.4	41
29	Review on failure behaviors of fusion welded high-strength Al alloys due to fine equiaxed zone. Engineering Fracture Mechanics, 2019, 208, 45-71.	4.3	41
30	In-situ synchrotron X-ray tomography investigation of damage mechanism of an extruded magnesium alloy in uniaxial low-cycle fatigue with ratchetting. Acta Materialia, 2021, 211, 116881.	7.9	40
31	Effect of strain ratio on cyclic deformation behaviour of 7050-T6 aluminium alloy. International Journal of Fatigue, 2019, 129, 105234.	5.7	39
32	Fatigue life assessment of bogie frames in high-speed railway vehicles considering gear meshing. International Journal of Fatigue, 2020, 132, 105353.	5.7	39
33	A novel four-node quadrilateral element with continuous nodal stress. Applied Mathematics and Mechanics (English Edition), 2009, 30, 1519-1532.	3.6	36
34	The Kitagawa-Takahashi fatigue diagram to hybrid welded AA7050 joints via synchrotron X-ray tomography. International Journal of Fatigue, 2019, 125, 210-221.	5.7	36
35	A uniaxial tensile behavior based fatigue crack growth model. International Journal of Fatigue, 2020, 131, 105324.	5.7	36
36	A time-domain stepwise fatigue assessment to bridge small-scale fracture mechanics with large-scale system dynamics for high-speed maglev lightweight bogies. Engineering Fracture Mechanics, 2021, 248, 107711.	4.3	36

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37	Fatigue resistance and remaining life assessment of induction-hardened S38C steel railway axles. <i>International Journal of Fatigue</i> , 2021, 144, 106068.	5.7	35
38	High-cycle and very-high-cycle fatigue lifetime prediction of additively manufactured AlSi10Mg via crystal plasticity finite element method. <i>International Journal of Fatigue</i> , 2022, 155, 106577.	5.7	35
39	Collaborative crack initiation mechanism of 25CrMo4 alloy steels subjected to foreign object damages. <i>Engineering Fracture Mechanics</i> , 2020, 225, 106844.	4.3	32
40	Microstructure understanding of high Cr-Ni austenitic steel corrosion in high-temperature steam. <i>Acta Materialia</i> , 2022, 226, 117634.	7.9	32
41	Assessment of smoothed point interpolation methods for elastic mechanics. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2010, 26, 1635-1655.	2.1	31
42	An extended finite element method (XFEM) for linear elastic fracture with smooth nodal stress. <i>Computers and Structures</i> , 2017, 179, 48-63.	4.4	30
43	An adaptively refined XFEM with virtual node polygonal elements for dynamic crack problems. <i>Computational Mechanics</i> , 2018, 62, 1087-1106.	4.0	30
44	Effect of microstructural features on the failure behavior of hybrid laser welded AA7020. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2018, 41, 2010-2023.	3.4	29
45	The virtual node polygonal element method for nonlinear thermal analysis with application to hybrid laser welding. <i>International Journal of Heat and Mass Transfer</i> , 2013, 67, 1247-1254.	4.8	28
46	Near-tip strain evolution and crack closure of growing fatigue crack under a single tensile overload. <i>International Journal of Fatigue</i> , 2020, 134, 105478.	5.7	27
47	High-resolution characterization of the internal and external oxidation of austenitic alloys in supercritical water. <i>Scripta Materialia</i> , 2021, 197, 113814.	5.2	26
48	Fatigue life evaluation of Ti-6Al-4V welded joints manufactured by electron beam melting. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2021, 44, 2210-2221.	3.4	26
49	Influence of in situ micro-rolling on the improved strength and ductility of hybrid additively manufactured metals. <i>Engineering Fracture Mechanics</i> , 2021, 253, 107868.	4.3	26
50	Prediction of fatigue crack growth based on low cycle fatigue properties. <i>International Journal of Fatigue</i> , 2014, 61, 220-225.	5.7	24
51	Effect of tensile pre-strain on low-cycle fatigue behaviour of 7050-T6 aluminium alloy. <i>Engineering Failure Analysis</i> , 2020, 114, 104592.	4.0	24
52	A Node-based Smoothed Point Interpolation Method (NS-PIM) for Three-dimensional Thermoelastic Problems. <i>Numerical Heat Transfer; Part A: Applications</i> , 2008, 54, 1121-1147.	2.1	23
53	A SMOOTHED FEM (S-FEM) FOR HEAT TRANSFER PROBLEMS. <i>International Journal of Computational Methods</i> , 2013, 10, 1340001.	1.3	22
54	Experimental Investigations on the Effects of Fatigue Crack in Urban Metro Welded Bogie Frame. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 1537.	2.5	20

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55	A novel mesh-free poly-cell Galerkin method. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2009, 25, 517-527.	3.4	19
56	Hot dwell-fatigue behaviour of additively manufactured AlSi10Mg alloy: Relaxation, cyclic softening and fracture mechanisms. <i>International Journal of Fatigue</i> , 2021, 151, 106408.	5.7	19
57	Fatigue behaviors of laser hybrid welded AA7020 due to defects via synchrotron X-ray microtomography. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2019, 42, 2232-2246.	3.4	16
58	On the Microstructural and Mechanical Characterization of Hybrid Laser-Welded Al-Zn-Mg-Cu Alloys. <i>Journal of Materials Engineering and Performance</i> , 2015, 24, 1540-1550.	2.5	15
59	Damage Tolerance Assessment of a Brake Unit Bracket for High-Speed Railway Welded Bogie Frames. <i>Chinese Journal of Mechanical Engineering (English Edition)</i> , 2019, 32, .	3.7	15
60	Uncertainty propagation method for probabilistic fatigue crack growth life prediction. <i>Theoretical and Applied Fracture Mechanics</i> , 2019, 103, 102268.	4.7	15
61	Experimental characterization and numerical modeling on the external impacting of high-speed railway axle EA4T steel. <i>Engineering Failure Analysis</i> , 2021, 125, 105449.	4.0	15
62	Fine equiaxed zone induced softening and failure behavior of 7050 aluminum alloy hybrid laser welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 821, 141597.	5.6	15
63	X-ray imaging of defect population and the effect on high cycle fatigue life of laser additive manufactured Ti6Al4V alloys. <i>International Journal of Fatigue</i> , 2022, 162, 106979.	5.7	15
64	A TWICE-INTERPOLATION FINITE ELEMENT METHOD (TFEM) FOR CRACK PROPAGATION PROBLEMS. <i>International Journal of Computational Methods</i> , 2012, 09, 1250055.	1.3	14
65	An adaptively refined XFEM for the dynamic fracture problems with micro-defects. <i>Theoretical and Applied Fracture Mechanics</i> , 2019, 103, 102255.	4.7	14
66	Three-dimensional correlation of damage criticality with the defect size and lifetime of externally impacted 25CrMo4 steel. <i>Materials and Design</i> , 2020, 195, 109001.	7.0	14
67	Surface rolling deformed severity-dependent fatigue mechanism of Ti-6Al-4V alloy. <i>International Journal of Fatigue</i> , 2022, 158, 106732.	5.7	14
68	In-situ X-ray tomography on permeability evolution of C/SiC porous ceramic for hypersonic vehicles. <i>Ceramics International</i> , 2021, 47, 27770-27777.	4.8	13
69	Meshless analysis of the substrate temperature in plasma spraying process. <i>International Journal of Thermal Sciences</i> , 2009, 48, 674-681.	4.9	12
70	Cracking evolution behaviors of lightweight materials based on in situ synchrotron X-ray tomography: A review. <i>Frontiers of Mechanical Engineering</i> , 2018, 13, 461-481.	4.3	12
71	Damage evolution of extruded magnesium alloy from deformation twinning and dislocation slipping in uniaxial stress-controlled low cycle fatigue. <i>International Journal of Fatigue</i> , 2022, 164, 107124.	5.7	12
72	Microstructural and failure mechanism of laser welded 2A97 Al-Li alloys via synchrotron 3D tomography. <i>International Journal of Lightweight Materials and Manufacture</i> , 2018, 1, 169-178.	2.1	11

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73	Internal crack characteristics in very-high-cycle fatigue of a gradient structured titanium alloy. <i>Scientific Reports</i> , 2020, 10, 4742.	3.3	11
74	Effects of microstructural heterogeneity on fatigue properties of cast aluminum alloys. <i>Journal of Central South University</i> , 2020, 27, 674-697.	3.0	10
75	The role of defects on tensile deformation and fracture mechanisms of AM AlSi10Mg alloy at room temperature and 250 Å°C. <i>Engineering Fracture Mechanics</i> , 2022, 261, 108215.	4.3	10
76	Corrosion fatigue mechanism and life prediction of railway axle EA4T steel exposed to artificial rainwater. <i>Engineering Failure Analysis</i> , 2022, 138, 106319.	4.0	10
77	A HIGH PERFORMANCE LARGE SPARSE SYMMETRIC SOLVER FOR THE MESHFREE GALERKIN METHOD. <i>International Journal of Computational Methods</i> , 2008, 05, 533-550.	1.3	9
78	Structural fatigue crack growth on a representative volume element under cyclic strain behavior. <i>International Journal of Fatigue</i> , 2015, 74, 1-6.	5.7	9
79	High-Cycle Microscopic Severe Corrosion Fatigue Behavior and Life Prediction of 25CrMo Steel Used in Railway Axles. <i>Metals</i> , 2017, 7, 134.	2.3	9
80	Experimental study on mechanical properties of laser powder bed fused Ti-6Al-4V alloy under post-heat treatment. <i>Engineering Fracture Mechanics</i> , 2022, 261, 108264.	4.3	8
81	ES-PIM with Cell Death and Birth Technique for Simulating Heat Transfer in Concrete Dam Construction Process. <i>Journal of Engineering Mechanics - ASCE</i> , 2012, 138, 133-142.	2.9	7
82	Fatigue strength assessment of high-speed railway axle EA4T steel with foreign object damage. <i>Engineering Failure Analysis</i> , 2022, 133, 105961.	4.0	7
83	The microstructure, mechanical, and fatigue behaviours of MAG welded G20Mn5 cast steel. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2020, 43, 1051-1063.	3.4	6
84	Experimental insight on the fatigue resistance of FV520B-I stainless steel under corrosive environments. <i>International Journal of Fatigue</i> , 2022, 159, 106786.	5.7	5
85	An innovative stepwise time-domain fatigue methodology to integrate damage tolerance into system dynamics. <i>Vehicle System Dynamics</i> , 2023, 61, 550-572.	3.7	5
86	Corrosion Fatigue-Cracking Behaviors of Low Alloy Steels in Seawater for Offshore Engineering Structures. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2022, 53, 2369-2382.	2.2	5
87	Microstructure and phase constitution near the interface of Cu/3003 torch brazing using Al-Si-La-Sr filler. <i>Journal of Mechanical Science and Technology</i> , 2012, 26, 4089-4096.	1.5	4
88	Online estimation of fatigue damage of railway bogie frame based on axle box accelerations. <i>Vehicle System Dynamics</i> , 2023, 61, 286-308.	3.7	4
89	Influence of wheel out-of-roundness on the remaining life of railway wheels under mixed-mode fatigue loading. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2022, 45, 2072-2085.	3.4	4
90	Certified solutions for hydraulic structures using the node-based smoothed point interpolation method (NS-CPIM). <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2010, 34, 1560-1585.	3.3	3

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91	Fracture mechanics based residual life prediction of railway heavy coupler with measured load spectrum. International Journal of Fracture, 0, , 1.	2.2	3
92	Effects of micro-shot peening on the defect tolerance of Al-Si-0.6Mg alloy containing artificial defect. Journal of Alloys and Compounds, 2022, 921, 166170.	5.5	3
93	Nonlinear Transient Heat Transfer Problems using the Meshfree ES-PIM. International Journal of Nonlinear Sciences and Numerical Simulation, 2010, 11, .	1.0	2
94	Research of High Speed Train Carbody Structure Vibration Behaviors and Structure Fatigue Strength Characteristic Technology. Advanced Materials Research, 2012, 544, 256-261.	0.3	2
95	Secondary phase induced cracking initiation of high-speed railway gearbox. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 799, 140064.	5.6	2
96	Coupled influence of pore defects on the failure site for high-speed railway gearbox material. Engineering Fracture Mechanics, 2022, 261, 108216.	4.3	2
97	Fatigue Property and Fracture Behavior of 7020 Aluminum Alloys Welded by Laser-MIG Hybrid Welding. Zhongguo Jiguang/Chinese Journal of Lasers, 2018, 45, 0302003.	1.2	1
98	The CRM of Tomorrow with Semantic Technology. Communications in Computer and Information Science, 2012, , 46-51.	0.5	0
99	Computing in Railway Engineering. Computing in Science and Engineering, 2019, 21, 4-5.	1.2	0
100	Improved backward fatigue statistical inference to the high-speed railway vehicle components. Procedia Structural Integrity, 2019, 22, 211-218.	0.8	0
101	<i>In situ</i> X-ray tomography of sintered metal fiber felts exhibiting auxetic effect under tension and compression. Advanced Engineering Materials, 0, , .	3.5	0
102	Computational Methods for Fatigue and Fracture. Metals, 2022, 12, 739.	2.3	0