

Mohammad Ahmed Khaleel

List of Publications by Citations

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104
papers

3,789
citations

33
h-index

58
g-index

113
ext. papers

4,126
ext. citations

5.1
avg. IF

5.21
L-index

#	Paper	IF	Citations
104	Predicting failure modes and ductility of dual phase steels using plastic strain localization. <i>International Journal of Plasticity</i> , 2009 , 25, 1888-1909	7.6	276
103	High-Energy, High-Rate, Lithium-Sulfur Batteries: Synergetic Effect of Hollow TiO ₂ -Webbed Carbon Nanotubes and a Dual Functional Carbon-Paper Interlayer. <i>Advanced Energy Materials</i> , 2016 , 6, 1501480	21.8	267
102	Three-dimensional thermo-fluid electrochemical modeling of planar SOFC stacks. <i>Journal of Power Sources</i> , 2003 , 113, 109-114	8.9	246
101	Probing grain boundary sink strength at the nanoscale: Energetics and length scales of vacancy and interstitial absorption by grain boundaries in α -Fe. <i>Physical Review B</i> , 2012 , 85,	3.3	226
100	On key factors influencing ductile fractures of dual phase (DP) steels. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009 , 526, 140-149	5.3	136
99	A finite element analysis modeling tool for solid oxide fuel cell development: coupled electrochemistry, thermal and flow analysis in MARC . <i>Journal of Power Sources</i> , 2004 , 130, 136-148	8.9	132
98	Effects of fusion zone size and failure mode on peak load and energy absorption of advanced high strength steel spot welds under lap shear loading conditions. <i>Engineering Failure Analysis</i> , 2008 , 15, 356-367	3.2	127
97	Microstructure-based constitutive modeling of TRIP steel: Prediction of ductility and failure modes under different loading conditions. <i>Acta Materialia</i> , 2009 , 57, 2592-2604	8.4	122
96	Fatigue behaviors of self-piercing rivets joining similar and dissimilar sheet metals. <i>International Journal of Fatigue</i> , 2007 , 29, 370-386	5	91
95	Predicting plastic flow and irradiation hardening of iron single crystal with mechanism-based continuum dislocation dynamics. <i>International Journal of Plasticity</i> , 2014 , 52, 3-17	7.6	82
94	Influence of Martensite Mechanical Properties on Failure Mode and Ductility of Dual-Phase Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2009 , 40, 796-809	2.3	75
93	Constitutive modeling of deformation and damage in superplastic materials. <i>International Journal of Plasticity</i> , 2001 , 17, 277-296	7.6	75
92	On deformation twinning in a 17.5% Mn-TWIP steel: A physically based phenomenological model. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 528, 1402-1408	5.3	72
91	Three-phase solid oxide fuel cell anode microstructure realization using two-point correlation functions. <i>Acta Materialia</i> , 2011 , 59, 30-43	8.4	66
90	Life prediction of coated and uncoated metallic interconnect for solid oxide fuel cell applications. <i>Journal of Power Sources</i> , 2009 , 189, 1044-1050	8.9	65
89	Predicting Young's modulus of glass/ceramic sealant for solid oxide fuel cell considering the combined effects of aging, micro-voids and self-healing. <i>Journal of Power Sources</i> , 2008 , 185, 1193-1200	8.9	64
88	Damage and size effect during superplastic deformation. <i>International Journal of Plasticity</i> , 2002 , 18, 415-442	7.6	61

87	Dynamic strength evaluations for self-piercing rivets and resistance spot welds joining similar and dissimilar metals. <i>International Journal of Impact Engineering</i> , 2007 , 34, 1668-1682	4	60
86	Experimental characterization of glass/ceramic seal properties and their constitutive implementation in solid oxide fuel cell stack models. <i>Journal of Power Sources</i> , 2009 , 193, 625-631	8.9	57
85	A damage model for degradation in the electrodes of solid oxide fuel cells: Modeling the effects of sulfur and antimony in the anode. <i>Journal of Power Sources</i> , 2012 , 210, 233-242	8.9	51
84	Phase-field modeling of void migration and growth kinetics in materials under irradiation and temperature field. <i>Journal of Nuclear Materials</i> , 2010 , 407, 119-125	3.3	51
83	The effect of interconnect rib size on the fuel cell concentration polarization in planar SOFCs. <i>Journal of Power Sources</i> , 2003 , 117, 92-97	8.9	47
82	An Experimental Insight into the Structural and Electronic Characteristics of Strontium-Doped Titanium Dioxide Nanotube Arrays. <i>Advanced Functional Materials</i> , 2014 , 24, 6783-6796	15.6	44
81	A quasi-two-dimensional electrochemistry modeling tool for planar solid oxide fuel cell stacks. <i>Journal of Power Sources</i> , 2011 , 196, 3204-3222	8.9	43
80	Modeling of Glass Fracture Damage Using Continuum Damage Mechanics - Static Spherical Indentation. <i>International Journal of Damage Mechanics</i> , 2004 , 13, 263-285	3	43
79	Electronic and magnetic properties of substituted BN sheets: a density functional theory study. <i>Physical Chemistry Chemical Physics</i> , 2011 , 13, 7378-83	3.6	41
78	The modeling of a standalone solid-oxide fuel cell auxiliary power unit. <i>Journal of Power Sources</i> , 2006 , 161, 938-948	8.9	41
77	Influence of various material design parameters on deformation behaviors of TRIP steels. <i>Computational Materials Science</i> , 2010 , 50, 720-730	3.2	39
76	Crack Growth in Solid Oxide Fuel Cell Materials: From Discrete to Continuum Damage Modeling. <i>Journal of the American Ceramic Society</i> , 2006 , 89, 1358-1368	3.8	38
75	Three-dimensional reconstruction and homogenization of heterogeneous materials using statistical correlation functions and FEM. <i>Computational Materials Science</i> , 2012 , 51, 372-379	3.2	37
74	Fabrication of gradient porous LSM cathode by optimizing deposition parameters in ultrasonic spray pyrolysis. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2008 , 153, 1-9	3.1	34
73	Modeling of Stone-impact Resistance of Monolithic Glass Ply Using Continuum Damage Mechanics. <i>International Journal of Damage Mechanics</i> , 2005 , 14, 165-178	3	34
72	Deformation modeling of superplastic AA-5083. <i>International Journal of Plasticity</i> , 1998 , 14, 1133-1154	7.6	33
71	Strength estimation of self-piercing rivets using lower bound limit load analysis. <i>Science and Technology of Welding and Joining</i> , 2005 , 10, 624-635	3.7	33
70	Study of geometric stability and structural integrity of self-healing glass seal system used in solid oxide fuel cells. <i>Journal of Power Sources</i> , 2011 , 196, 1750-1761	8.9	31

69	A mechanistic approach to damage in short-fiber composites based on micromechanical and continuum damage mechanics descriptions. <i>Composites Science and Technology</i> , 2004 , 64, 607-617	8.6	31
68	A parametric-experimental study of void growth in superplastic deformation. <i>International Journal of Plasticity</i> , 2001 , 17, 297-315	7.6	30
67	The displacement, and strain stress fields of a general circular Volterra dislocation loop. <i>International Journal of Engineering Science</i> , 2000 , 38, 251-266	5.7	29
66	Quantitative prediction of effective conductivity in anisotropic heterogeneous media using two-point correlation functions. <i>Computational Materials Science</i> , 2006 , 38, 45-50	3.2	28
65	Influence of Manufacturing Processes and Microstructures on the Performance and Manufacturability of Advanced High Strength Steels. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2009 , 131,	1.8	27
64	A numerical process control method for circular-tube hydroforming prediction. <i>International Journal of Plasticity</i> , 2004 , 20, 1111-1137	7.6	27
63	Determination of interfacial adhesion strength between oxide scale and substrate for metallic SOFC interconnects. <i>Journal of Power Sources</i> , 2008 , 176, 167-174	8.9	26
62	Mechanical properties of solid oxide fuel cell glass-ceramic seal at high temperatures. <i>Journal of Power Sources</i> , 2011 , 196, 5599-5603	8.9	25
61	Creep properties of solid oxide fuel cell glass ceramic seal G18. <i>Journal of Power Sources</i> , 2010 , 195, 3631-3635	8.9	24
60	Modeling of electrochemistry and steam methane reforming performance for simulating pressurized solid oxide fuel cell stacks. <i>Journal of Power Sources</i> , 2010 , 195, 6637-6644	8.9	24
59	Numerical analysis of the influence of scale effects and microstructure on hydrogen diffusion in polycrystalline aggregates. <i>Computational Materials Science</i> , 2013 , 71, 1-9	3.2	22
58	Computer simulations of interstitial loop growth kinetics in irradiated bcc Fe. <i>Journal of Nuclear Materials</i> , 2012 , 427, 259-267	3.3	21
57	Microstructure, property and processing relation in gradient porous cathode of solid oxide fuel cells using statistical continuum mechanics. <i>Journal of Power Sources</i> , 2011 , 196, 6325-6331	8.9	21
56	Comparison of reconstructed spatial microstructure images using different statistical descriptors. <i>Computational Materials Science</i> , 2012 , 51, 437-444	3.2	20
55	Effects of different design parameters on the stone-impact resistance of automotive windshields. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2005 , 219, 1059-1067	1.4	20
54	Modeling of deformation behavior and texture evolution in magnesium alloy using the intermediate γ -model. <i>International Journal of Plasticity</i> , 2014 , 52, 77-94	7.6	19
53	Comparison of Different Upscaling Methods for Predicting Thermal Conductivity of Complex Heterogeneous Materials System: Application on Nuclear Waste Forms. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013 , 44, 61-69	2.3	18
52	Global failure criteria for positive/electrolyte/negative structure of planar solid oxide fuel cell. <i>Journal of Power Sources</i> , 2009 , 192, 486-493	8.9	17

51	Effect of nickel-phosphorus interactions on structural integrity of anode-supported solid oxide fuel cells. <i>Journal of Power Sources</i> , 2010 , 195, 7140-7145	8.9	17
50	Experimental Study of the Aging and Self-Healing of the Glass/Ceramic Sealant Used in SOFCs. <i>International Journal of Applied Ceramic Technology</i> , 2010 , 7, 22-29	2	16
49	Representation of correlation statistics functions in heterogeneous materials using layered fast spherical harmonics expansion. <i>Computational Materials Science</i> , 2010 , 48, 133-139	3.2	16
48	Yield asymmetry design of magnesium alloys by integrated computational materials engineering. <i>Computational Materials Science</i> , 2013 , 79, 448-455	3.2	15
47	Microscopic analysis of crack propagation for multiple cracks, inclusions and voids. <i>Theoretical and Applied Fracture Mechanics</i> , 2001 , 36, 147-164	3.7	15
46	Microstructure Characterization of Dislocation Wall Structure in Aluminum Using Transmission Electron Microscopy. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2002 , 124, 297-301	1.8	15
45	Three-Dimensional Reconstruction and Microstructure Modeling of Porosity-Graded Cathode Using Focused Ion Beam and Homogenization Techniques. <i>Fuel Cells</i> , 2014 , 14, 91-95	2.9	14
44	Modeling of irradiation hardening of polycrystalline materials. <i>Computational Materials Science</i> , 2011 , 50, 2496-2501	3.2	14
43	Effect of Creep of Ferritic Interconnect on Long-Term Performance of Solid Oxide Fuel Cell Stacks. <i>Fuel Cells</i> , 2010 , 10, 703-717	2.9	14
42	Synthesis and growth mechanism of thin-film TiO ₂ nanotube arrays on focused-ion-beam micropatterned 3D isolated regions of titanium on silicon. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 9026-33	9.5	13
41	A general approach to develop reduced order models for simulation of solid oxide fuel cell stacks. <i>Journal of Power Sources</i> , 2013 , 232, 139-151	8.9	13
40	Pore-scale modeling of the reactive transport of chromium in the cathode of a solid oxide fuel cell. <i>Journal of Power Sources</i> , 2011 , 196, 287-300	8.9	13
39	Effects of alternative inspection strategies on piping reliability. <i>Nuclear Engineering and Design</i> , 2000 , 197, 115-140	1.8	13
38	A mechanistic-based healing model for self-healing glass seals used in solid oxide fuel cells. <i>Journal of Power Sources</i> , 2012 , 218, 445-454	8.9	12
37	Electronic and magnetic properties of C-adsorbed graphene: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2011 , 13, 16574-8	3.6	12
36	Measurement of Biaxial Strength of New vs. Used Windshields 2000 ,		12
35	Simulation of cooling and solidification of three-dimensional bulk borosilicate glass: effect of structural relaxations. <i>Mechanics of Time-Dependent Materials</i> , 2014 , 18, 81-96	1.2	11
34	Creep Behavior of Glass/Ceramic Sealant and its Effect on Long-Term Performance of Solid Oxide Fuel Cells. <i>International Journal of Applied Ceramic Technology</i> , 2011 , 8, 49-59	2	11

33	Anisotropic Yield Locus Evolution During Cold Pilgering of Titanium Alloy Tubing. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2002 , 124, 125-134	1.8	11
32	Effect of substrate thickness on oxide scale spallation for solid oxide fuel cells. <i>Corrosion Science</i> , 2011 , 53, 2406-2412	6.8	10
31	Functionalized graphene nanoroads for quantum well device. <i>Applied Physics Letters</i> , 2011 , 98, 093108	3.4	10
30	Statistical continuum mechanics analysis of effective elastic properties in solid oxide fuel cell glass/ceramic seal material. <i>Journal of Power Sources</i> , 2010 , 195, 5726-5730	8.9	10
29	Evaluation of environmental effects on fatigue life of piping. <i>Nuclear Engineering and Design</i> , 2001 , 208, 143-165	1.8	10
28	Ab initio study of defect properties in YPO ₄ . <i>Computational Materials Science</i> , 2012 , 54, 170-175	3.2	9
27	Predicting Thermal Conductivity Evolution of Polycrystalline Materials Under Irradiation Using Multiscale Approach. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012 , 43, 1060-1069	2.3	8
26	Computational Modeling of Transport Limitations in Li-Air Batteries. <i>ECS Transactions</i> , 2013 , 45, 123-136	1	8
25	Phase-field modeling of void evolution and swelling in materials under irradiation. <i>Science China: Physics, Mechanics and Astronomy</i> , 2011 , 54, 856-865	3.6	8
24	Prediction of the effective coefficient of thermal expansion of heterogeneous media using two-point correlation functions. <i>Journal of Power Sources</i> , 2011 , 196, 3846-3850	8.9	7
23	Strain rate effects on the mechanical response of polypropylene-based composites deformed at small strains. <i>Polymer Science - Series A</i> , 2008 , 50, 690-697	1.2	7
22	A model for predicting vessel failure probabilities including the effects of service inspection and flaw sizing errors. <i>Nuclear Engineering and Design</i> , 2000 , 200, 353-369	1.8	7
21	Migration of Cr-vacancy clusters and interstitial Cr in Fe using the dimer method. <i>Physical Review B</i> , 2010 , 81,	3.3	6
20	Effect of through-wall stress gradients on piping failure probabilities. <i>Nuclear Engineering and Design</i> , 2000 , 197, 89-106	1.8	6
19	Mechanism-based representative volume elements (RVEs) for predicting property degradations in multiphase materials. <i>Computational Materials Science</i> , 2013 , 68, 152-159	3.2	5
18	Prediction of crack propagation paths in the unit cell of SOFC stacks. <i>International Journal of Mechanics and Materials in Design</i> , 2009 , 5, 217-230	2.5	5
17	Effects of Oxide Thickness on Scale and Interface Stresses under Isothermal Cooling and Micro-Indentation for Ferritic Stainless Steel Interconnect. <i>ECS Transactions</i> , 2007 , 5, 357-368	1	5
16	Analysis of Tube Free Hydroforming Using an Inverse Approach With FLD-Based Adjustment of Process Parameters1. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2003 , 125, 133-140	1.8	5

15	A PSO algorithm for the calculation of the series and shunt resistances of the PV panel one-diode model 2014 ,		4
14	Analysis of Percent On-Cell Reformation of Methane in SOFC Stacks and the Effects on Thermal, Electrical, and Mechanical Performance. <i>ECS Transactions</i> , 2007 , 5, 473-478	1	4
13	Determination of temperature in glass with a fluorescence method. <i>International Journal of Heat and Mass Transfer</i> , 2001 , 44, 4027-4034	4-9	4
12	Effect of Glazing System Parameters on Glazing System Contribution to a Lightweight Vehicle's Torsional Stiffness and Weight 2000 ,		4
11	Applicability of Micromechanics Model Based on Actual Microstructure for Failure Prediction of DP Steels. <i>SAE International Journal of Materials and Manufacturing</i> , 2009 , 2, 241-249	1	3
10	Effect of Windshield Design on High Speed Impact Resistance 2000 ,		3
9	Simulation of Solidification, Relaxation and Long-Term Behavior of a Borosilicate Glass 2015 , 511-519		2
8	Vacancies in fully hydrogenated boron nitride layer: implications for functional nanodevices. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012 , 6, 105-107	2-5	2
7	Effect of Temperature on Biaxial Strength of Automotive Windshields 2000 ,		2
6	Thermal Analysis of Solar Panels 2015 , 441-450		1
5	Probabilistic-Based Design Methodology for Solid Oxide Fuel Cell Stacks. <i>Journal of Fuel Cell Science and Technology</i> , 2009 , 6,		1
4	The need for nano-scale modeling in solid oxide fuel cells. <i>Journal of Nanoscience and Nanotechnology</i> , 2012 , 12, 6758-68	1-3	1
3	Molecular Dynamics Simulation of Thermodynamic Properties in Uranium Dioxide. <i>Nuclear Science and Engineering</i> , 2014 , 176, 360-369	1.2	
2	Fabrication and optimization of properties of polymer laminated nanoreinforced automobile glasses: Experiments and modeling. <i>Polymer Science - Series A</i> , 2008 , 50, 568-572	1.2	
1	Simulation of Solidification, Relaxation and Long-Term Behavior of a Borosilicate Glass 2015 , 511-519		