Mohammad Ahmed Khaleel

List of Publications by Year in Descending Order

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	High-Energy, High-Rate, Lithium–Sulfur Batteries: Synergetic Effect of Hollow TiO2-Webbed Carbon Nanotubes and a Dual Functional Carbon-Paper Interlayer. *Advanced Energy Materials*, **2016**, 6, 1501480	21.8	267
103	Thermal Analysis of Solar Panels **2015**, 441-450		1
102	Simulation of Solidification, Relaxation and Long-Term Behavior of a Borosilicate Glass **2015**, 511-519		2
101	Simulation of Solidification, Relaxation and Long-Term Behavior of a Borosilicate Glass **2015**, 511-519		
100	Predicting plastic flow and irradiation hardening of iron single crystal with mechanism-based continuum dislocation dynamics. *International Journal of Plasticity*, **2014**, 52, 3-17	7.6	82
99	An Experimental Insight into the Structural and Electronic Characteristics of Strontium-Doped Titanium Dioxide Nanotube Arrays. *Advanced Functional Materials*, **2014**, 24, 6783-6796	15.6	44
98	Modeling of deformation behavior and texture evolution in magnesium alloy using the intermediate ?-model. *International Journal of Plasticity*, **2014**, 52, 77-94	7.6	19
97	Molecular Dynamics Simulation of Thermodynamic Properties in Uranium Dioxide. *Nuclear Science and Engineering*, **2014**, 176, 360-369	1.2	
96	Three-Dimensional Reconstruction and Microstructure Modeling of Porosity-Graded Cathode Using Focused Ion Beam and Homogenization Techniques. *Fuel Cells*, **2014**, 14, 91-95	2.9	14
95	A PSO algorithm for the calculation of the series and shunt resistances of the PV panel one-diode model **2014**,		4
94	Simulation of cooling and solidification of three-dimensional bulk borosilicate glass: effect of structural relaxations. *Mechanics of Time-Dependent Materials*, **2014**, 18, 81-96	1.2	11
93	Comparison of Different Upscaling Methods for Predicting Thermal Conductivity of Complex Heterogeneous Materials System: Application on Nuclear Waste Forms. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2013**, 44, 61-69	2.3	18
92	Computational Modeling of Transport Limitations in Li-Air Batteries. *ECS Transactions*, **2013**, 45, 123-1361		8
91	Synthesis and growth mechanism of thin-film TiO2 nanotube arrays on focused-ion-beam micropatterned 3D isolated regions of titanium on silicon. *ACS Applied Materials & Interfaces*, **2013**, 5, 9026-33	9.5	13
90	A general approach to develop reduced order models for simulation of solid oxide fuel cell stacks. *Journal of Power Sources*, **2013**, 232, 139-151	8.9	13
89	Numerical analysis of the influence of scale effects and microstructure on hydrogen diffusion in polycrystalline aggregates. *Computational Materials Science*, **2013**, 71, 1-9	3.2	22
88	Mechanism-based representative volume elements (RVEs) for predicting property degradations in multiphase materials. *Computational Materials Science*, **2013**, 68, 152-159	3.2	5

87	Yield asymmetry design of magnesium alloys by integrated computational materials engineering. *Computational Materials Science*, **2013**, 79, 448-455	3.2	15
86	Computer simulations of interstitial loop growth kinetics in irradiated bcc Fe. *Journal of Nuclear Materials*, **2012**, 427, 259-267	3.3	21
85	A damage model for degradation in the electrodes of solid oxide fuel cells: Modeling the effects of sulfur and antimony in the anode. *Journal of Power Sources*, **2012**, 210, 233-242	8.9	51
84	Predicting Thermal Conductivity Evolution of Polycrystalline Materials Under Irradiation Using Multiscale Approach. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2012**, 43, 1060-1069	2.3	8
83	A mechanistic-based healing model for self-healing glass seals used in solid oxide fuel cells. *Journal of Power Sources*, **2012**, 218, 445-454	8.9	12
82	Comparison of reconstructed spatial microstructure images using different statistical descriptors. *Computational Materials Science*, **2012**, 51, 437-444	3.2	20
81	Three-dimensional reconstruction and homogenization of heterogeneous materials using statistical correlation functions and FEM. *Computational Materials Science*, **2012**, 51, 372-379	3.2	37
80	Ab initio study of defect properties in YPO4. *Computational Materials Science*, **2012**, 54, 170-175	3.2	9
79	Vacancies in fully hydrogenated boron nitride layer: implications for functional nanodevices. *Physica Status Solidi - Rapid Research Letters*, **2012**, 6, 105-107	2.5	2
78	Probing grain boundary sink strength at the nanoscale: Energetics and length scales of vacancy and interstitial absorption by grain boundaries in α-Fe. *Physical Review B*, **2012**, 85,	3.3	226
77	The need for nano-scale modeling in solid oxide fuel cells. *Journal of Nanoscience and Nanotechnology*, **2012**, 12, 6758-68	1.3	1
76	Modeling of irradiation hardening of polycrystalline materials. *Computational Materials Science*, **2011**, 50, 2496-2501	3.2	14
75	Effect of substrate thickness on oxide scale spallation for solid oxide fuel cells. *Corrosion Science*, **2011**, 53, 2406-2412	6.8	10
74	Creep Behavior of Glass/Ceramic Sealant and its Effect on Long-Term Performance of Solid Oxide Fuel Cells. *International Journal of Applied Ceramic Technology*, **2011**, 8, 49-59	2	11
73	Phase-field modeling of void evolution and swelling in materials under irradiation. *Science China: Physics, Mechanics and Astronomy*, **2011**, 54, 856-865	3.6	8
72	Electronic and magnetic properties of substituted BN sheets: a density functional theory study. *Physical Chemistry Chemical Physics*, **2011**, 13, 7378-83	3.6	41
71	Electronic and magnetic properties of C-adsorbed graphene: a first-principles study. *Physical Chemistry Chemical Physics*, **2011**, 13, 16574-8	3.6	12
70	Three-phase solid oxide fuel cell anode microstructure realization using two-point correlation functions. *Acta Materialia*, **2011**, 59, 30-43	8.4	66

69	On deformation twinning in a 17.5% Mn□TWIP steel: A physically based phenomenological model. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing* , **2011**, 528, 1402-1408	5.3	72
68	Pore-scale modeling of the reactive transport of chromium in the cathode of a solid oxide fuel cell. *Journal of Power Sources*, **2011**, 196, 287-300	8.9	13
67	Study of geometric stability and structural integrity of self-healing glass seal system used in solid oxide fuel cells. *Journal of Power Sources*, **2011**, 196, 1750-1761	8.9	31
66	A quasi-two-dimensional electrochemistry modeling tool for planar solid oxide fuel cell stacks. *Journal of Power Sources*, **2011**, 196, 3204-3222	8.9	43
65	Prediction of the effective coefficient of thermal expansion of heterogeneous media using two-point correlation functions. *Journal of Power Sources*, **2011**, 196, 3846-3850	8.9	7
64	Mechanical properties of solid oxide fuel cell glass-ceramic seal at high temperatures. *Journal of Power Sources*, **2011**, 196, 5599-5603	8.9	25
63	Microstructure, property and processing relation in gradient porous cathode of solid oxide fuel cells using statistical continuum mechanics. *Journal of Power Sources*, **2011**, 196, 6325-6331	8.9	21
62	Functionalized graphene nanoroads for quantum well device. *Applied Physics Letters*, **2011**, 98, 093108	3.4	10
61	Experimental Study of the Aging and Self-Healing of the Glass/Ceramic Sealant Used in SOFCs. *International Journal of Applied Ceramic Technology*, **2010**, 7, 22-29	2	16
60	Migration of Cr-vacancy clusters and interstitial Cr in □Fe using the dimer method. *Physical Review B*, **2010**, 81,	3.3	6
59	Representation of correlation statistics functions in heterogeneous materials using layered fast spherical harmonics expansion. *Computational Materials Science*, **2010**, 48, 133-139	3.2	16
58	Influence of various material design parameters on deformation behaviors of TRIP steels. *Computational Materials Science*, **2010**, 50, 720-730	3.2	39
57	Creep properties of solid oxide fuel cell glass□eramic seal G18. *Journal of Power Sources*, **2010**, 195, 3631-3635	8.9	24
56	Modeling of electrochemistry and steam□ethane reforming performance for simulating pressurized solid oxide fuel cell stacks. *Journal of Power Sources*, **2010**, 195, 6637-6644	8.9	24
55	Effect of nickel□hosphorus interactions on structural integrity of anode-supported solid oxide fuel cells. *Journal of Power Sources*, **2010**, 195, 7140-7145	8.9	17
54	Effect of Creep of Ferritic Interconnect on Long-Term Performance of Solid Oxide Fuel Cell Stacks. *Fuel Cells*, **2010**, 10, 703-717	2.9	14
53	Statistical continuum mechanics analysis of effective elastic properties in solid oxide fuel cell glass□eramic seal material. *Journal of Power Sources*, **2010**, 195, 5726-5730	8.9	10
52	Phase-field modeling of void migration and growth kinetics in materials under irradiation and temperature field. *Journal of Nuclear Materials*, **2010**, 407, 119-125	3.3	51

51	Applicability of Micromechanics Model Based on Actual Microstructure for Failure Prediction of DP Steels. *SAE International Journal of Materials and Manufacturing*, **2009**, 2, 241-249	1	3
50	Probabilistic-Based Design Methodology for Solid Oxide Fuel Cell Stacks. *Journal of Fuel Cell Science and Technology*, **2009**, 6,		1
49	Experimental characterization of glass□ceramic seal properties and their constitutive implementation in solid oxide fuel cell stack models. *Journal of Power Sources*, **2009**, 193, 625-631	8.9	57
48	On key factors influencing ductile fractures of dual phase (DP) steels. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2009**, 526, 140-149	5.3	136
47	Prediction of crack propagation paths in the unit cell of SOFC stacks. *International Journal of Mechanics and Materials in Design*, **2009**, 5, 217-230	2.5	5
46	Influence of Martensite Mechanical Properties on Failure Mode and Ductility of Dual-Phase Steels. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2009**, 40, 796-809	2.3	75
45	Predicting failure modes and ductility of dual phase steels using plastic strain localization. *International Journal of Plasticity*, **2009**, 25, 1888-1909	7.6	276
44	Life prediction of coated and uncoated metallic interconnect for solid oxide fuel cell applications. *Journal of Power Sources*, **2009**, 189, 1044-1050	8.9	65
43	Global failure criteria for positive/electrolyte/negative structure of planar solid oxide fuel cell. *Journal of Power Sources*, **2009**, 192, 486-493	8.9	17
42	Microstructure-based constitutive modeling of TRIP steel: Prediction of ductility and failure modes under different loading conditions. *Acta Materialia*, **2009**, 57, 2592-2604	8.4	122
41	Influence of Manufacturing Processes and Microstructures on the Performance and Manufacturability of Advanced High Strength Steels. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2009**, 131,	1.8	27
40	Fabrication of gradient porous LSM cathode by optimizing deposition parameters in ultrasonic spray pyrolysis. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2008**, 153, 1-9	3.1	34
39	Determination of interfacial adhesion strength between oxide scale and substrate for metallic SOFC interconnects. *Journal of Power Sources*, **2008**, 176, 167-174	8.9	26
38	Predicting Young□s modulus of glass/ceramic sealant for solid oxide fuel cell considering the combined effects of aging, micro-voids and self-healing. *Journal of Power Sources*, **2008**, 185, 1193-1200	8.9	64
37	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. *Engineering Failure Analysis*, **2008**, 15, 356-367	3.2	127
36	Fabrication and optimization of properties of polymer laminated nanoreinforced automobile glasses: Experiments and modeling. *Polymer Science - Series A*, **2008**, 50, 568-572	1.2	
35	Strain rate effects on the mechanical response of polypropylene-based composites deformed at small strains. *Polymer Science - Series A*, **2008**, 50, 690-697	1.2	7
34	Fatigue behaviors of self-piercing rivets joining similar and dissimilar sheet metals. *International Journal of Fatigue*, **2007**, 29, 370-386	5	91

33	Dynamic strength evaluations for self-piercing rivets and resistance spot welds joining similar and dissimilar metals. *International Journal of Impact Engineering*, **2007**, 34, 1668-1682	4	60
32	Analysis of Percent On-Cell Reformation of Methane in SOFC Stacks and the Effects on Thermal, Electrical, and Mechanical Performance. *ECS Transactions*, **2007**, 5, 473-478	1	4
31	Effects of Oxide Thickness on Scale and Interface Stresses under Isothermal Cooling and Micro-Indentation for Ferritic Stainless Steel Interconnect. *ECS Transactions*, **2007**, 5, 357-368	1	5
30	Quantitative prediction of effective conductivity in anisotropic heterogeneous media using two-point correlation functions. *Computational Materials Science*, **2006**, 38, 45-50	3.2	28
29	Crack Growth in Solid Oxide Fuel Cell Materials: From Discrete to Continuum Damage Modeling. *Journal of the American Ceramic Society*, **2006**, 89, 1358-1368	3.8	38
28	The modeling of a standalone solid-oxide fuel cell auxiliary power unit. *Journal of Power Sources*, **2006**, 161, 938-948	8.9	41
27	Strength estimation of self-piercing rivets using lower bound limit load analysis. *Science and Technology of Welding and Joining*, **2005**, 10, 624-635	3.7	33
26	Modeling of Stone-impact Resistance of Monolithic Glass Ply Using Continuum Damage Mechanics. *International Journal of Damage Mechanics*, **2005**, 14, 165-178	3	34
25	Effects of different design parameters on the stone-impact resistance of automotive windshields. *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, **2005**, 219, 1059-1067	1.4	20
24	Modeling of Glass Fracture Damage Using Continuum Damage Mechanics - Static Spherical Indentation. *International Journal of Damage Mechanics*, **2004**, 13, 263-285	3	43
23	A mechanistic approach to damage in short-fiber composites based on micromechanical and continuum damage mechanics descriptions. *Composites Science and Technology*, **2004**, 64, 607-617	8.6	31
22	A numerical process control method for circular-tube hydroforming prediction. *International Journal of Plasticity*, **2004**, 20, 1111-1137	7.6	27
21	A finite element analysis modeling tool for solid oxide fuel cell development: coupled electrochemistry, thermal and flow analysis in MARC . *Journal of Power Sources*, **2004**, 130, 136-148	8.9	132
20	Analysis of Tube Free Hydroforming Using an Inverse Approach With FLD-Based Adjustment of Process Parameters1. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2003**, 125, 133-140	1.8	5
19	Three-dimensional thermo-fluid electrochemical modeling of planar SOFC stacks. *Journal of Power Sources*, **2003**, 113, 109-114	8.9	246
18	The effect of interconnect rib size on the fuel cell concentration polarization in planar SOFCs. *Journal of Power Sources*, **2003**, 117, 92-97	8.9	47
17	Damage and size effect during superplastic deformation. *International Journal of Plasticity*, **2002**, 18, 415-442	7.6	61
16	Anisotropic Yield Locus Evolution During Cold Pilgering of Titanium Alloy Tubing. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2002**, 124, 125-134	1.8	11

15	Microstructure Characterization of Dislocation Wall Structure in Aluminum Using Transmission Electron Microscopy. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2002**, 124, 297-301	1.8	15
14	Microscopic analysis of crack propagation for multiple cracks, inclusions and voids. *Theoretical and Applied Fracture Mechanics*, **2001**, 36, 147-164	3.7	15
13	Constitutive modeling of deformation and damage in superplastic materials. *International Journal of Plasticity*, **2001**, 17, 277-296	7.6	75
12	A parametric-experimental study of void growth in superplastic deformation. *International Journal of Plasticity*, **2001**, 17, 297-315	7.6	30
11	Evaluation of environmental effects on fatigue life of piping. *Nuclear Engineering and Design*, **2001**, 208, 143-165	1.8	10
10	Determination of temperature in glass with a fluorescence method. *International Journal of Heat and Mass Transfer*, **2001**, 44, 4027-4034	4.9	4
9	The displacement, and strain-stress fields of a general circular Volterra dislocation loop. *International Journal of Engineering Science*, **2000**, 38, 251-266	5.7	29
8	Effect of through-wall stress gradients on piping failure probabilities. *Nuclear Engineering and Design*, **2000**, 197, 89-106	1.8	6
7	Effects of alternative inspection strategies on piping reliability. *Nuclear Engineering and Design*, **2000**, 197, 115-140	1.8	13
6	A model for predicting vessel failure probabilities including the effects of service inspection and flaw sizing errors. *Nuclear Engineering and Design*, **2000**, 200, 353-369	1.8	7
5	Effect of Glazing System Parameters on Glazing System Contribution to a Lightweight Vehicle's Torsional Stiffness and Weight **2000**,		4
4	Effect of Temperature on Biaxial Strength of Automotive Windshields **2000**,		2
3	Measurement of Biaxial Strength of New vs. Used Windshields **2000**,		12
2	Effect of Windshield Design on High Speed Impact Resistance **2000**,		3
1	Deformation modeling of superplastic AA-5083. *International Journal of Plasticity*, **1998**, 14, 1133-1154	7.6	33