

John G Michopoulos

List of Publications by Year in descending order

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105
papers

2,023
citations

361413

20
h-index

265206

42
g-index

108
all docs

108
docs citations

108
times ranked

2909
citing authors

#	ARTICLE	IF	CITATIONS
1	Peridynamics enabled digital image correlation for tracking crack paths. <i>Engineering With Computers</i> , 2023, 39, 517-543.	6.1	4
2	Multiscale Data Driven Methodology for Accelerating Qualification and Certification of Additively Manufactured Parts. , 2022, , 223-244.		0
3	The interplay of local chemistry and plasticity in controlling microstructure formation during laser powder bed fusion of metals. <i>Additive Manufacturing</i> , 2022, , 102791.	3.0	1
4	Projection-tree reduced-order modeling for fast N-body computations. <i>Journal of Computational Physics</i> , 2022, 459, 111141.	3.8	2
5	Thoughts on the durability and damage tolerance assessment of adhesively-bonded joints. <i>Theoretical and Applied Fracture Mechanics</i> , 2022, 119, 103319.	4.7	1
6	Analytical thermoelastic solutions for additive manufacturing processes. <i>Additive Manufacturing</i> , 2022, 56, 102892.	3.0	3
7	A Molecular Dynamics Study of the Mechanical Properties of Ionic Copolymers during Tensionâ€“Recovery Deformation. <i>Macromolecular Theory and Simulations</i> , 2021, 30, 2000081.	1.4	1
8	Modelling the Variability and the Anisotropic Behaviour of Crack Growth in SLM Ti-6Al-4V. <i>Materials</i> , 2021, 14, 1400.	2.9	20
9	Multiscale Tomographic Waveâ€“Matter Interaction Modeling to Enable Artifact-Free Material Defect Reconstruction. <i>Journal of Computing and Information Science in Engineering</i> , 2021, 21, .	2.7	0
10	Corrosion Fatigue Characteristics of 316L Stainless Steel Fabricated by Laser Powder Bed Fusion. <i>Metals</i> , 2021, 11, 1046.	2.3	9
11	Fatigue crack growth in epoxy polymer nanocomposites. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200436.	3.4	8
12	Mechanical behavior predictions of additively manufactured microstructures using functional Gaussian process surrogates. <i>Npj Computational Materials</i> , 2021, 7, .	8.7	14
13	Thermal conductivity and thermoelectric properties in 3D macroscopic pure carbon nanotube materials. <i>Nanotechnology Reviews</i> , 2021, 10, 178-186.	5.8	11
14	Strain gradient plasticity modeling of nanoindentation of additively manufactured stainless steel. <i>Extreme Mechanics Letters</i> , 2021, 49, 101503.	4.1	2
15	Prediction of Thermal Residual Stress and Microstructure in Direct Laser Metal Deposition via a Coupled Finite Element and Multiphase Field Framework. <i>Jom</i> , 2020, 72, 496-508.	1.9	7
16	Further Studies into Crack Growth in Additively Manufactured Materials. <i>Materials</i> , 2020, 13, 2223.	2.9	28
17	Requirements and Variability Affecting the Durability of Bonded Joints. <i>Materials</i> , 2020, 13, 1468.	2.9	17
18	A means for industry to determine the economic life of bonded joints under representative operation flight loads. <i>Procedia Structural Integrity</i> , 2020, 28, 370-380.	0.8	4

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19	Performance Signature Qualification for Additively Manufactured Parts under Conditions Emulating In-Service Loading. , 2020, , 550-572.		1
20	Intrinsic strain aging, Σ 3 boundaries, and origins of cellular substructure in additively manufactured 316L. Additive Manufacturing, 2019, 29, 100784.	3.0	41
21	Structural and Mechanical Properties of Ionic Di-block Copolymers via a Molecular Dynamics Approach. Polymers, 2019, 11, 1546.	4.5	3
22	Stochastic modeling and identification of a hyperelastic constitutive model for laminated composites. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 425-444.	6.6	40
23	Toward Feedback Control for Additive Manufacturing Processes Via Enriched Analytical Solutions. Journal of Computing and Information Science in Engineering, 2019, 19, .	2.7	8
24	Enriched analytical solutions for additive manufacturing modeling and simulation. Additive Manufacturing, 2019, 25, 437-447.	3.0	36
25	Multiscale Topology Optimization for Additively Manufactured Objects. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	8
26	On the Multiphysics Modeling of Surface Aging Under Cathodic Protection. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	2
27	Bright triplet excitons in caesium lead halide perovskites. Nature, 2018, 553, 189-193.	27.8	716
28	Phase field simulations of coupled microstructure solidification problems via the strong form particle difference method. International Journal of Mechanics and Materials in Design, 2018, 14, 491-509.	3.0	27
29	Crack Growth in a Range of Additively Manufactured Aerospace Structural Materials. Aerospace, 2018, 5, 118.	2.2	43
30	Enriched Analytical Solutions for Additive Manufacturing Modeling and Simulation. , 2018, , .		1
31	Open Uniaxial Test Machine (OpenUTM): Part 1 – A Low-Cost Electrohydraulic Test Frame for Additive Manufacturing Part Qualification. , 2018, , .		1
32	Microstructure evolution under isothermal and continuous cooling conditions via a combined multiphase field and nucleation approach. Computational Materials Science, 2018, 155, 457-465.	3.0	3
33	On the multiphysics modeling challenges for metal additive manufacturing processes. Additive Manufacturing, 2018, 22, 784-799.	3.0	45
34	On Investigating the Thermomechanical Properties of Cross-linked Epoxy Via Molecular Dynamics Analysis. Nanoscale and Microscale Thermophysical Engineering, 2017, 21, 8-25.	2.6	28
35	Effect of Chain Rigidity on the Decoupling of Ion Motion from Segmental Relaxation in Polymerized Ionic Liquids: Ambient and Elevated Pressure Studies. Macromolecules, 2017, 50, 6710-6721.	4.8	78
36	Effects of counterion size and backbone rigidity on the dynamics of ionic polymer melts and glasses. Physical Chemistry Chemical Physics, 2017, 19, 27442-27451.	2.8	22

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37	Recent Developments of the Multiphysics Discrete Element Method for Additive Manufacturing Modeling and Simulation. , 2017, , .		7
38	Towards Multiscale Topology Optimization for Additively Manufactured Components Using Implicit Slicing. , 2017, , .		3
39	Functional Performance Tailoring of Additively Manufactured Components via Topology Optimization. , 2017, , .		3
40	Implicit slicing for functionally tailored additive manufacturing. CAD Computer Aided Design, 2016, 77, 107-119.	2.7	86
41	Discrete element modeling of particle-based additive manufacturing processes. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 537-561.	6.6	81
42	Determination of anisotropic mechanical properties of G-10 composite via Direct Strain Imaging. Polymer Testing, 2016, 50, 64-72.	4.8	10
43	On the feasibility of crack propagation tracking and full field strain imaging via a strain compatibility functional and the Direct Strain Imaging method. International Journal of Impact Engineering, 2016, 87, 186-197.	5.0	2
44	Dynamics response of polyethylene polymer nanocomposites to shock wave loading. Journal of Polymer Science, Part B: Polymer Physics, 2015, 53, 1292-1302.	2.1	28
45	Inverse characterization of composite materials via surrogate modeling. Composite Structures, 2015, 132, 694-708.	5.8	20
46	Coarse-grained molecular dynamics simulations of epoxy resin during the curing process. Computational Materials Science, 2015, 107, 24-32.	3.0	22
47	A Multiphysics Theory for the Static Contact of Deformable Conductors With Fractal Rough Surfaces. IEEE Transactions on Plasma Science, 2015, 43, 1597-1610.	1.3	20
48	Performance of Reduced Order Models of Moving Heat Source Deposition Problems for Efficient Inverse Analysis. , 2014, , .		3
49	Direct strain tensor approximation for full-field strain measurement methods. International Journal for Numerical Methods in Engineering, 2013, 95, 313-330.	2.8	15
50	EM Gun Bore Life Experiments at Naval Research Laboratory. IEEE Transactions on Plasma Science, 2013, 41, 1533-1537.	1.3	18
51	Towards Multiphysics Modeling of Chlorine Dilution. , 2013, , .		2
52	Inverse Characterization of Composite Materials Using Surrogate Models. , 2013, , .		8
53	Multiscale and Multifield Multiphysics of High Current Pulse Static Contact With Rough Surfaces. , 2013, , .		4
54	Complete High Dimensional Inverse Characterization of Fractal Surfaces and Volumes. Journal of Computing and Information Science in Engineering, 2013, 13, .	2.7	8

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55	Performance Analysis and Experimental Validation of the Direct Strain Imaging Method. , 2013, , .		2
56	Surface Discontinuity Detection via Direct Strain Imaging. , 2013, , .		0
57	Probabilistic Vision-Based Full-Field Displacement and Strain Measurement via Uncertainty Propagation. , 2012, , .		2
58	Towards Static Contact Multiphysics of Rough Surfaces. , 2012, , .		5
59	Direct Strain Imaging for Full Field Measurements. , 2012, , .		5
60	First Industrial Strength Multi-Axial Robotic Testing Campaign for Composite Material Characterization. , 2012, , .		7
61	Acoustic waves excited by phonon decay govern the fracture of brittle materials. Journal of Applied Physics, 2012, 111, 023514.	2.5	6
62	High Dimensional Full Inverse Characterization of Fractal Volumes. , 2012, , .		0
63	Multi-Linear Modeling for Characterization of Nonlinear Behavior of Anisotropic Materials. , 2012, , .		0
64	Stochastic identification of defects under sensor uncertainties. International Journal for Numerical Methods in Engineering, 2012, 90, 135-151.	2.8	4
65	Preliminary Validation of Composite Material Constitutive Characterization. , 2012, , .		3
66	Composite Material Testing Data Reduction to Adjust for the Systematic 6-DoF Testing Machine Aberrations. , 2012, , .		3
67	Multi-Sensor Defect Identification Under Sensor Uncertainties. , 2012, , .		0
68	Experimental Validation of the 2D Meshless Random Grid Method. , 2011, , .		7
69	Online Material Characterization Using Full-Field Strain Measurement. , 2011, , .		2
70	Experimental System and Validation for Energy-Based Characterization. , 2011, , .		0
71	uBlasCL: Architecture Agnostic Massively Parallel Linear Algebra System. , 2011, , .		0
72	Data-Driven Design Optimization for Composite Material Characterization. Journal of Computing and Information Science in Engineering, 2011, 11, .	2.7	19

#	ARTICLE	IF	CITATIONS
73	A Computational Workbench for Remote Full Field 3D Displacement and Strain Measurements. , 2011, , .		9
74	Complete High Dimensional Inverse Characterization of Fractal Surfaces. , 2011, , .		7
75	Performance of inverse atomistic scale fracture modeling on GPGPU architectures. Journal of Computational Science, 2011, 2, 39-46.	2.9	2
76	Friction Stir Welding Process Parameter Effects on Workpiece Warpage due to Residual Strains. , 2011, , .		2
77	On the Constitutive Response Characterization for Composite Materials via Data-Driven Design Optimization. , 2011, , .		9
78	Symbolic Algebra and Theorem Proving for Failure Criteria Reduction. , 2011, , .		0
79	Towards a Recursive Hexapod for the Multidimensional Mechanical Testing of Composites. , 2010, , .		8
80	On a Data and Requirements Driven Multi-Scale Framework Linking Performance to Materials. , 2010, , .		3
81	Four Parameter Inverse Characterization of Fractal Surfaces. , 2010, , .		7
82	Inverse Molecular Dynamics Modeling Performance on GPU Architectures for a Problem of Fracture. , 2010, , .		0
83	Multiscale Implications of the Inverse Rapid Energy Deposition Problem. International Journal for Multiscale Computational Engineering, 2009, 7, 41-53.	1.2	1
84	Inverse Analysis of Heat Conduction in Hollow Cylinders with Asymmetric Source Distributions. Journal of Materials Engineering and Performance, 2008, 17, 651-661.	2.5	2
85	Computational design of multiaxial tests for anisotropic material characterization. International Journal for Numerical Methods in Engineering, 2008, 74, 1872-1895.	2.8	18
86	Online planning of multiaxial loading path for elastic material identification. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 885-901.	6.6	16
87	On the reducibility of failure theories for composite materials. Composite Structures, 2008, 86, 165-176.	5.8	11
88	Towards the robotic characterization of the constitutive response of composite materials. Composite Structures, 2008, 86, 154-164.	5.8	25
89	Elastic characterization of laminated composites based on multiaxial tests. Composite Structures, 2008, 86, 269-278.	5.8	13
90	An Information-Theoretic Approach for Computational Material Modeling. Advanced Materials Research, 2008, 33-37, 857-862.	0.3	0

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91	Multi-level Coupling of Dynamic Data-Driven Experimentation with Material Identification. Lecture Notes in Computer Science, 2007, , 1180-1188.	1.3	5
92	Underlying Issues Associated with Validation and Verification of Dynamic Data Driven Simulation. , 2006, , .		3
93	Regularization for Parameter Identification Using Multi-Objective Optimization. Studies in Computational Intelligence, 2006, , 125-149.	0.9	3
94	Data-Driven Inverse Modelling of Ionic Polymer Conductive Composite Plates. Lecture Notes in Computer Science, 2006, , 131-138.	1.3	1
95	On a data-driven environment for multiphysics applications. Future Generation Computer Systems, 2005, 21, 953-968.	7.5	22
96	On the Fundamental Tautology of Validating Data-Driven Models and Simulations. Lecture Notes in Computer Science, 2005, , 738-745.	1.3	10
97	Modeling and Simulation of Multiphysics Systems. Journal of Computing and Information Science in Engineering, 2005, 5, 198.	2.7	68
98	A Data-Driven Multi-field Analysis of Nanocomposites for Hydrogen Storage. Lecture Notes in Computer Science, 2005, , 80-87.	1.3	2
99	Multi-Field Characterization of Single Wall Nano-Tube Composites for Hydrogen Storage. , 2005, , .		1
100	Generalized multifield Von-Karman equations for large deflection of artificial muscle plates. , 2004, 5387, 12.		1
101	Agent-Based Simulation of Data-Driven Fire Propagation Dynamics. Lecture Notes in Computer Science, 2004, , 732-739.	1.3	16
102	DDEMA: A Data Driven Environment for Multiphysics Applications. Lecture Notes in Computer Science, 2003, , 309-318.	1.3	20
103	Characterization of strain-induced damage in composites based on the dissipated energy density part II. Composite specimens and naval structures. Theoretical and Applied Fracture Mechanics, 1995, 22, 97-114.	4.7	20
104	Characterization of strain-induced damage in composites based on the dissipated energy density part I. Basic scheme and formulation. Theoretical and Applied Fracture Mechanics, 1995, 22, 71-96.	4.7	64
105	<title>Dissipated energy as the means for health monitoring of smart structures</title>. , 1994, 2191, 199.		3