

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	Bright triplet excitons in caesium lead halide perovskites. <i>Nature</i> , 2018, 553, 189-193.	27.8	716
2	Implicit slicing for functionally tailored additive manufacturing. <i>CAD Computer Aided Design</i> , 2016, 77, 107-119.	2.7	86
3	Discrete element modeling of particle-based additive manufacturing processes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 305, 537-561.	6.6	81
4	Effect of Chain Rigidity on the Decoupling of Ion Motion from Segmental Relaxation in Polymerized Ionic Liquids: Ambient and Elevated Pressure Studies. <i>Macromolecules</i> , 2017, 50, 6710-6721.	4.8	78
5	Modeling and Simulation of Multiphysics Systems. <i>Journal of Computing and Information Science in Engineering</i> , 2005, 5, 198.	2.7	68
6	Characterization of strain-induced damage in composites based on the dissipated energy density part I. Basic scheme and formulation. <i>Theoretical and Applied Fracture Mechanics</i> , 1995, 22, 71-96.	4.7	64
7	On the multiphysics modeling challenges for metal additive manufacturing processes. <i>Additive Manufacturing</i> , 2018, 22, 784-799.	3.0	45
8	Crack Growth in a Range of Additively Manufactured Aerospace Structural Materials. <i>Aerospace</i> , 2018, 5, 118.	2.2	43
9	Intrinsic strain aging, $\Sigma 3$ boundaries, and origins of cellular substructure in additively manufactured 316L. <i>Additive Manufacturing</i> , 2019, 29, 100784.	3.0	41
10	Stochastic modeling and identification of a hyperelastic constitutive model for laminated composites. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 347, 425-444.	6.6	40
11	Enriched analytical solutions for additive manufacturing modeling and simulation. <i>Additive Manufacturing</i> , 2019, 25, 437-447.	3.0	36
12	Dynamics response of polyethylene polymer nanocomposites to shock wave loading. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2015, 53, 1292-1302.	2.1	28
13	On Investigating the Thermomechanical Properties of Cross-linked Epoxy Via Molecular Dynamics Analysis. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2017, 21, 8-25.	2.6	28
14	Further Studies into Crack Growth in Additively Manufactured Materials. <i>Materials</i> , 2020, 13, 2223.	2.9	28
15	Phase field simulations of coupled microstructure solidification problems via the strong form particle difference method. <i>International Journal of Mechanics and Materials in Design</i> , 2018, 14, 491-509.	3.0	27
16	Towards the robotic characterization of the constitutive response of composite materials. <i>Composite Structures</i> , 2008, 86, 154-164.	5.8	25
17	On a data-driven environment for multiphysics applications. <i>Future Generation Computer Systems</i> , 2005, 21, 953-968.	7.5	22
18	Coarse-grained molecular dynamics simulations of epoxy resin during the curing process. <i>Computational Materials Science</i> , 2015, 107, 24-32.	3.0	22

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19	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
20	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
21	Inverse characterization of composite materials via surrogate modeling. Composite Structures, 2015, 132, 694-708.	5.8	20
22	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
23	Modelling the Variability and the Anisotropic Behaviour of Crack Growth in SLM Ti-6Al-4V. Materials, 2021, 14, 1400.	2.9	20
24	DDEMA: A Data Driven Environment for Multiphysics Applications. Lecture Notes in Computer Science, 2003, , 309-318.	1.3	20
25	Data-Driven Design Optimization for Composite Material Characterization. Journal of Computing and Information Science in Engineering, 2011, 11, .	2.7	19
26	Computational design of multiaxial tests for anisotropic material characterization. International Journal for Numerical Methods in Engineering, 2008, 74, 1872-1895.	2.8	18
27	EM Gun Bore Life Experiments at Naval Research Laboratory. IEEE Transactions on Plasma Science, 2013, 41, 1533-1537.	1.3	18
28	Requirements and Variability Affecting the Durability of Bonded Joints. Materials, 2020, 13, 1468.	2.9	17
29	Online planning of multiaxial loading path for elastic material identification. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 885-901.	6.6	16
30	Agent-Based Simulation of Data-Driven Fire Propagation Dynamics. Lecture Notes in Computer Science, 2004, , 732-739.	1.3	16
31	Direct strain tensor approximation for full-field strain measurement methods. International Journal for Numerical Methods in Engineering, 2013, 95, 313-330.	2.8	15
32	Mechanical behavior predictions of additively manufactured microstructures using functional Gaussian process surrogates. Npj Computational Materials, 2021, 7, .	8.7	14
33	Elastic characterization of laminated composites based on multiaxial tests. Composite Structures, 2008, 86, 269-278.	5.8	13
34	On the reducibility of failure theories for composite materials. Composite Structures, 2008, 86, 165-176.	5.8	11
35	Thermal conductivity and thermoelectric properties in 3D macroscopic pure carbon nanotube materials. Nanotechnology Reviews, 2021, 10, 178-186.	5.8	11
36	On the Fundamental Tautology of Validating Data-Driven Models and Simulations. Lecture Notes in Computer Science, 2005, , 738-745.	1.3	10

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37	Determination of anisotropic mechanical properties of G-10 composite via Direct Strain Imaging. Polymer Testing, 2016, 50, 64-72.	4.8	10
38	A Computational Workbench for Remote Full Field 3D Displacement and Strain Measurements. , 2011, , .		9
39	Corrosion Fatigue Characteristics of 316L Stainless Steel Fabricated by Laser Powder Bed Fusion. Metals, 2021, 11, 1046.	2.3	9
40	On the Constitutive Response Characterization for Composite Materials via Data-Driven Design Optimization. , 2011, , .		9
41	Towards a Recursive Hexapod for the Multidimensional Mechanical Testing of Composites. , 2010, , .		8
42	Inverse Characterization of Composite Materials Using Surrogate Models. , 2013, , .		8
43	Complete High Dimensional Inverse Characterization of Fractal Surfaces and Volumes. Journal of Computing and Information Science in Engineering, 2013, 13, .	2.7	8
44	Multiscale Topology Optimization for Additively Manufactured Objects. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	8
45	Toward Feedback Control for Additive Manufacturing Processes Via Enriched Analytical Solutions. Journal of Computing and Information Science in Engineering, 2019, 19, .	2.7	8
46	Fatigue crack growth in epoxy polymer nanocomposites. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200436.	3.4	8
47	Four Parameter Inverse Characterization of Fractal Surfaces. , 2010, , .		7
48	Experimental Validation of the 2D Meshless Random Grid Method. , 2011, , .		7
49	Complete High Dimensional Inverse Characterization of Fractal Surfaces. , 2011, , .		7
50	First Industrial Strength Multi-Axial Robotic Testing Campaign for Composite Material Characterization. , 2012, , .		7
51	Recent Developments of the Multiphysics Discrete Element Method for Additive Manufacturing Modeling and Simulation. , 2017, , .		7
52	Prediction of Thermal Residual Stress and Microstructure in Direct Laser Metal Deposition via a Coupled Finite Element and Multiphase Field Framework. Jom, 2020, 72, 496-508.	1.9	7
53	Acoustic waves excited by phonon decay govern the fracture of brittle materials. Journal of Applied Physics, 2012, 111, 023514.	2.5	6
54	Towards Static Contact Multiphysics of Rough Surfaces. , 2012, , .		5

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55	Direct Strain Imaging for Full Field Measurements. , 2012, , .		5
56	Multi-level Coupling of Dynamic Data-Driven Experimentation with Material Identification. Lecture Notes in Computer Science, 2007, , 1180-1188.	1.3	5
57	Stochastic identification of defects under sensor uncertainties. International Journal for Numerical Methods in Engineering, 2012, 90, 135-151.	2.8	4
58	Multiscale and Multifield Multiphysics of High Current Pulse Static Contact With Rough Surfaces. , 2013, , .		4
59	A means for industry to determine the economic life of bonded joints under representative operation flight loads. Procedia Structural Integrity, 2020, 28, 370-380.	0.8	4
60	Peridynamics enabled digital image correlation for tracking crack paths. Engineering With Computers, 2023, 39, 517-543.	6.1	4
61	<title>Dissipated energy as the means for health monitoring of smart structures</title>. , 1994, 2191, 199.		3
62	Underlying Issues Associated with Validation and Verification of Dynamic Data Driven Simulation. , 2006, , .		3
63	On a Data and Requirements Driven Multi-Scale Framework Linking Performance to Materials. , 2010, , .		3
64	Performance of Reduced Order Models of Moving Heat Source Deposition Problems for Efficient Inverse Analysis. , 2014, , .		3
65	Towards Multiscale Topology Optimization for Additively Manufactured Components Using Implicit Slicing. , 2017, , .		3
66	Functional Performance Tailoring of Additively Manufactured Components via Topology Optimization. , 2017, , .		3
67	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
68	Structural and Mechanical Properties of Ionic Di-block Copolymers via a Molecular Dynamics Approach. Polymers, 2019, 11, 1546.	4.5	3
69	Regularization for Parameter Identification Using Multi-Objective Optimization. Studies in Computational Intelligence, 2006, , 125-149.	0.9	3
70	Preliminary Validation of Composite Material Constitutive Characterization. , 2012, , .		3
71	Composite Material Testing Data Reduction to Adjust for the Systematic 6-DoF Testing Machine Aberrations. , 2012, , .		3
72	Analytical thermoelastic solutions for additive manufacturing processes. Additive Manufacturing, 2022, 56, 102892.	3.0	3

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73	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
74	Online Material Characterization Using Full-Field Strain Measurement. , 2011, , .		2
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	Probabilistic Vision-Based Full-Field Displacement and Strain Measurement via Uncertainty Propagation. , 2012, , .		2
78	Towards Multiphysics Modeling of Chlorine Dilution. , 2013, , .		2
79	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
80	On the Multiphysics Modeling of Surface Aging Under Cathodic Protection. Journal of Computing and Information Science in Engineering, 2018, 18, .	2.7	2
81	A Data-Driven Multi-field Analysis of Nanocomposites for Hydrogen Storage. Lecture Notes in Computer Science, 2005, , 80-87.	1.3	2
82	Performance Analysis and Experimental Validation of the Direct Strain Imaging Method. , 2013, , .		2
83	Strain gradient plasticity modeling of nanoindentation of additively manufactured stainless steel. Extreme Mechanics Letters, 2021, 49, 101503.	4.1	2
84	Projection-tree reduced-order modeling for fast N-body computations. Journal of Computational Physics, 2022, 459, 111141.	3.8	2
85	Generalized multifield Von-Karman equations for large deflection of artificial muscle plates. , 2004, 5387, 12.		1
86	Enriched Analytical Solutions for Additive Manufacturing Modeling and Simulation. , 2018, , .		1
87	Open Uniaxial Test Machine (OpenUTM): Part 1 – A Low-Cost Electrohydraulic Test Frame for Additive Manufacturing Part Qualification. , 2018, , .		1
88	A Molecular Dynamics Study of the Mechanical Properties of Ionic Copolymers during Tension–Recovery Deformation. Macromolecular Theory and Simulations, 2021, 30, 2000081.	1.4	1
89	Performance Signature Qualification for Additively Manufactured Parts under Conditions Emulating In-Service Loading. , 2020, , 550-572.		1
90	Multiscale Implications of the Inverse Rapid Energy Deposition Problem. International Journal for Multiscale Computational Engineering, 2009, 7, 41-53.	1.2	1

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91	Multi-Field Characterization of Single Wall Nano-Tube Composites for Hydrogen Storage. , 2005, , .		1
92	Data-Driven Inverse Modelling of Ionic Polymer Conductive Composite Plates. Lecture Notes in Computer Science, 2006, , 131-138.	1.3	1
93	The interplay of local chemistry and plasticity in controlling microstructure formation during laser powder bed fusion of metals. Additive Manufacturing, 2022, , 102791.	3.0	1
94	Thoughts on the durability and damage tolerance assessment of adhesively-bonded joints. Theoretical and Applied Fracture Mechanics, 2022, 119, 103319.	4.7	1
95	An Information-Theoretic Approach for Computational Material Modeling. Advanced Materials Research, 2008, 33-37, 857-862.	0.3	0
96	Inverse Molecular Dynamics Modeling Performance on GPU Architectures for a Problem of Fracture. , 2010, , .		0
97	Experimental System and Validation for Energy-Based Characterization. , 2011, , .		0
98	uBlasCL: Architecture Agnostic Massively Parallel Linear Algebra System. , 2011, , .		0
99	High Dimensional Full Inverse Characterization of Fractal Volumes. , 2012, , .		0
100	Multi-Linear Modeling for Characterization of Nonlinear Behavior of Anisotropic Materials. , 2012, , .		0
101	Multiscale Tomographic Wave-Matter Interaction Modeling to Enable Artifact-Free Material Defect Reconstruction. Journal of Computing and Information Science in Engineering, 2021, 21, .	2.7	0
102	Multiscale Data Driven Methodology for Accelerating Qualification and Certification of Additively Manufactured Parts. , 2022, , 223-244.		0
103	Symbolic Algebra and Theorem Proving for Failure Criteria Reduction. , 2011, , .		0
104	Multi-Sensor Defect Identification Under Sensor Uncertainties. , 2012, , .		0
105	Surface Discontinuity Detection via Direct Strain Imaging. , 2013, , .		0