Sanjay Govindjee

List of Publications by Year
in descending order

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78 papers	4,757 citations	172207 29 h-index	95083 68 g-index
82 all docs	82 docs citations	82 times ranked	3239 citing authors

#	Article	IF	Citations
1	A nonlinear viscoelasticity theory for nematic liquid crystal elastomers. Journal of the Mechanics and Physics of Solids, 2022, 163, 104829.	2.3	20
2	Nanomechanical testing of freestanding polymer films: in situ tensile testing and Tg measurement. Journal of Materials Research, 2021, 36, 2456-2464.	1.2	6
3	A Coupled Multiscale Approach to Modeling Aortic Valve Mechanics in Health and Disease. Applied Sciences (Switzerland), 2021, 11, 8332.	1.3	2
4	Variational based effective models for inelastic materials. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	1
5	Extreme Ductility in Freestanding Polystyrene Thin Films. Macromolecules, 2020, 53, 8650-8662.	2.2	6
6	Effect of gamma-ray sterilization on phase transformation behavior and fatigue resistance of contemporary nickel-titanium instruments. Clinical Oral Investigations, 2020, 24, 3113-3120.	1.4	7
7	Variable impact by ambient temperature on fatigue resistance of heat-treated nickel titanium instruments. Clinical Oral Investigations, 2019, 23, 1101-1108.	1.4	24
8	Resistance to cyclic fatigue of reciprocating instruments determined at body temperature and phase transformation analysis. Australian Endodontic Journal, 2019, 45, 400-406.	0.6	19
9	A fully-relaxed variationally-consistent framework for inelastic micro-sphere models: Finite viscoelasticity. Journal of the Mechanics and Physics of Solids, 2019, 127, 1-19.	2.3	15
10	Correlation between Temperature-dependent Fatigue Resistance and Differential Scanning Calorimetry Analysis for 2 Contemporary Rotary Instruments. Journal of Endodontics, 2018, 44, 630-634.	1.4	30
11	Multiscale analysis of nanoindentation-induced defect structures in gum metal. Acta Materialia, 2018, 151, 334-346.	3.8	6
12	Microscopic mechanisms of deformation transfer in high dynamic range branched nanoparticle deformation sensors. Nature Communications, 2018, 9, 1155.	5.8	4
13	Cyclic steady states of nonlinear electro-mechanical devices excited at resonance. International Journal for Numerical Methods in Engineering, 2017, 110, 1227-1246.	1.5	3
14	In memoriam of Christian Miehe. Mechanics Research Communications, 2017, 80, 3.	1.0	0
15	Hybrid simulation theory for a classical nonlinear dynamical system. Journal of Sound and Vibration, 2017, 392, 240-259.	2.1	4
16	Consistent trilayer biomechanical modeling of aortic valve leaflet tissue. Journal of Biomechanics, 2017, 61, 1-10.	0.9	11
17	The Exponentiated Hencky Strain Energy in Modeling Tire Derived Material for Moderately Large Deformations. Journal of Engineering Materials and Technology, Transactions of the ASME, 2016, 138, .	0.8	19
18	Theoretical Evaluation of Hybrid Simulation Applied to Continuous Plate Structures. Journal of Engineering Mechanics - ASCE, 2016, 142, 04016093.	1.6	3

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19	Mechanisms of Local Stress Sensing in Multifunctional Polymer Films Using Fluorescent Tetrapod Nanocrystals. Nano Letters, 2016, 16, 5060-5067.	4.5	22
20	Evidence for Reduced Fatigue Resistance of Contemporary Rotary Instruments Exposed to Body Temperature. Journal of Endodontics, 2016, 42, 782-787.	1.4	144
21	A high-order immersed boundary discontinuous-Galerkin method for Poisson's equation with discontinuous coefficients and singular sources. International Journal for Numerical Methods in Engineering, 2015, 101, 847-869.	1.5	14
22	Hybrid Simulation Theory for Continuous Beams. Journal of Engineering Mechanics - ASCE, 2015, 141, 04015005.	1.6	7
23	An efficient timeâ€domain perfectly matched layers formulation for elastodynamics on spherical domains. International Journal for Numerical Methods in Engineering, 2014, 100, 419-441.	1.5	6
24	Cyclic steady states of treaded rolling bodies. International Journal for Numerical Methods in Engineering, 2014, 99, 203-220.	1.5	9
25	A micro-mechanically based continuum model for strain-induced crystallization in natural rubber. International Journal of Solids and Structures, 2014, 51, 530-539.	1.3	40
26	Dynamic stability of spinning viscoelastic cylinders at finite deformation. International Journal of Solids and Structures, 2014, 51, 3589-3603.	1.3	8
27	Analytical treatment of the deformation behavior of extreme-ultraviolet-lithography masks during electrostatic chucking. Journal of Micro/ Nanolithography, MEMS, and MOEMS, 2012, 11, 043005.	1.0	1
28	Particle contamination effects in extreme ultraviolet lithography: enhanced theory for the analytical determination of critical particle sizes. Journal of Micro/ Nanolithography, MEMS, and MOEMS, 2012, 11, 023011-1.	1.0	2
29	Analytical treatment of the deformation behavior of EUVL masks during electrostatic chucking. Proceedings of SPIE, 2012, , .	0.8	1
30	Particle contamination effects in EUVL: enhanced theory for the analytical determination of critical particle sizes. , 2012, , .		0
31	A time-domain Discontinuous Galerkin method for mechanical resonator quality factor computations. Journal of Computational Physics, 2012, 231, 6380-6392.	1.9	4
32	Topology optimization in micromechanical resonator design. Optimization and Engineering, 2012, 13, 271-292.	1.3	16
33	Convergence of an efficient local least-squares fitting method for bases with compact support. Computer Methods in Applied Mechanics and Engineering, 2012, 213-216, 84-92.	3.4	27
34	A Method for Enforcement of Dirichlet Boundary Conditions in Isogeometric Analysis. , 2011, , 283-293.		10
35	On non-physical response in models for fiber-reinforced hyperelastic materials. International Journal of Solids and Structures, 2010, 47, 2056-2061.	1.3	69
36	Stability Analysis of Bay Bridge Saddle Configuration. Journal of Structural Engineering, 2010, 136, 1613-1618.	1.7	1

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37	Compensation of overlay errors due to mask bending and non-flatness for EUV masks. Proceedings of SPIE, 2009, , .	0.8	6
38	On the cytoskeleton and soft glassy rheology. Journal of Biomechanics, 2008, 41, 1467-1478.	0.9	36
39	Simulation of cubic to monoclinic-II transformations in a single crystal Cuâ€“Alâ€“Ni tube. International Journal of Plasticity, 2007, 23, 161-182.	4.1	7
40	Solving generalized complex-symmetric eigenvalue problems arising from resonant MEMS simulations with PETSc. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1141701-1141702.	0.2	0
41	An upper bound to the free energy of mixing by twin-compatible lamination for n-variant martensitic phase transformations. Continuum Mechanics and Thermodynamics, 2007, 18, 443-453.	1.4	49
42	On the Cytoskeleton and Soft Glassy Rheology. , 2007, , .		0
43	Numerical study of geometric constraint and cohesive parameters in steady-state viscoelastic crack growth. International Journal of Fracture, 2006, 141, 255-268.	1.1	18
44	A material force method for inelastic fracture mechanics. Journal of the Mechanics and Physics of Solids, 2005, 53, 91-121.	2.3	59
45	Fractional step methods for index-1 differential-algebraic equations. Journal of Computational Physics, 2005, 203, 305-320.	1.9	28
46	Elastic PMLs for resonator anchor loss simulation. International Journal for Numerical Methods in Engineering, 2005, 64, 789-818.	1.5	138
47	An adaptive hybrid time-stepping scheme for highly non-linear strongly coupled problems. International Journal for Numerical Methods in Engineering, 2005, 64, 819-848.	1.5	11
48	Solution of clamped rectangular plate problems. Communications in Numerical Methods in Engineering, 2004, 20, 757-765.	1.3	48
49	A rate-dependent cohesive continuum model for the study of crack dynamics. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 3239-3265.	3.4	19
50	Numerical Issues in Finite Elasticity and Viscoelasticity. , 2004, , 187-232.		6
51	Anisotropic bending-torsion coupling for warping in a non-linear beam. Computational Mechanics, 2003, 31, 78-87.	2.2	20
52	Numerical simulation of coupled-stress case II diffusion in one dimension. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 2091-2108.	2.4	14
53	Application of the Relaxed Free Energy of Mixing to Problems in Shape Memory Alloy Simulation. Journal of Intelligent Material Systems and Structures, 2002, 13, 773-782.	1.4	15
54	Using finite strain 3Dâ€material models in beam and shell elements. Engineering Computations, 2002, 19, 254-271.	0.7	55

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55	Application of a partially relaxed shape memory free energy function to estimate the phase diagram and predict global microstructure evolution. Journal of the Mechanics and Physics of Solids, 2002, 50, 501-530.	2.3	31
56	A multi-variant martensitic phase transformation model: formulation and numerical implementation. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 215-238.	3.4	118
57	A computational model for shape memory alloys. International Journal of Solids and Structures, 2000, 37, 735-760.	1.3	63
58	Unilateral Buckling Restrained by Initial Force Supports. Journal of Engineering Mechanics - ASCE, 2000, 126, 1301-1302.	1.6	1
59	On the use of continuum mechanics to estimate the properties of nanotubes. Solid State Communications, 1999, 110, 227-230.	0.9	282
60	Computational aspects of one-dimensional shape memory alloy modeling with phase diagrams. Computer Methods in Applied Mechanics and Engineering, 1999, 171, 309-326.	3.4	45
61	A phenomenological model of an elastomer with an evolving molecular weight distribution. Journal of Rheology, 1999, 43, 393-414.	1.3	10
62	Computational aspects of solid-solid phase transformation modeling with a Gibbs function. , 1999, , .		4
63	A theory of finite viscoelasticity and numerical aspects. International Journal of Solids and Structures, 1998, 35, 3455-3482.	1.3	589
64	Computational methods for inverse deformations in quasi-incompressible finite elasticity. International Journal for Numerical Methods in Engineering, 1998, 43, 821-838.	1.5	90
65	A Presentation and Comparison of Two Large Deformation Viscoelasticity Models. Journal of Engineering Materials and Technology, Transactions of the ASME, 1997, 119, 251-255.	0.8	93
66	An Evaluation of Strain Amplification Concepts via Monte Carlo Simulations of an Ideal Composite. Rubber Chemistry and Technology, 1997, 70, 25-37.	0.6	29
67	Accuracy and stability for integration of Jaumann stress rate equations in spinning bodies. Engineering Computations, 1997, 14, 14-30.	0.7	6
68	A Shape Memory Alloy Model for Uranium-Niobium Accounting for Plasticity. Journal of Intelligent Material Systems and Structures, 1997, 8, 815-823.	1.4	16
69	Title is missing!. Mechanics of Time-Dependent Materials, 1997, 1, 357-396.	2.3	131
70	Finite element implementation of incompressible, transversely isotropic hyperelasticity. Computer Methods in Applied Mechanics and Engineering, 1996, 135, 107-128.	3.4	654
71	Computational methods for inverse finite elastostatics. Computer Methods in Applied Mechanics and Engineering, 1996, 136, 47-57.	3.4	130
72	Anisotropic modelling and numerical simulation of brittle damage in concrete. International Journal for Numerical Methods in Engineering, 1995, 38, 3611-3633.	1.5	188

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73	Coupled stress-diffusion: Case II. Journal of the Mechanics and Physics of Solids, 1993, 41, 863-887.	2.3	72
74	Transition from micro-mechanics to computationally efficient phenomenology: Carbon black filled rubbers incorporating mullins' effect. Journal of the Mechanics and Physics of Solids, 1992, 40, 213-233.	2.3	79
75	Mullins' effect and the strain amplitude dependence of the storage modulus. International Journal of Solids and Structures, 1992, 29, 1737-1751.	1.3	153
76	A micro-mechanically based continuum damage model for carbon black-filled rubbers incorporating Mullins' effect. Journal of the Mechanics and Physics of Solids, 1991, 39, 87-112.	2.3	300
77	Non-linear B-stability and symmetry preserving return mapping algorithms for plasticity and viscoplasticity. International Journal for Numerical Methods in Engineering, 1991, 31, 151-176.	1.5	119
78	Non-smooth multisurface plasticity and viscoplasticity. Loading/unloading conditions and numerical algorithms. International Journal for Numerical Methods in Engineering, 1988, 26, 2161-2185.	1.5	390