

Sanjay Govindjee

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7521304/publications.pdf>

Version: 2024-02-01

78
papers

4,757
citations

172457

29
h-index

95266

68
g-index

82
all docs

82
docs citations

82
times ranked

3239
citing authors

#	ARTICLE	IF	CITATIONS
1	Finite element implementation of incompressible, transversely isotropic hyperelasticity. Computer Methods in Applied Mechanics and Engineering, 1996, 135, 107-128.	6.6	654
2	A theory of finite viscoelasticity and numerical aspects. International Journal of Solids and Structures, 1998, 35, 3455-3482.	2.7	589
3	Non-smooth multisurface plasticity and viscoplasticity. Loading/unloading conditions and numerical algorithms. International Journal for Numerical Methods in Engineering, 1988, 26, 2161-2185.	2.8	390
4	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.	4.8	300
5	On the use of continuum mechanics to estimate the properties of nanotubes. Solid State Communications, 1999, 110, 227-230.	1.9	282
6	Anisotropic modelling and numerical simulation of brittle damage in concrete. International Journal for Numerical Methods in Engineering, 1995, 38, 3611-3633.	2.8	188
7	Mullins' effect and the strain amplitude dependence of the storage modulus. International Journal of Solids and Structures, 1992, 29, 1737-1751.	2.7	153
8	Evidence for Reduced Fatigue Resistance of Contemporary Rotary Instruments Exposed to Body Temperature. Journal of Endodontics, 2016, 42, 782-787.	3.1	144
9	Elastic PMLs for resonator anchor loss simulation. International Journal for Numerical Methods in Engineering, 2005, 64, 789-818.	2.8	138
10	Title is missing!. Mechanics of Time-Dependent Materials, 1997, 1, 357-396.	4.4	131
11	Computational methods for inverse finite elastostatics. Computer Methods in Applied Mechanics and Engineering, 1996, 136, 47-57.	6.6	130
12	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.	2.8	119
13	A multi-variant martensitic phase transformation model: formulation and numerical implementation. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 215-238.	6.6	118
14	A Presentation and Comparison of Two Large Deformation Viscoelasticity Models. Journal of Engineering Materials and Technology, Transactions of the ASME, 1997, 119, 251-255.	1.4	93
15	Computational methods for inverse deformations in quasi-incompressible finite elasticity. International Journal for Numerical Methods in Engineering, 1998, 43, 821-838.	2.8	90
16	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.	4.8	79
17	Coupled stress-diffusion: Case II. Journal of the Mechanics and Physics of Solids, 1993, 41, 863-887.	4.8	72
18	On non-physical response in models for fiber-reinforced hyperelastic materials. International Journal of Solids and Structures, 2010, 47, 2056-2061.	2.7	69

#	ARTICLE	IF	CITATIONS
19	A computational model for shape memory alloys. <i>International Journal of Solids and Structures</i> , 2000, 37, 735-760.	2.7	63
20	A material force method for inelastic fracture mechanics. <i>Journal of the Mechanics and Physics of Solids</i> , 2005, 53, 91-121.	4.8	59
21	Using finite strain 3D material models in beam and shell elements. <i>Engineering Computations</i> , 2002, 19, 254-271.	1.4	55
22	An upper bound to the free energy of mixing by twin-compatible lamination for n-variant martensitic phase transformations. <i>Continuum Mechanics and Thermodynamics</i> , 2007, 18, 443-453.	2.2	49
23	Solution of clamped rectangular plate problems. <i>Communications in Numerical Methods in Engineering</i> , 2004, 20, 757-765.	1.3	48
24	Computational aspects of one-dimensional shape memory alloy modeling with phase diagrams. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1999, 171, 309-326.	6.6	45
25	A micro-mechanically based continuum model for strain-induced crystallization in natural rubber. <i>International Journal of Solids and Structures</i> , 2014, 51, 530-539.	2.7	40
26	On the cytoskeleton and soft glassy rheology. <i>Journal of Biomechanics</i> , 2008, 41, 1467-1478.	2.1	36
27	Application of a partially relaxed shape memory free energy function to estimate the phase diagram and predict global microstructure evolution. <i>Journal of the Mechanics and Physics of Solids</i> , 2002, 50, 501-530.	4.8	31
28	Correlation between Temperature-dependent Fatigue Resistance and Differential Scanning Calorimetry Analysis for 2 Contemporary Rotary Instruments. <i>Journal of Endodontics</i> , 2018, 44, 630-634.	3.1	30
29	An Evaluation of Strain Amplification Concepts via Monte Carlo Simulations of an Ideal Composite. <i>Rubber Chemistry and Technology</i> , 1997, 70, 25-37.	1.2	29
30	Fractional step methods for index-1 differential-algebraic equations. <i>Journal of Computational Physics</i> , 2005, 203, 305-320.	3.8	28
31	Convergence of an efficient local least-squares fitting method for bases with compact support. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2012, 213-216, 84-92.	6.6	27
32	Variable impact by ambient temperature on fatigue resistance of heat-treated nickel titanium instruments. <i>Clinical Oral Investigations</i> , 2019, 23, 1101-1108.	3.0	24
33	Mechanisms of Local Stress Sensing in Multifunctional Polymer Films Using Fluorescent Tetrapod Nanocrystals. <i>Nano Letters</i> , 2016, 16, 5060-5067.	9.1	22
34	Anisotropic bending-torsion coupling for warping in a non-linear beam. <i>Computational Mechanics</i> , 2003, 31, 78-87.	4.0	20
35	A nonlinear viscoelasticity theory for nematic liquid crystal elastomers. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 163, 104829.	4.8	20
36	A rate-dependent cohesive continuum model for the study of crack dynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004, 193, 3239-3265.	6.6	19

#	ARTICLE	IF	CITATIONS
37	The Exponentiated Hencky Strain Energy in Modeling Tire Derived Material for Moderately Large Deformations. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2016, 138, .	1.4	19
38	Resistance to cyclic fatigue of reciprocating instruments determined at body temperature and phase transformation analysis. <i>Australian Endodontic Journal</i> , 2019, 45, 400-406.	1.5	19
39	Numerical study of geometric constraint and cohesive parameters in steady-state viscoelastic crack growth. <i>International Journal of Fracture</i> , 2006, 141, 255-268.	2.2	18
40	A Shape Memory Alloy Model for Uranium-Niobium Accounting for Plasticity. <i>Journal of Intelligent Material Systems and Structures</i> , 1997, 8, 815-823.	2.5	16
41	Topology optimization in micromechanical resonator design. <i>Optimization and Engineering</i> , 2012, 13, 271-292.	2.4	16
42	Application of the Relaxed Free Energy of Mixing to Problems in Shape Memory Alloy Simulation. <i>Journal of Intelligent Material Systems and Structures</i> , 2002, 13, 773-782.	2.5	15
43	A fully-relaxed variationally-consistent framework for inelastic micro-sphere models: Finite viscoelasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 127, 1-19.	4.8	15
44	Numerical simulation of coupled-stress case II diffusion in one dimension. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 2091-2108.	2.1	14
45	A high-order immersed boundary discontinuous-Galerkin method for Poisson's equation with discontinuous coefficients and singular sources. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 101, 847-869.	2.8	14
46	An adaptive hybrid time-stepping scheme for highly non-linear strongly coupled problems. <i>International Journal for Numerical Methods in Engineering</i> , 2005, 64, 819-848.	2.8	11
47	Consistent trilayer biomechanical modeling of aortic valve leaflet tissue. <i>Journal of Biomechanics</i> , 2017, 61, 1-10.	2.1	11
48	A phenomenological model of an elastomer with an evolving molecular weight distribution. <i>Journal of Rheology</i> , 1999, 43, 393-414.	2.6	10
49	A Method for Enforcement of Dirichlet Boundary Conditions in Isogeometric Analysis. , 2011, , 283-293.		10
50	Cyclic steady states of treaded rolling bodies. <i>International Journal for Numerical Methods in Engineering</i> , 2014, 99, 203-220.	2.8	9
51	Dynamic stability of spinning viscoelastic cylinders at finite deformation. <i>International Journal of Solids and Structures</i> , 2014, 51, 3589-3603.	2.7	8
52	Simulation of cubic to monoclinic-II transformations in a single crystal Cu-Al-Ni tube. <i>International Journal of Plasticity</i> , 2007, 23, 161-182.	8.8	7
53	Hybrid Simulation Theory for Continuous Beams. <i>Journal of Engineering Mechanics - ASCE</i> , 2015, 141, 04015005.	2.9	7
54	Effect of gamma-ray sterilization on phase transformation behavior and fatigue resistance of contemporary nickel-titanium instruments. <i>Clinical Oral Investigations</i> , 2020, 24, 3113-3120.	3.0	7

#	ARTICLE	IF	CITATIONS
55	Accuracy and stability for integration of Jaumann stress rate equations in spinning bodies. <i>Engineering Computations</i> , 1997, 14, 14-30.	1.4	6
56	Compensation of overlay errors due to mask bending and non-flatness for EUV masks. <i>Proceedings of SPIE</i> , 2009, , .	0.8	6
57	An efficient time- ϵ -domain perfectly matched layers formulation for elastodynamics on spherical domains. <i>International Journal for Numerical Methods in Engineering</i> , 2014, 100, 419-441.	2.8	6
58	Multiscale analysis of nanoindentation-induced defect structures in gum metal. <i>Acta Materialia</i> , 2018, 151, 334-346.	7.9	6
59	Extreme Ductility in Freestanding Polystyrene Thin Films. <i>Macromolecules</i> , 2020, 53, 8650-8662.	4.8	6
60	Nanomechanical testing of freestanding polymer films: in situ tensile testing and Tg measurement. <i>Journal of Materials Research</i> , 2021, 36, 2456-2464.	2.6	6
61	Numerical Issues in Finite Elasticity and Viscoelasticity. , 2004, , 187-232.		6
62	Computational aspects of solid-solid phase transformation modeling with a Gibbs function. , 1999, , .		4
63	A time-domain Discontinuous Galerkin method for mechanical resonator quality factor computations. <i>Journal of Computational Physics</i> , 2012, 231, 6380-6392.	3.8	4
64	Hybrid simulation theory for a classical nonlinear dynamical system. <i>Journal of Sound and Vibration</i> , 2017, 392, 240-259.	3.9	4
65	Microscopic mechanisms of deformation transfer in high dynamic range branched nanoparticle deformation sensors. <i>Nature Communications</i> , 2018, 9, 1155.	12.8	4
66	Theoretical Evaluation of Hybrid Simulation Applied to Continuous Plate Structures. <i>Journal of Engineering Mechanics - ASCE</i> , 2016, 142, 04016093.	2.9	3
67	Cyclic steady states of nonlinear electro-mechanical devices excited at resonance. <i>International Journal for Numerical Methods in Engineering</i> , 2017, 110, 1227-1246.	2.8	3
68	Particle contamination effects in extreme ultraviolet lithography: enhanced theory for the analytical determination of critical particle sizes. <i>Journal of Micro/ Nanolithography, MEMS, and MOEMS</i> , 2012, 11, 023011-1.	0.9	2
69	A Coupled Multiscale Approach to Modeling Aortic Valve Mechanics in Health and Disease. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 8332.	2.5	2
70	Unilateral Buckling Restrained by Initial Force Supports. <i>Journal of Engineering Mechanics - ASCE</i> , 2000, 126, 1301-1302.	2.9	1
71	Stability Analysis of Bay Bridge Saddle Configuration. <i>Journal of Structural Engineering</i> , 2010, 136, 1613-1618.	3.4	1
72	Analytical treatment of the deformation behavior of extreme-ultraviolet-lithography masks during electrostatic chucking. <i>Journal of Micro/ Nanolithography, MEMS, and MOEMS</i> , 2012, 11, 043005.	0.9	1

#	ARTICLE	IF	CITATIONS
73	Analytical treatment of the deformation behavior of EUVL masks during electrostatic chucking. Proceedings of SPIE, 2012, , .	0.8	1
74	Variational based effective models for inelastic materials. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	1
75	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
76	Particle contamination effects in EUVL: enhanced theory for the analytical determination of critical particle sizes. , 2012, , .		0
77	In memoriam of Christian Miehe. Mechanics Research Communications, 2017, 80, 3.	1.8	0
78	On the Cytoskeleton and Soft Glassy Rheology. , 2007, , .		0