Samit Roy

List of Publications by Year in descending order

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67 papers	1,398 citations	471509 17 h-index	345221 36 g-index
68 all docs	68 docs citations	68 times ranked	1307 citing authors

#	Article	IF	Citations
1	Failure Simulation in Notched Polymer Nanocomposites using Molecular Dynamics. , 2022, , .		0
2	A modular concept for the solid-state healing of polymer resins and composites. , 2022, , 87-113.		0
3	Fracture Behavior in Polymer Nanocomposites: A Molecular Dynamics Study. , 2021, , .		0
4	Effect of Nanoparticle Size on Fracture Behavior in Polymer Nanocomposites. , 2020, , .		1
5	Modeling the Compressive Buckling Strain as a Function of the Nanocomposite Interphase Thickness in a Carbon Nanotube Sheet Wrapped Carbon Fiber Composite. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	2.2	2
6	An investigation of flaw-size independence of cohesive traction-separation law at the nanoscale: A molecular dynamics study. Engineering Fracture Mechanics, 2019, 215, 235-245.	4.3	4
7	A multiscale model to study the enhancement in the compressive strength of multi-walled CNT sheet overwrapped carbon fiber composites. Composite Structures, 2019, 219, 170-178.	5.8	16
8	A computational investigation of length-scale effects in the fracture behaviour of a graphene sheet using the atomistic J-integral. Engineering Fracture Mechanics, 2019, 207, 165-180.	4.3	23
9	Length-Scale Based Fracture Toughness Enhancement Mechanism in Polymer Composites. , 2018, , .		0
10	Predicting the enhancement in the compressive strength of Carbon Fiber Reinforced Polymer Composites by overwrapping Multiwalled Carbon Nanotubes using a Multiscale Approach. , 2018, , .		0
11	Modeling of fracture behavior in polymer composites using concurrent multi-scale coupling approach. Mechanics of Advanced Materials and Structures, 2018, 25, 1342-1350.	2.6	7
12	Modeling of toughness enhancement mechanisms in graphene nanocomposites. Mechanics of Advanced Materials and Structures, 2018, 25, 1197-1204.	2.6	3
13	Characterization of mixed mode fracture properties of nanographene reinforced epoxy and Mode I delamination of its carbon fiber composite. Composites Part B: Engineering, 2018, 134, 98-105.	12.0	34
14	2.14 Moisture Diffusion in PMCs. , 2018, , 275-290.		0
15	Multiscale modeling of progressive failure in polymer nanocomposites using nanoscale informed damage mechanics. Mechanics of Advanced Materials and Structures, 2017, 24, 45-63.	2.6	5
16	A Review of In Situ Mechanical Characterization of Polymer Nanocomposites: Prospect and Challenges. Applied Mechanics Reviews, 2017, 69, .	10.1	16
17	Effect of particle size on mixed-mode fracture of nanographene reinforced epoxy and mode I delamination of its carbon fiber composite. Composite Structures, 2017, 181, 1-8.	5.8	18
18	A Nano-micro-macro-multiscale Model for Progressive Failure Prediction in Advanced Composites. , 2017, , 137-169.		2

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19	Fracture properties of nanographene reinforced EPON 862 thermoset polymer system. Composites Science and Technology, 2015, 114, 87-93.	7.8	48
20	Modeling of anomalous moisture diffusion in nanographene reinforced thermoset polymers. Composite Structures, 2015, 122, 1-7.	5.8	13
21	The changes in flexural properties and microstructures of carbon fiber bismaleimide composite after exposure to a high temperature. Composite Structures, 2014, 108, 57-64.	5.8	48
22	A Multi-Scale Viscoelastic Cohesive Layer Model for Predicting Delamination in HTPMC. , 2014, , .		0
23	Characterization of the viscoelastic behavior of bismaleimide resin before and after exposure to high temperatures. Mechanics of Time-Dependent Materials, 2013, 17, 369-399.	4.4	20
24	Influence of nano-clay compounding on thermo-oxidative stability and mechanical properties of a thermoset polymer system. Composites Science and Technology, 2013, 84, 8-14.	7.8	17
25	A novel numericalâ€“experimental approach for predicting delamination in high temperature polymer matrix composites. Composite Structures, 2013, 104, 118-124.	5.8	16
26	Determination of atomisticJ-integral of graphene sheet using the molecular dynamics method. Composite Interfaces, 2013, 20, 431-442.	2.3	7
27	Multi-scale Modeling of Debond Behavior in Nano-Particle Reinforced Polymers. , 2013, , .		0
28	Preface: Special Issue Honoring the Lifelong Contributions of Professor J.N. Reddy. Mechanics of Advanced Materials and Structures, 2012, 19, 1-2.	2.6	1
29	Implicit Time Integration in the Generalized Interpolation Material Point Method for Finite Deformation Hyperelasticity. Mechanics of Advanced Materials and Structures, 2012, 19, 465-473.	2.6	15
30	Prediction of Thermo-Oxidative Degradation in Polymer Matrix Composites Using Micromechanical Modeling and Homogenization at the Macro-Scale. Mechanics of Advanced Materials and Structures, 2012, 19, 68-78.	2.6	5
31	Dynamic compressive behavior of unidirectional IM7/5250-4 laminate after thermal oxidation. Composites Science and Technology, 2012, 72, 159-166.	7.8	32
32	Moisture-Induced Degradation. , 2012, , 181-236.		4
33	Concurrent Multi-scale Modeling of Nano-Particle Reinforced Polymers using Statistical Coupling of MD and GIMPM. , 2011, , .		3
34	Characterization and Modelling of Hygrothermal Effects in Thermoplastic Nanocomposites. Polymers and Polymer Composites, 2011, 19, 527-542.	1.9	2
35	A mechanism-based multi-scale model for predicting thermo-oxidative degradation in high temperature polymer matrix composites. Composites Science and Technology, 2011, 71, 1309-1315.	7.8	18
36	Nanoclay-modified asphalt materials: Preparation and characterization. Construction and Building Materials, 2011, 25, 1072-1078.	7.2	349

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37	Analytical modeling of orthotropic diffusivities in a fiber reinforced composite with discontinuities using homogenization. Composites Science and Technology, 2009, 69, 1962-1967.	7.8	15
38	Multi-Scale Modeling of Nano-Particle Reinforced Composites Using Statistical Coupling of MD and MPM. , 2009, , .		0
39	Mechanical Characterization and Computer Simulation of Crosslinked Nanostructured Silica Aerogels. , 2009, , .		0
40	On solvent diffusion in a solid with large dilatation. Composites Science and Technology, 2008, 68, 2697-2704.	7.8	1
41	Modeling of evolving damage in high temperature polymer matrix composites subjected to thermal oxidation. Journal of Materials Science, 2008, 43, 6651-6660.	3.7	17
42	Simulation and Mechanical Characterization of Crosslinked Nanostructured Silica Aerogels. , 2008, , .		0
43	Characterization and Modeling of the Effect of Environmental Degradation on Interlaminar Shear Strength of Carbon/Epoxy Composites. Polymers and Polymer Composites, 2008, 16, 165-179.	1.9	10
44	Modeling of failure due to freezing of moisture and freeze-thaw cycling in composite materials. International Journal of Materials and Product Technology, 2007, 28, 141.	0.2	1
45	A Three-Dimensional Viscoelastic Analysis of Thin Film Delamination in a Peninsula Blister Specimen. Mechanics of Advanced Materials and Structures, 2007, 14, 379-390.	2.6	3
46	Modeling of Permeation in Graphite/Epoxy Laminates at Cryogenics Temperatures in the Presence of Delaminations and Stitch Cracks. , 2007, , .		0
47	Mechanical Characterization and Simulation of Crosslinked Nanostructured Silica Aerogels. , 2007, , .		0
48	E-Glassâ€"Polypropylene Pultruded Nanocomposite: Manufacture, Characterization, Thermal and Mechanical Properties. Journal of Thermoplastic Composite Materials, 2007, 20, 411-434.	4.2	23
49	E-Glass/Polypropylene Pultruded Nanocomposite: Manufacture, Characterisation, Thermal and Mechanical Properties. Polymers and Polymer Composites, 2007, 15, 91-102.	1.9	12
50	Modeling of permeation and damage in graphite/epoxy laminates for cryogenic tanks in the presence of delaminations and stitch cracks. Composites Science and Technology, 2007, 67, 2592-2605.	7.8	30
51	A nonlinear viscoelastic fracture analysis of concrete/FRP delamination in aggressive environments. International Journal of Fracture, 2007, 142, 9-27.	2.2	5
52	Chemical, Physical, and Mechanical Characterization of Isocyanate Cross-linked Amine-Modified Silica Aerogels. Chemistry of Materials, 2006, 18, 285-296.	6.7	259
53	Characterization and modeling of strain assisted diffusion in an epoxy adhesive layer. International Journal of Solids and Structures, 2006, 43, 27-52.	2.7	22
54	Cohesive Layer Modeling of Time-Dependent Debond Growth in Aggressive Environments. Journal of Engineering Materials and Technology, Transactions of the ASME, 2006, 128, 11-17.	1.4	7

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55	Failure in Composite Materials due to Volumetric Expansion of Freezing Moisture. Journal of Cold Regions Engineering - ASCE, 2004, 18, 135-154.	1.1	8
56	Simplified Bulk Experiments and Hygrothermal Nonlinear Viscoelasticity. Mechanics of Time-Dependent Materials, 2004, 8, 303-344.	4.4	24
57	Modeling of permeation and damage in graphite/epoxy laminates for cryogenic fuel storage. Composites Science and Technology, 2004, 64, 2051-2065.	7.8	48
58	A Coupled Hygrothermal Cohesive-Layer Constitutive Model for Simulating Debond Growth. Polymers and Polymer Composites, 2003, 11, 633-648.	1.9	6
59	Matrix Cracking and Delaminations in Orthotropic Laminates Subjected to Freeze-Thaw: Model Development. Polymers and Polymer Composites, 2002, 10, 327-340.	1.9	8
60	Stress Intensity Factor for an Elliptic Inclusion in Orthotropic Laminates Subjected to Freeze-thaw: Model Verification. Polymers and Polymer Composites, 2002, 10, 571-588.	1.9	7
61	Modeling of diffusion in the presence of damage in polymer matrix composites. International Journal of Solids and Structures, 2001, 38, 115-126.	2.7	34
62	Modeling of moisture diffusion in the presence of bi-axial damage in polymer matrix composite laminates. International Journal of Solids and Structures, 2001, 38, 7627-7641.	2.7	53
63	Modeling of Diffusion in a Micro-Cracked Composite Laminate Using Approximate Solutions. Journal of Composite Materials, 1999, 33, 872-905.	2.4	13
64	Modeling of Anomalous Moisture Diffusion in Polymer Composites: A Finite Element Approach. Journal of Composite Materials, 1999, 33, 1318-1343.	2.4	27
65	A computational procedure for the simulation of ductile fracture with large plastic deformation. Engineering Fracture Mechanics, 1993, 45, 277-293.	4.3	5
66	On the use of polar decomposition in the integration of hypoelastic constitutive laws. International Journal of Engineering Science, 1992, 30, 119-133.	5.0	28
67	Simulation of surface asperities on a carbon fiber using molecular dynamics and fourier series decomposition to predict interfacial shear strength in polymer matrix composites. Composite Interfaces, 0, , 1-24.	2.3	3