Rajib Chowdhury

List of Publications by Year
in descending order

118 papers	3,293 citations	126708 33 h-index	174990 52 g-index
120 all docs	120 docs citations	120 times ranked	2251 citing authors

#	Article	IF	Citations
1	Effective mechanical properties of hexagonal boron nitride nanosheets. Nanotechnology, 2011, 22, 505702.	1.3	216
2	Vibrating carbon nanotube based bio-sensors. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 42, 104-109.	1.3	165
3	A molecular mechanics approach for the vibration of single-walled carbon nanotubes. Computational Materials Science, 2010, 48, 730-735.	1.4	121
4	A Critical Review of Surrogate Assisted Robust Design Optimization. Archives of Computational Methods in Engineering, 2019, 26, 245-274.	6.0	111
5	Highâ€dimensional model representation for structural reliability analysis. Communications in Numerical Methods in Engineering, 2009, 25, 301-337.	1.3	104
6	A Critical Assessment of Kriging Model Variants for High-Fidelity Uncertainty Quantification in Dynamics of composite Shells. Archives of Computational Methods in Engineering, 2017, 24, 495-518.	6.0	94
7	Vibration frequency of graphene based composites: A multiscale approach. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 303-310.	1.7	76
8	Graphene-based biosensor using transport properties. Physical Review B, 2011, 83, .	1.1	73
9	Anti-impact behavior of auxetic sandwich structure with braided face sheets and 3D re-entrant cores. Composite Structures, 2020, 236, 111838.	3.1	69
10	The calibration of carbon nanotube based bionanosensors. Journal of Applied Physics, 2010, 107, .	1.1	67
11	Assessment of high dimensional model representation techniques for reliability analysis. Probabilistic Engineering Mechanics, 2009, 24, 100-115.	1.3	66
12	Hybrid High Dimensional Model Representation for reliability analysis. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 753-765.	3.4	65
13	Boron-Nitride Nanotubes as Zeptogram-Scale Bionanosensors: Theoretical Investigations. IEEE Nanotechnology Magazine, 2011, 10, 659-667.	1.1	60
14	Structural Damage Identification Using Response Surface-Based Multi-objective Optimization: A Comparative Study. Arabian Journal for Science and Engineering, 2015, 40, 1027-1044.	1.1	59
15	A semi-analytical framework for structural reliability analysis. Computer Methods in Applied Mechanics and Engineering, 2015, 289, 475-497.	3.4	53
16	Zeptogram sensing from gigahertz vibration: Graphene based nanosensor. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 1528-1534.	1.3	52
17	Optical properties of silicon doped ZnO. Physica B: Condensed Matter, 2010, 405, 4763-4767.	1.3	51
18	The transverse elasticity of bilayer graphene. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 2053-2057.	0.9	50

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19	Vibration and symmetry-breaking of boron nitride nanotubes. Nanotechnology, 2010, 21, 365702.	1.3	50
20	High dimensional model representation for pieceâ€wise continuous function approximation. Communications in Numerical Methods in Engineering, 2008, 24, 1587-1609.	1.3	47
21	Stochastic free vibration analysis of laminated composite plates using polynomial correlated function expansion. Composite Structures, 2016, 135, 236-249.	3.1	47
22	Low frequency vibration of multiwall carbon nanotubes with heterogeneous boundaries. Journal Physics D: Applied Physics, 2010, 43, 085405.	1.3	45
23	Vibrational characteristics of bilayer graphene sheets. Thin Solid Films, 2011, 519, 6026-6032.	0.8	45
24	A surrogate based multi-fidelity approach for robust design optimization. Applied Mathematical Modelling, 2017, 47, 726-744.	2.2	45
25	Probabilistic Analysis Using High Dimensional Model Representation and Fast Fourier Transform. International Journal for Computational Methods in Engineering Science and Mechanics, 2008, 9, 342-357.	1.4	43
26	Optimum design of FRP bridge deck: an efficient RS-HDMR based approach. Structural and Multidisciplinary Optimization, 2015, 52, 459-477.	1.7	42
27	Structural damage identification: A random sampling-high dimensional model representation approach. Advances in Structural Engineering, 2016, 19, 908-927.	1.2	42
28	Multiscale hybrid atomistic-FE approach for the nonlinear tensile behaviour of graphene nanocomposites. Composites Part A: Applied Science and Manufacturing, 2013, 46, 147-153.	3.8	38
29	Size- and temperature-dependent piezoelectric properties of gallium nitride nanowires. Scripta Materialia, 2013, 68, 627-630.	2.6	36
30	A hybrid approach for global sensitivity analysis. Reliability Engineering and System Safety, 2017, 158, 50-57.	5.1	36
31	A length scale insensitive phase field model for brittle fracture of hyperelastic solids. Engineering Fracture Mechanics, 2020, 236, 107196.	2.0	36
32	Enhanced highâ€dimensional model representation for reliability analysis. International Journal for Numerical Methods in Engineering, 2009, 77, 719-750.	1.5	35
33	Probabilistic stability assessment of slopes using high dimensional model representation. Computers and Geotechnics, 2010, 37, 876-884.	2.3	35
34	Fuzzy parametric uncertainty analysis of linear dynamical systems: A surrogate modeling approach. Mechanical Systems and Signal Processing, 2012, 32, 5-17.	4.4	35
35	Helicopter aeroelastic analysis with spatially uncertain rotor blade properties. Aerospace Science and Technology, 2012, 16, 29-39.	2.5	35
36	Vibration spectra of fullerene family. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2166-2170.	0.9	33

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37	Sequential experimental design based generalised ANOVA. Journal of Computational Physics, 2016, 317, 15-32.	1.9	32
38	High dimensional model representation for stochastic finite element analysis. Applied Mathematical Modelling, 2010, 34, 3917-3932.	2.2	31
39	Multivariate function approximations using the D-MORPH algorithm. Applied Mathematical Modelling, 2015, 39, 7155-7180.	2.2	30
40	Probabilistic failure analysis of laminated sandwich shells based on higher order zigzag theory. Journal of Sandwich Structures and Materials, 2015, 17, 546-561.	2.0	30
41	A bi-level approximation tool for the computation of FRFs in stochastic dynamic systems. Mechanical Systems and Signal Processing, 2016, 70-71, 484-505.	4.4	30
42	Elasticity and piezoelectricity of zinc oxide nanostructure. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2036-2040.	1.3	28
43	High dimensional model representation method for fuzzy structural dynamics. Journal of Sound and Vibration, 2011, 330, 1516-1529.	2.1	28
44	Assessment of polynomial correlated function expansion for high-fidelity structural reliability analysis. Structural Safety, 2016, 59, 9-19.	2.8	28
45	Hybrid Framework for the Estimation of Rare Failure Event Probability. Journal of Engineering Mechanics - ASCE, 2017, 143, .	1.6	28
46	Towards â€˜h-p adaptiveâ€™ generalized ANOVA. Computer Methods in Applied Mechanics and Engineering, 2017, 320, 558-581.	3.4	27
47	Factorized high dimensional model representation for structural reliability analysis. Engineering Computations, 2008, 25, 708-738.	0.7	25
48	Electronic structures of silicon doped ZnO. Physica B: Condensed Matter, 2010, 405, 1980-1985.	1.3	25
49	Modelling uncertainty in incompressible flow simulation using Galerkin based generalized ANOVA. Computer Physics Communications, 2016, 208, 73-91.	3.0	25
50	Thickness and in-plane elasticity of graphane. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2071-2074.	0.9	24
51	Robust topology optimization of negative Poissonâ€™s ratio metamaterials under material uncertainty. Finite Elements in Analysis and Design, 2022, 198, 103649.	1.7	24
52	Vibration of ZnO nanotubes: a molecular mechanics approach. Applied Physics A: Materials Science and Processing, 2011, 102, 301-308.	1.1	23
53	Dynamics of mechanical waves in periodic graphene nanoribbon assemblies. Nanoscale Research Letters, 2011, 6, 430.	3.1	22
54	An adaptive mesh refinement algorithm for phase-field fracture models: Application to brittle, cohesive, and dynamic fracture. Computer Methods in Applied Mechanics and Engineering, 2022, 399, 115347.	3.4	22

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55	Double gated single molecular transistor for charge detection. Journal of Applied Physics, 2014, 116, 034307.	1.1	21
56	Ab initiostudies of phosphorene island single electron transistor. Journal of Physics Condensed Matter, 2016, 28, 195302.	0.7	21
57	Elastic instability of bilayer graphene using atomistic finite element. Physica E: Low-Dimensional Systems and Nanostructures, 2011, 44, 12-16.	1.3	20
58	Threshold shift method for reliability-based design optimization. Structural and Multidisciplinary Optimization, 2019, 60, 2053-2072.	1.7	20
59	Small-scale effect on the mechanical properties of metallic nanotubes. Applied Physics Letters, 2012, 101, 093109.	1.5	19
60	Polynomial Correlated Function Expansion for Nonlinear Stochastic Dynamic Analysis. Journal of Engineering Mechanics - ASCE, 2015, 141, 04014132.	1.6	19
61	Moment Independent Sensitivity Analysis: H-PCFEâ€“Based Approach. Journal of Computing in Civil Engineering, 2017, 31, .	2.5	19
62	An efficient algorithm for building locally refined hp â€“ adaptive H-PCFE: Application to uncertainty quantification. Journal of Computational Physics, 2017, 351, 59-79.	1.9	19
63	A multiscale continuum model for inelastic behavior of woven composite. Composite Structures, 2019, 226, 111267.	3.1	18
64	Graph-Theoretic-Approach-Assisted Gaussian Process for Nonlinear Stochastic Dynamic Analysis under Generalized Loading. Journal of Engineering Mechanics - ASCE, 2019, 145, .	1.6	17
65	An auto-adaptive sub-stepping algorithm for phase-field modeling of brittle fracture. Theoretical and Applied Fracture Mechanics, 2020, 108, 102622.	2.1	17
66	Molecular-scale bio-sensing using armchair graphene. Journal of Applied Physics, 2012, 112, 014905.	1.1	16
67	GRAPHYNE-BASED SINGLE ELECTRON TRANSISTOR: AB INITIO ANALYSIS. Nano, 2014, 09, 1450032.	0.5	16
68	An efficient sparse Bayesian learning framework for stochastic response analysis. Structural Safety, 2017, 68, 1-14.	2.8	16
69	Mechanical behavior of gallium nitride nanosheets using molecular dynamics. Computational Materials Science, 2013, 75, 29-34.	1.4	15
70	Nanomechanical and microstructural characterization of sputter deposited ZnO thin films. Applied Surface Science, 2016, 389, 1023-1032.	3.1	15
71	Probabilistic analysis of tunnels: A hybrid polynomial correlated function expansion based approach. Tunnelling and Underground Space Technology, 2017, 70, 89-104.	3.0	14
72	Decoupling uncertainty quantification from robust design optimization. Structural and Multidisciplinary Optimization, 2019, 59, 1969-1990.	1.7	14

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73	Stochastic sensitivity analysis using HDMR and score function. Sadhana - Academy Proceedings in Engineering Sciences, 2009, 34, 967-986.	0.8	13
74	Reliability analysis of uncertain dynamical systems using correlated function expansion. International Journal of Mechanical Sciences, 2011, 53, 281-285.	3.6	13
75	Wave Propagation in Periodically Supported Nanoribbons: A Nonlocal Elasticity Approach. Journal of Vibration and Acoustics, Transactions of the ASME, 2013, 135, .	1.0	12
76	Polynomial Correlated Function Expansion. Advances in Civil and Industrial Engineering Book Series, 2017, , 348-373.	0.2	12
77	Graphene based single molecule nanojunction. Physica B: Condensed Matter, 2012, 407, 855-858.	1.3	11
78	Robust Design Optimization for Crashworthiness of Vehicle Side Impact. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering, 2017, 3, .	0.7	11
79	Adhesion strength and nanomechanical characterization of ZnO thin films. Journal of Materials Research, 2017, 32, 1432-1443.	1.2	11
80	Molecular dynamics investigation of the thermomechanical behavior of monolayer GaN. Journal of Applied Physics, 2013, 113, 243504.	1.1	10
81	Atomistic Studies on Tensile Mechanics of BN Nanotubes in the Presence of Defects. International Journal of Nanoscience, 2014, 13, 1450005.	0.4	9
82	Role of graphene-based materials (GO) in improving physicochemical properties of cementitious nano-composites: a review. Journal of Materials Science, 2021, 56, 19329-19358.	1.7	9
83	Adaptive isogeometric topology optimization using PHT splines. Computer Methods in Applied Mechanics and Engineering, 2022, 395, 114993.	3.4	8
84	Probabilistic characterization of AHWR Inner Containment using High Dimensional Model Representation. Nuclear Engineering and Design, 2009, 239, 1030-1041.	0.8	7
85	Reliability analysis of 500MWe PHWR inner containment using high-dimensional model representation. International Journal of Pressure Vessels and Piping, 2010, 87, 230-238.	1.2	7
86	Sliding oscillation of multiwall carbon nanotubes. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2295-2300.	1.3	7
87	Graphene nanofilm as pressure and force sensor: A mechanical analysis. Physica Status Solidi (B): Basic Research, 2013, 250, 2085-2089.	0.7	7
88	Adaptive Bilevel Approximation Technique for Multiobjective Evolutionary Optimization. Journal of Computing in Civil Engineering, 2017, 31, .	2.5	7
89	hâ€“p adaptive model based approximation of moment free sensitivity indices. Computer Methods in Applied Mechanics and Engineering, 2018, 332, 572-599.	3.4	7
90	Analytical moment based approximation for robust design optimization. Structural and Multidisciplinary Optimization, 2018, 58, 2135-2162.	1.7	7

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91	Multiscale approach for the nonlinear behavior of cementitious composite. Computational Materials Science, 2014, 93, 29-35.	1.4	6
92	Refined sparse Bayesian learning configuration for stochastic response analysis. Probabilistic Engineering Mechanics, 2018, 52, 15-27.	1.3	6
93	A reduced-order random matrix approach for stochastic structural dynamics. Computers and Structures, 2010, 88, 1230-1238.	2.4	5
94	Conductance of graphene nanoribbons under mechanical deformation. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 1256-1259.	1.3	5
95	A global two-layer meta-model for response statistics in robust design optimization. Engineering Optimization, 2022, 54, 153-169.	1.5	5
96	Multicut high dimensional model representation for reliability analysis. Structural Engineering and Mechanics, 2011, 38, 651-674.	1.0	4
97	A Hybrid Atomistic Approach for the Mechanics of Deoxyribonucleic Acid Molecules. Journal of Nanotechnology in Engineering and Medicine, 2013, 4, .	0.8	3
98	Improved Sparse Approximation Models for Stochastic Computations. , 2017, , 201-223.		3
99	Wave propagation and structural dynamics in graphene nanoribbons. Proceedings of SPIE, 2010, , .	0.8	2
100	Stochastic sensitivity analysis using preconditioning approach. Engineering Computations, 2010, 27, 841-862.	0.7	2
101	EFFECT OF GRAVITY LOADING ON INELASTIC SEISMIC DEMAND OF STRUCTURES. Journal of Earthquake and Tsunami, 2012, 06, 1250022.	0.7	2
102	Nanoindentation and nanoscratch behavior of ZnO:Pr thin films deposited by DC sputtering. Journal of Materials Research, 2018, 33, 2533-2544.	1.2	2
103	Hysteresis Model for RC Structural Element Accounting Bi-Directional Lateral Load Interaction. , 2005, , 229.		1
104	Al-dopedZnONanostructured Thin Films: Density Functional Theory and Experiment. International Journal of Nanoscience, 2015, 14, 1550015.	0.4	1
105	Galerkin based generalized ANOVA for the solution of stochastic steady state diffusion problems. Probabilistic Engineering Mechanics, 2017, 50, 36-44.	1.3	1
106	Locally Refined Adaptive Sparse Surrogate-Based Approach for Uncertainty Quantification. Journal of Engineering Mechanics - ASCE, 2019, 145, .	1.6	1
107	Hydroelectric Flow Optimization of a Dam: A Kriging-Based Approach. Lecture Notes in Civil Engineering, 2019, , 813-823.	0.3	1
108	An Improved Meshfree Method for Fracture Analysis of Cracks. , 2006, , 497.		0

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109	An Efficient Computational Solution Scheme of the Random Eigenvalue Problems. , 2009, , .		0
110	Effects of Spatially Uncertain Structural Properties on Helicopter Aeroelastic Response Predictions using High Dimensional Model Representation. , 2011, , .		0
111	High-dimensional model representation for structural reliability analysis: Authors' reply to comments by S. Rahman and H. Xu. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1660-1664.	1.0	0
112	Improved Sparse High-Dimensional Model Representation Based on Least Absolute Shrinkage and Selection Operator. Lecture Notes in Civil Engineering, 2019, , 405-417.	0.3	0
113	An efficient approximation-based robust design optimization framework for large-scale structural systems. , 2020, , 179-201.		0
114	Efficient Reliability Analysis Using Multipoint Response Surface Method. , 2007, , .		0
115	Structural Reliability Evaluation Using Enhanced HDMR. , 2008, , .		0
116	A Hybrid Approach for Solution of Fokker-Planck Equation. , 2015, , 1519-1527.		0
117	Adaptive Refined-Model-Based Approach for Robust Design Optimization. Advances in Computational Intelligence and Robotics Book Series, 2018, , 19-43.	0.4	0
118	Reliability-Based Design Optimizationâ€"A Hybrid PCFE-Based Approach. Lecture Notes in Civil Engineering, 2019, , 419-430.	0.3	0