

Franz Bamer

List of Publications by Year in descending order

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69

papers

988

citations

430874

18

h-index

477307

29

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all docs

72

docs citations

72

times ranked

547

citing authors

#	ARTICLE	IF	CITATIONS
1	Estimation of Gait Mechanics Based on Simulated and Measured IMU Data Using an Artificial Neural Network. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 41.	4.1	92
2	Prediction of lower limb joint angles and moments during gait using artificial neural networks. <i>Medical and Biological Engineering and Computing</i> , 2020, 58, 211-225.	2.8	73
3	Artificial neural networks and intelligent finite elements in non-linear structural mechanics. <i>Thin-Walled Structures</i> , 2018, 131, 102-106.	5.3	71
4	Artificial neural networks in structural dynamics: A new modular radial basis function approach vs. convolutional and feedforward topologies. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 364, 112989.	6.6	47
5	Neural network based constitutive modeling of nonlinear viscoplastic structural response. <i>Mechanics Research Communications</i> , 2019, 95, 85-88.	1.8	44
6	A new model order reduction strategy adapted to nonlinear problems in earthquake engineering. <i>Earthquake Engineering and Structural Dynamics</i> , 2017, 46, 537-559.	4.4	41
7	An efficient Monte Carlo strategy for elasto-plastic structures based on recurrent neural networks. <i>Acta Mechanica</i> , 2019, 230, 3279-3293.	2.1	39
8	An intelligent nonlinear meta element for elastoplastic continua: deep learning using a new Time-distributed Residual U-Net architecture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 366, 113088.	6.6	39
9	The influence of the network topology on the deformation and fracture behaviour of silica glass: A molecular dynamics study. <i>Computational Materials Science</i> , 2018, 149, 162-169.	3.0	38
10	Application of the proper orthogonal decomposition for linear and nonlinear structures under transient excitations. <i>Acta Mechanica</i> , 2012, 223, 2549-2563.	2.1	35
11	Assessment of the measurement accuracy of inertial sensors during different tasks of daily living. <i>Journal of Biomechanics</i> , 2019, 84, 81-86.	2.1	32
12	Prediction of ground reaction force and joint moments based on optical motion capture data during gait. <i>Medical Engineering and Physics</i> , 2020, 86, 29-34.	1.7	27
13	Machine learning enhanced tail end prediction of structural response statistics in earthquake engineering. <i>Earthquake Engineering and Structural Dynamics</i> , 2021, 50, 2098-2114.	4.4	27
14	An efficient response identification strategy for nonlinear structures subject to nonstationary generated seismic excitations. <i>Mechanics Based Design of Structures and Machines</i> , 2017, 45, 313-330.	4.7	25
15	Deep convolutional neural networks in structural dynamics under consideration of viscoplastic material behaviour. <i>Mechanics Research Communications</i> , 2020, 108, 103565.	1.8	24
16	Plasticity in vitreous silica induced by cyclic tension considering rate-dependence: Role of the network topology. <i>Journal of Non-Crystalline Solids</i> , 2019, 503-504, 176-181.	3.1	22
17	Artificial Neural Networks in Motion Analysis – Applications of Unsupervised and Heuristic Feature Selection Techniques. <i>Sensors</i> , 2020, 20, 4581.	3.8	22
18	Athermal mechanical analysis of Stone-Wales defects in two-dimensional silica. <i>Computational Materials Science</i> , 2019, 163, 301-307.	3.0	18

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19	Elementary plastic events in a Zachariasen glass under shear and pressure. <i>Materialia</i> , 2020, 9, 100556.	2.7	18
20	Intelligent prediction of kinetic parameters during cutting manoeuvres. <i>Medical and Biological Engineering and Computing</i> , 2019, 57, 1833-1841.	2.8	17
21	Vitreous 2D silica under tension: From brittle to ductile behaviour. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 780, 139189.	5.6	16
22	Efficient solution of the multiple seismic pounding problem using hierarchical substructure techniques. <i>Computational Mechanics</i> , 2018, 62, 761-782.	4.0	14
23	A nonlinear visco-elastoplastic model for structural pounding. <i>Earthquake Engineering and Structural Dynamics</i> , 2018, 47, 2490-2495.	4.4	14
24	Explainable Artificial Intelligence for Mechanics: Physics-Explaining Neural Networks for Constitutive Models. <i>Frontiers in Materials</i> , 2022, 8, .	2.4	13
25	Neural network representation of a phase-field model for brittle fracture. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2017, 17, 253-254.	0.2	12
26	An efficient Monte Carlo simulation strategy based on model order reduction and artificial neural networks. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2017, 17, 287-288.	0.2	12
27	Stone's Wales defect interaction in quasistatically deformed 2D silica. <i>Journal of Materials Science</i> , 2020, 55, 3470-3483.	3.7	12
28	Origin of reversible and irreversible atomic-scale rearrangements in a model two-dimensional network glass. <i>Physical Review E</i> , 2020, 102, 033006.	2.1	12
29	An intelligent meta-element for linear elastic continua. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2018, 18, e201800283.	0.2	9
30	Quasistatic analysis of elastoplastic structures by the proper generalized decomposition in a space-time approach. <i>Mechanics Research Communications</i> , 2020, 104, 103500.	1.8	9
31	A Monte Carlo Simulation Approach in Non-linear Structural Dynamics Using Convolutional Neural Networks. <i>Frontiers in Built Environment</i> , 2021, 7, .	2.3	9
32	Model reduction and submodelling using neural networks. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2016, 16, 537-538.	0.2	8
33	Data-driven classification of elementary rearrangement events in silica glass. <i>Scripta Materialia</i> , 2021, 205, 114179.	5.2	8
34	A Newmark space-time formulation in structural dynamics. <i>Computational Mechanics</i> , 2021, 67, 1331-1348.	4.0	7
35	Training Data Selection for Machine Learning-Enhanced Monte Carlo Simulations in Structural Dynamics. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 581.	2.5	7
36	A visco-elastoplastic pounding damage formulation. <i>Engineering Structures</i> , 2019, 197, 109373.	5.3	6

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37	Continuous Zachariasen carbon monolayers under tensile deformation: Insights from molecular dynamics simulations. <i>Extreme Mechanics Letters</i> , 2020, 38, 100744.	4.1	6
38	Molecular dynamics simulation of interface atomic diffusion in ultrasonic metal welding. <i>International Journal of Advanced Manufacturing Technology</i> , 2022, 118, 2339-2353.	3.0	6
39	Self-organized criticality in fracture models at different scales. <i>Examples and Counterexamples</i> , 2022, 2, 100054.	0.6	6
40	A Nonlinear Deterministic Mode Decomposition Strategy for High-Dimensional Monte Carlo Simulations. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2016, 16, 187-188.	0.2	5
41	A Structural Pounding Formulation Using Systematic Modal Truncation. <i>Shock and Vibration</i> , 2018, 2018, 1-15.	0.6	5
42	A machine learning enhanced structural response prediction strategy due to seismic excitation. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2021, 20, e202000294.	0.2	5
43	Determination of gait parameters in real-world environment using low-cost inertial sensors. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2018, 18, e201800014.	0.2	4
44	A Hertz-pounding formulation with a nonlinear damping and a dry friction element. <i>Acta Mechanica</i> , 2018, 229, 4485-4494.	2.1	4
45	Investigation of the network topology of vitreous silica during cyclic tensile loading. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2018, 18, e201800441.	0.2	3
46	A non-incremental numerical method for dynamic elastoplastic problems by the symplectic Brezis-Ekeland-Nayroles principle. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 384, 113908.	6.6	3
47	Non-incremental response evaluation in geometrically nonlinear structural dynamics using a space-time stiffness operator. <i>Computational Mechanics</i> , 2022, 70, 309-333.	4.0	3
48	An explicit reduced order integration scheme for contact problems in structural dynamics. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2017, 17, 349-350.	0.2	2
49	A Newmark space-time approach in structural mechanics. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2021, 20, e202000304.	0.2	2
50	On the Poisson's ratio of an amorphous 2D network material. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2021, 20, e202000318.	0.2	2
51	Mechanik 4.0. Künstliche Intelligenz zur Analyse mechanischer Systeme. , 2020, , 553-567.		2
52	A comparison of two neural network architectures for fast structural response prediction. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2021, 21, .	0.2	2
53	Workflow concepts to model nonlinear mechanics with computational intelligence. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2021, 21, .	0.2	2
54	Biomechanical evaluation of a femoral neck fracture implant using a novel test-stand. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2017, 17, 209-210.	0.2	1

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55	Modelling silica bilayers based on experimental data. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900475.	0.2	1
56	An artificial intelligence approach to model nonlinear continua by intelligent meta-elements. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000300.	0.2	1
57	Numerical investigation of the Poisson's ratio of an amorphous bilayer 2D network material. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	1
58	On the reduced solution of the earthquake-induced pounding problem. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800187.	0.2	0
59	The effect of the medium-range configuration on the atomistic fracture behaviour of vitreous silica. Proceedings in Applied Mathematics and Mechanics, 2018, 18, e201800418.	0.2	0
60	On the fracture behavior of vitreous two-dimensional silica. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900460.	0.2	0
61	A damage detection study of a bridge using bypassing vehicles and computational intelligence. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900301.	0.2	0
62	Artificial neural networks in structural dynamics. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900128.	0.2	0
63	Constructing the Hamiltonian from the Behaviour of a Dynamical System by Proper Symplectic Decomposition. Lecture Notes in Computer Science, 2021, , 439-447.	1.3	0
64	AN EFFICIENT ORDER REDUCTION STRATEGY IN EARTHQUAKE NONLINEAR RESPONSE ANALYSIS OF STRUCTURES. , 2016, , .		0
65	Stress response of 2D silica under quasi-static tension. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900467.	0.2	0
66	Lebenswissenschaften 4.0 – Sensorik und maschinelles Lernen in der Bewegungsanalyse. , 2020, , 1077-1093.		0
67	ON SPACE-TIME FORMULATIONS IN STRUCTURAL MECHANICS USING THE PROPER GENERALIZED DECOMPOSITION. , 2020, , .		0
68	Closed form solutions for the dynamics of a pressurized elastoplastic thin-walled tube. Thin-Walled Structures, 2022, 174, 109080.	5.3	0
69	A non-incremental solution procedure for elastoplastic problems in structural mechanics. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0