Tom Lahmer

List of Publications by Year
in descending order

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76 papers	2,645 citations	236925 25 h-index	189892 50 g-index
80 all docs	80 docs citations	80 times ranked	2079 citing authors

#	Article	IF	Citations
1	A software framework for probabilistic sensitivity analysis for computationally expensive models. Advances in Engineering Software, 2016, 100, 19-31.	3.8	514
2	Detection of material interfaces using a regularized level set method in piezoelectric structures. Inverse Problems in Science and Engineering, 2016, 24, 153-176.	1.2	196
3	Uncertainty quantification for multiscale modeling of polymer nanocomposites with correlated parameters. Composites Part B: Engineering, 2015, 68, 446-464.	12.0	187
4	A unified framework for stochastic predictions of mechanical properties of polymeric nanocomposites. Computational Materials Science, 2015, 96, 520-535.	3.0	142
5	Stochastic predictions of interfacial characteristic of polymeric nanocomposites (PNCs). Composites Part B: Engineering, 2014, 59, 80-95.	12.0	132
6	Stochastic predictions of bulk properties of amorphous polyethylene based on molecular dynamics simulations. Mechanics of Materials, 2014, 68, 70-84.	3.2	118
7	Detection of flaws in piezoelectric structures using extended FEM. International Journal for Numerical Methods in Engineering, 2013, 96, 373-389.	2.8	90
8	Predicting the fracture toughness of PNCs: A stochastic approach based on ANN and ANFIS. Computational Materials Science, 2015, 102, 304-313.	3.0	88
9	Detection of multiple flaws in piezoelectric structures using XFEM and level sets. Computer Methods in Applied Mechanics and Engineering, 2014, 275, 98-112.	6.6	74
10	Topology optimization of piezoelectric nanostructures. Journal of the Mechanics and Physics of Solids, 2016, 94, 316-335.	4.8	73
11	Extended finite element method for dynamic fracture of piezo-electric materials. Engineering Fracture Mechanics, 2012, 92, 19-31.	4.3	59
12	FEM-Based determination of real and complex elastic, dielectric, and piezoelectric moduli in piezoceramic materials. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 465-475.	3.0	55
13	A review on application of soft computing techniques for the rapid visual safety evaluation and damage classification of existing buildings. Journal of Building Engineering, 2021, 43, 102536.	3.4	55
14	PDE based determination of piezoelectric material tensors. European Journal of Applied Mathematics, 2006, 17, 383-416.	2.9	40
15	Identification of constitutive parameters of soil using an optimization strategy and statistical analysis. Computers and Geotechnics, 2013, 49, 143-157.	4.7	38
16	Identification of the thermal properties of concrete for the temperature calculation of concrete slabs and columns subjected to a standard fireâ€"Methodology and proposal for simplified formulations. Fire Safety Journal, 2017, 87, 80-86.	3.1	37
17	Uncertainty quantification of dry woven fabrics: A sensitivity analysis on material properties. Composite Structures, 2014, 116, 1-17.	5.8	36
18	Hybrid nonlinear surrogate models for fracture behavior of polymeric nanocomposites. Probabilistic Engineering Mechanics, 2017, 50, 64-75.	2.7	35

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19	Developing a hierarchical type-2 fuzzy logic model to improve rapid evaluation of earthquake hazard safety of existing buildings. Structures, 2020, 28, 1384-1399.	3.6	35
20	A Machine Learning Framework for Assessing Seismic Hazard Safety of Reinforced Concrete Buildings. Applied Sciences (Switzerland), 2020, 10, 7153.	2.5	35
21	Prediction of aeroelastic response of bridge decks using artificial neural networks. Computers and Structures, 2020, 231, 106198.	4.4	33
22	Earthquake Hazard Safety Assessment of Existing Buildings Using Optimized Multi-Layer Perceptron Neural Network. Energies, 2020, 13, 2060.	3.1	31
23	ML-EHSAPP: a prototype for machine learning-based earthquake hazard safety assessment of structures by using a smartphone app. European Journal of Environmental and Civil Engineering, 2022, 26, 5279-5299.	2.1	30
24	Improved Rapid Visual Earthquake Hazard Safety Evaluation of Existing Buildings Using a Type-2 Fuzzy Logic Model. Applied Sciences (Switzerland), 2020, 10, 2375.	2.5	29
25	A Synthesized Study Based on Machine Learning Approaches for Rapid Classifying Earthquake Damage Grades to RC Buildings. Applied Sciences (Switzerland), 2021, 11, 7540.	2.5	29
26	Evaluation of coupled partial models in structural engineering using graph theory and sensitivity analysis. Engineering Structures, 2011, 33, 3726-3736.	5.3	25
27	A dynamic XFEM formulation for crack identification. International Journal of Mechanics and Materials in Design, 2016, 12, 427-448.	3.0	25
28	Application of Support Vector Machine Modeling for the Rapid Seismic Hazard Safety Evaluation of Existing Buildings. Energies, 2020, 13, 3340.	3.1	25
29	Earthquake Safety Assessment of Buildings through Rapid Visual Screening. Buildings, 2020, 10, 51.	3.1	25
30	Optimal experimental design for nonlinear ill-posed problems applied to gravity dams. Inverse Problems, 2011, 27, 125005.	2.0	22
31	A novel parameter identification approach for buffer elements involving complex coupled thermo-hydro-mechanical analyses. Computers and Geotechnics, 2016, 76, 23-32.	4.7	21
32	A Comparative Study of MCDM Methods Integrated with Rapid Visual Seismic Vulnerability Assessment of Existing RC Structures. Applied Sciences (Switzerland), 2020, 10, 6411.	2.5	20
33	Multiple cracks identification for piezoelectric structures. International Journal of Fracture, 2017, 206, 151-169.	2.2	19
34	Improved Rapid Assessment of Earthquake Hazard Safety of Structures via Artificial Neural Networks. IOP Conference Series: Materials Science and Engineering, 2020, 897, 012014.	0.6	18
35	Evaluation of Machine Learning and Web-Based Process for Damage Score Estimation of Existing Buildings. Buildings, 2022, 12, 578.	3.1	18
36	Uncertainty analysis in multiscale modeling of concrete based on continuum micromechanics. European Journal of Mechanics, A/Solids, 2017, 65, 14-29.	3.7	14

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37	Single and multi-objective shape optimization of streamlined bridge decks. Structural and Multidisciplinary Optimization, 2020, 61, 1495-1514.	3.5	14
38	Optimal measurement selection for piezoelectric material tensor identification. Inverse Problems in Science and Engineering, 2008, 16, 369-387.	1.2	12
39	Damage identification in gravity dams using dynamic coupled hydro-mechanical XFEM. International Journal of Mechanics and Materials in Design, 2018, 14, 157-175.	3.0	12
40	Earthquake Hazard Safety Assessment of Buildings via Smartphone App: A Comparative Study. IOP Conference Series: Materials Science and Engineering, 2019, 652, 012069.	0.6	12
41	Classification System for Semi-Rigid Beam-to-Column Connections. Latin American Journal of Solids and Structures, 2016, 13, 2152-2175.	1.0	11
42	Conceptual implementation of the variance-based sensitivity analysis for the calculation of the first-order effects. Journal of Statistical Theory and Practice, 2016, 10, 589-611.	0.5	11
43	Seismic Performance of Steel Frames with Semirigid Connections. Journal of Engineering (United) Tj ETQq1 1 0.784314 rgBT /Overloc	1.0	11
44	Shape optimization based design of arch-type dams under uncertainties. Engineering Optimization, 2018, 50, 1470-1482.	2.6	11
45	Development of fuzzy probability based random fields for the numerical structural design. GAMM Mitteilungen, 2019, 42, e201900004.	5.5	11
46	Numerical studies of earth structure assessment via the theory of porous media using fuzzy probability based random field material descriptions. GAMM Mitteilungen, 2019, 42, e201900007.	5.5	11
47	Uncertainty quantification of stability and damage detection parameters of coupled hydrodynamic-ground motion in concrete gravity dams. Frontiers of Structural and Civil Engineering, 2019, 13, 303-323.	2.9	11
48	Crack identification in hydro-mechanical systems with applications to gravity water dams. Inverse Problems in Science and Engineering, 2010, 18, 1083-1101.	1.2	10
49	Identification of multiple flaws in dams using inverse analysis based on hydro-mechanical XFEM and level sets. Computers and Geotechnics, 2019, 110, 211-221.	4.7	9
50	Numerical modeling and validation for 3D coupled-nonlinear thermo-hydro-mechanical problems in masonry dams. Computers and Structures, 2017, 178, 143-154.	4.4	8
51	Combined approach for optimal sensor placement and experimental verification in the context of tower-like structures. Journal of Civil Structural Health Monitoring, 2021, 11, 223-234.	3.9	8
52	Global and local sensitivity analyses for coupled thermoâ€“hydroâ€“mechanical problems. International Journal for Numerical and Analytical Methods in Geomechanics, 2017, 41, 707-720.	3.3	7
53	Decision making and design in structural engineering problems under polymorphic uncertainty. Engineering Structures, 2021, 231, 111649.	5.3	6
54	Finite element modeling of ultrasonic transducer by utilizing an inverse scheme for the determination of its material parameters. , 2008, , .		4

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55	Damage identification using inverse analysis in coupled thermoâ€hydroâ€mechanical problems applied to masonry dams. International Journal for Numerical and Analytical Methods in Geomechanics, 2018, 42, 256-273.	3.3	4
56	Shape design of arch dams under load uncertainties with robust optimization. Frontiers of Structural and Civil Engineering, 2019, 13, 852-862.	2.9	4
57	Enhanced homogenization technique for magnetomechanical systems using the generalized finite element method. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2009, 28, 935-947.	0.9	3
58	On the optimality of harmonic excitation as input signals for the characterization of parameters in coupled piezoelectric and poroelastic problems. Mechanical Systems and Signal Processing, 2017, 90, 399-418.	8.0	3
59	Damage identification using inverse analysis for 3D coupled thermo-hydro-mechanical problems. Computers and Structures, 2018, 196, 146-156.	4.4	3
60	Uncertainty assessment in the results of inverse problems: applied to damage detection in masonry dams. International Journal of Reliability and Safety, 2018, 12, 2.	0.2	3
61	Eigenfrequency-Based Bayesian Approach for Damage Identification in Catenary Poles. Infrastructures, 2021, 6, 57.	2.8	3
62	5H-3 Material Parameter Identification of Piezoelectric Transducers Including the Whole Assembly. , 2006, , .		2
63	Modified Landweber iterations in a multilevel algorithm applied to inverse problems in piezoelectricity. Journal of Inverse and Ill-Posed Problems, 2009, 17, .	1.0	2
64	Inverse analysis of cyclic constitutive models for unsaturated soil under consideration of oscillating functions. E3S Web of Conferences, 2016, 9, 08012.	0.5	2
65	A stochastic computational method based on goal-oriented error estimation for heterogeneous geological materials. Engineering Geology, 2017, 225, 103-113.	6.3	2
66	Quantifying the Uncertainty of Identified Parameters of Prestressed Concrete Poles Using the Experimental Measurements and Different Optimization Methods. Engineering and Applied Sciences, 2019, 4, 84.	0.1	2
67	Comparison of Different Approaches for the Model-Based Design of Experiments. Conference Proceedings of the Society for Experimental Mechanics, 2015, , 135-141.	0.5	2
68	Polymorphic Uncertainty Modeling of Heterogeneous Thermo-Hydro-Mechanical Coupled Systems under Vague Assumptions on Parameter Correlations. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 69-70.	0.2	1
69	Project scheduling under uncertainty and resource constraints. Proceedings in Applied Mathematics and Mechanics, 2017, 17, 839-840.	0.2	1
70	Uncertainty assessment in the results of inverse problems: applied to damage detection in masonry dams. International Journal of Reliability and Safety, 2018, 12, 2.	0.2	1
71	Model based design of experiments and monitoring systems for parameter identification of structures. IABSE Symposium Report, 2014, , .	0.0	0
72	Non-destructive identification of residual stresses in steel under thermal loadings. Inverse Problems in Science and Engineering, 2017, 25, 1519-1535.	1.2	0

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73	Calibration of cyclic constitutive models by oscillating functions. Geomechanics and Geoengineering, 2018, 13, 146-157.	1.8	0
74	Sensor positioning in the context of waveâ€based damage identification in dams. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900082.	0.2	0
75	Existence, uniqueness and regularity of piezoelectric partial differential equations. Applicable Analysis, 0, , 1-22.	1.3	0
76	Efficient domain decomposition based reliability analysis for polymorphic uncertain material parameters. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	0