Alireza Doostan

List of Publications by Year
in descending order

58 papers	2,485 citations	218677 26 h-index	197818 49 g-index
60 all docs	60 docs citations	60 times ranked	1402 citing authors

#	Article	IF	Citations
1	Bi-fidelity reduced polynomial chaos expansion for uncertainty quantification. Computational Mechanics, 2022, 69, 405-424.	4.0	2
2	Prediction of Ultrasonic Guided Wave Propagation in Fluid–Structure and Their Interface under Uncertainty Using Machine Learning. Journal of Engineering Mechanics - ASCE, 2022, 148, .	2.9	2
3	Neural network training using ℓ_1-regularization and bi-fidelity data. Journal of Computational Physics, 2022, 458, 111010.	3.8	6
4	Task-parallel in situ temporal compression of large-scale computational fluid dynamics data. International Journal of High Performance Computing Applications, 2022, 36, 388-418.	3.7	4
5	Rapid aerodynamic shape optimization under uncertainty using a stochastic gradient approach. Structural and Multidisciplinary Optimization, 2022, 65, .	3.5	4
6	Stochastic Gradient Optimization of Transonic Airfoils. , 2021, , .		0
7	Finite-Dimensional Density Representation for Aerocapture Uncertainty Quantification. , 2021, , .		6
8	Sparse identification of nonlinear dynamical systems via reweighted ℓ_1 least squares. Computer Methods in Applied Mechanics and Engineering, 2021, 376, 113620.	6.6	38
9	A stochastic subspace approach to gradient-free optimization in high dimensions. Computational Optimization and Applications, 2021, 79, 339-368.	1.6	7
10	Reliability-based topology optimization using stochastic gradients. Structural and Multidisciplinary Optimization, 2021, 64, 3089-3108.	3.5	4
11	Bi-fidelity approximation for uncertainty quantification and sensitivity analysis of irradiated particle-laden turbulence. Journal of Computational Physics, 2020, 402, 108996.	3.8	15
12	Topology optimization under uncertainty using a stochastic gradient-based approach. Structural and Multidisciplinary Optimization, 2020, 62, 2255-2278.	3.5	26
13	Bi-fidelity stochastic gradient descent for structural optimization under uncertainty. Computational Mechanics, 2020, 66, 745-771.	4.0	17
14	Pass-efficient methods for compression of high-dimensional turbulent flow data. Journal of Computational Physics, 2020, 423, 109704.	3.8	9
15	Acceleration of uncertainty propagation through Lagrange multipliers in partitioned stochastic method. Computer Methods in Applied Mechanics and Engineering, 2020, 362, 112837.	6.6	2
16	Level set methods for stochastic discontinuity detection in nonlinear problems. Journal of Computational Physics, 2019, 392, 511-531.	3.8	5
17	Reduced-Basis Multifidelity Approach for Efficient Parametric Study of NACA Airfoils. AIAA Journal, 2019, 57, 1481-1491.	2.6	6
18	Sparse polynomial chaos expansions via compressed sensing and D-optimal design. Computer Methods in Applied Mechanics and Engineering, 2018, 336, 640-666.	6.6	71

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19	Practical error bounds for a non-intrusive bi-fidelity approach to parametric/stochastic model reduction. Journal of Computational Physics, 2018, 368, 315-332.	3.8	34
20	Least squares polynomial chaos expansion: A review of sampling strategies. Computer Methods in Applied Mechanics and Engineering, 2018, 332, 382-407.	6.6	99
21	Basis adaptive sample efficient polynomial chaos (BASE-PC). Journal of Computational Physics, 2018, 371, 20-49.	3.8	27
22	Compressive Sampling Methods for Sparse Polynomial Chaos Expansions. , 2017, , 827-855.		4
23	An Evaluation of Multi-Fidelity Modeling Efficiency on a Parametric Study of NACA Airfoils. , 2017, , .		2
24	Time‐dependent global sensitivity analysis with active subspaces for a lithium ion battery model. Statistical Analysis and Data Mining, 2017, 10, 243-262.	2.8	28
25	Optimization via separated representations and the canonical tensor decomposition. Journal of Computational Physics, 2017, 348, 220-230.	3.8	4
26	Orbit uncertainty propagation and sensitivity analysis with separated representations. Celestial Mechanics and Dynamical Astronomy, 2017, 129, 105-136.	1.4	5
27	Contributions of Microtubule Dynamic Instability and Rotational Diffusion to Kinetochore Capture. Biophysical Journal, 2017, 112, 552-563.	0.5	42
28	A low-rank control variate for multilevel Monte Carlo simulation of high-dimensional uncertain systems. Journal of Computational Physics, 2017, 341, 121-139.	3.8	33
29	A Bi-Fidelity Approach for Uncertainty Quantification of Heat Transfer in a Rectangular Ribbed Channel. , 2016, , .		9
30	Randomized Alternating Least Squares for Canonical Tensor Decompositions: Application to A PDE With Random Data. SIAM Journal of Scientific Computing, 2016, 38, A2634-A2664.	2.8	26
31	Multi-Element Trajectory Models for Satellite Tour Missions. , 2016, , .		4
32	Reduced cost mission design using surrogate models. Advances in Space Research, 2016, 57, 588-603.	2.6	7
33	On polynomial chaos expansion via gradient-enhanced ℓ_1-minimization. Journal of Computational Physics, 2016, 310, 440-458.	3.8	60
34	Compressive Sampling Methods for Sparse Polynomial Chaos Expansions. , 2015, , 1-29.		6
35	Determination of the polymer-solvent interaction parameter for PEG hydrogels in water: Application of a self learning algorithm. Polymer, 2015, 66, 135-147.	3.8	30
36	On uncertainty quantification of lithium-ion batteries: Application to an LiC6/LiCoO2 cell. Journal of Power Sources, 2015, 300, 507-524.	7.8	37

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37	Postmaneuver Collision Probability Estimation Using Sparse Polynomial Chaos Expansions. Journal of Guidance, Control, and Dynamics, 2015, 38, 1425-1437.	2.8	37
38	Coherence motivated sampling and convergence analysis of least squares polynomial Chaos regression. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 73-97.	6.6	92
39	Heaviside enriched extended stochastic FEM for problems with uncertain material interfaces. Computational Mechanics, 2015, 56, 753-767.	4.0	17
40	Compressive sampling of polynomial chaos expansions: Convergence analysis and sampling strategies. Journal of Computational Physics, 2015, 280, 363-386.	3.8	170
41	SPARSE MULTIRESOLUTION REGRESSION FOR UNCERTAINTY PROPAGATION. , 2014, 4, 303-331.		17
42	A simple and efficient preconditioning scheme for heaviside enriched XFEM. Computational Mechanics, 2014, 54, 1357-1374.	4.0	74
43	Smoothed aggregation algebraic multigrid for stochastic PDE problems with layered materials. Numerical Linear Algebra With Applications, 2014, 21, 239-255.	1.6	8
44	Partitioned treatment of uncertainty in coupled domain problems: A separated representation approach. Computer Methods in Applied Mechanics and Engineering, 2014, 274, 103-124.	6.6	28
45	A weighted -minimization approach for sparse polynomial chaos expansions. Journal of Computational Physics, 2014, 267, 92-111.	3.8	142
46	Nonlinear Propagation of Orbit Uncertainty Using Non-Intrusive Polynomial Chaos. Journal of Guidance, Control, and Dynamics, 2013, 36, 430-444.	2.8	113
47	Satellite collision probability estimation using polynomial chaos expansions. Advances in Space Research, 2013, 52, 1860-1875.	2.6	56
48	On stability and monotonicity requirements of finite difference approximations of stochastic conservation laws with random viscosity. Computer Methods in Applied Mechanics and Engineering, 2013, 258, 134-151.	6.6	8
49	Non-intrusive low-rank separated approximation of high-dimensional stochastic models. Computer Methods in Applied Mechanics and Engineering, 2013, 263, 42-55.	6.6	70
50	Extended stochastic FEM for diffusion problems with uncertain material interfaces. Computational Mechanics, 2013, 51, 1031-1049.	4.0	22
51	Stochastic identification of composite material properties from limited experimental databases, Part II: Uncertainty modelling. Mechanical Systems and Signal Processing, 2012, 27, 484-498.	8.0	42
52	A non-adapted sparse approximation of PDEs with stochastic inputs. Journal of Computational Physics, 2011, 230, 3015-3034.	3.8	356
53	A hybrid collocation/Galerkin scheme for convective heat transfer problems with stochastic boundary conditions. International Journal for Numerical Methods in Engineering, 2009, 80, 868-880.	2.8	19
54	A least-squares approximation of partial differential equations with high-dimensional random inputs. Journal of Computational Physics, 2009, 228, 4332-4345.	3.8	107

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55	A probabilistic construction of model validation. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2585-2595.	6.6	62
56	Efficient solution of stochastic systems: Application to the embankment dam problem. Structural Safety, 2007, 29, 238-251.	5.3	41
57	Stochastic model reduction for chaos representations. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3951-3966.	6.6	158
58	On the construction and analysis of stochastic models: Characterization and propagation of the errors associated with limited data. Journal of Computational Physics, 2006, 217, 63-81.	3.8	163