

Akil C Narayan

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5226506/publications.pdf>

Version: 2024-02-01

73
papers

1,172
citations

394286

19
h-index

414303

32
g-index

73
all docs

73
docs citations

73
times ranked

706
citing authors

#	ARTICLE	IF	CITATIONS
1	A Stochastic Collocation Algorithm with Multifidelity Models. SIAM Journal of Scientific Computing, 2014, 36, A495-A521.	1.3	93
2	Adaptive Leja Sparse Grid Constructions for Stochastic Collocation and High-Dimensional Approximation. SIAM Journal of Scientific Computing, 2014, 36, A2952-A2983.	1.3	82
3	Stochastic Collocation Methods on Unstructured Grids in High Dimensions via Interpolation. SIAM Journal of Scientific Computing, 2012, 34, A1729-A1752.	1.3	56
4	Computational Aspects of Stochastic Collocation with Multifidelity Models. SIAM-ASA Journal on Uncertainty Quantification, 2014, 2, 444-463.	1.1	56
5	A Christoffel function weighted least squares algorithm for collocation approximations. Mathematics of Computation, 2016, 86, 1913-1947.	1.1	50
6	Polynomial chaos expansions for dependent random variables. Computer Methods in Applied Mechanics and Engineering, 2019, 351, 643-666.	3.4	49
7	A Generalized Sampling and Preconditioning Scheme for Sparse Approximation of Polynomial Chaos Expansions. SIAM Journal of Scientific Computing, 2017, 39, A1114-A1144.	1.3	47
8	Compressed Sensing with Sparse Corruptions: Fault-Tolerant Sparse Collocation Approximations. SIAM-ASA Journal on Uncertainty Quantification, 2018, 6, 1424-1453.	1.1	47
9	Stochastic Collocation on Unstructured Multivariate Meshes. Communications in Computational Physics, 2015, 18, 1-36.	0.7	41
10	Minimal multi-element stochastic collocation for uncertainty quantification of discontinuous functions. Journal of Computational Physics, 2013, 242, 790-808.	1.9	40
11	Numerical Integration in Multiple Dimensions with Designed Quadrature. SIAM Journal of Scientific Computing, 2018, 40, A2033-A2061.	1.3	40
12	Practical error bounds for a non-intrusive bi-fidelity approach to parametric/stochastic model reduction. Journal of Computational Physics, 2018, 368, 315-332.	1.9	34
13	A gradient enhanced $\hat{\alpha}_1$ -minimization for sparse approximation of polynomial chaos expansions. Journal of Computational Physics, 2018, 367, 49-64.	1.9	32
14	Effectively Subsampled Quadratures for Least Squares Polynomial Approximations. SIAM-ASA Journal on Uncertainty Quantification, 2017, 5, 1003-1023.	1.1	29
15	Flexibility Reserve in Power Systems: Definition and Stochastic Multi-Fidelity Optimization. IEEE Transactions on Smart Grid, 2020, 11, 644-654.	6.2	29
16	RBF-LOI: Augmenting Radial Basis Functions (RBFs) with Least Orthogonal Interpolation (LOI) for solving PDEs on surfaces. Journal of Computational Physics, 2018, 373, 722-735.	1.9	28
17	Constructing Least-Squares Polynomial Approximations. SIAM Review, 2020, 62, 483-508.	4.2	27
18	Weighted discrete least-squares polynomial approximation using randomized quadratures. Journal of Computational Physics, 2015, 298, 787-800.	1.9	23

#	ARTICLE	IF	CITATIONS
19	Multivariate Discrete Least-Squares Approximations with a New Type of Collocation Grid. SIAM Journal of Scientific Computing, 2014, 36, A2401-A2422.	1.3	22
20	Weighted Approximate Fekete Points: Sampling for Least-Squares Polynomial Approximation. SIAM Journal of Scientific Computing, 2018, 40, A366-A387.	1.3	21
21	Parametric topology optimization with multiresolution finite element models. International Journal for Numerical Methods in Engineering, 2019, 119, 567-589.	1.5	18
22	A robust error estimator and a residual-free error indicator for reduced basis methods. Computers and Mathematics With Applications, 2019, 77, 1963-1979.	1.4	17
23	A Robust Hyperviscosity Formulation for Stable RBF-FD Discretizations of Advection-Diffusion-Reaction Equations on Manifolds. SIAM Journal of Scientific Computing, 2020, 42, A2371-A2401.	1.3	14
24	Stress-based topology optimization under uncertainty via simulation-based Gaussian process. Computer Methods in Applied Mechanics and Engineering, 2020, 365, 112992.	3.4	14
25	Multifidelity modeling for Physics-Informed Neural Networks (PINNs). Journal of Computational Physics, 2022, 451, 110844.	1.9	14
26	Constructing Nested Nodal Sets for Multivariate Polynomial Interpolation. SIAM Journal of Scientific Computing, 2013, 35, A2293-A2315.	1.3	13
27	Stochastic Collocation Methods via L_1 Minimization Using Randomized Quadratures. SIAM Journal of Scientific Computing, 2017, 39, A333-A359.	1.3	13
28	Generation and application of multivariate polynomial quadrature rules. Computer Methods in Applied Mechanics and Engineering, 2018, 338, 134-161.	3.4	13
29	A Goal-Oriented Reduced Basis Methods-Accelerated Generalized Polynomial Chaos Algorithm. SIAM-ASA Journal on Uncertainty Quantification, 2016, 4, 1398-1420.	1.1	12
30	Analysis of the ratio of $\hat{\alpha}_1$ and $\hat{\alpha}_2$ norms in compressed sensing. Applied and Computational Harmonic Analysis, 2021, 55, 486-511.	1.1	12
31	A Reduced Radial Basis Function Method for Partial Differential Equations on Irregular Domains. Journal of Scientific Computing, 2016, 66, 67-90.	1.1	11
32	Computation of induced orthogonal polynomial distributions. Electronic Transactions on Numerical Analysis, 0, 50, 71-97.	0.0	11
33	Sequential data assimilation with multiple models. Journal of Computational Physics, 2012, 231, 6401-6418.	1.9	10
34	Offline-Enhanced Reduced Basis Method Through Adaptive Construction of the Surrogate Training Set. Journal of Scientific Computing, 2017, 73, 853-875.	1.1	10
35	Efficient sampling for polynomial chaos-based uncertainty quantification and sensitivity analysis using weighted approximate Fekete points. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3395.	1.0	10
36	Fast predictive multi-fidelity prediction with models of quantized fidelity levels. Journal of Computational Physics, 2019, 376, 992-1008.	1.9	9

#	ARTICLE	IF	CITATIONS
37	Uncertainty Quantification of the Effects of Segmentation Variability in ECGI. Lecture Notes in Computer Science, 2021, 12738, 515-522.	1.0	9
38	Computation of connection coefficients and measure modifications for orthogonal polynomials. BIT Numerical Mathematics, 2012, 52, 457-483.	1.0	8
39	Allocation Strategies for High Fidelity Models in the Multifidelity Regime. SIAM-ASA Journal on Uncertainty Quantification, 2019, 7, 203-231.	1.1	8
40	Reduced Basis Methods for Fractional Laplace Equations via Extension. SIAM Journal of Scientific Computing, 2019, 41, A3552-A3575.	1.3	8
41	Balanced Truncation for Model Order Reduction of Linear Dynamical Systems with Quadratic Outputs. SIAM Journal of Scientific Computing, 2019, 41, A2270-A2295.	1.3	7
42	Hyperbolicity-preserving and well-balanced stochastic Galerkin method for two-dimensional shallow water equations. Journal of Computational Physics, 2022, 452, 110901.	1.9	7
43	Hyperbolicity-Preserving and Well-Balanced Stochastic Galerkin Method for Shallow Water Equations. SIAM Journal of Scientific Computing, 2021, 43, A929-A952.	1.3	6
44	A generalization of the Wiener rational basis functions on infinite intervals: Part I – derivation and properties. Mathematics of Computation, 2010, 80, 1557-1583.	1.1	5
45	Distributional Sensitivity for Uncertainty Quantification. Communications in Computational Physics, 2011, 10, 140-160.	0.7	4
46	Sequential data assimilation with multiple nonlinear models and applications to subsurface flow. Journal of Computational Physics, 2017, 346, 356-368.	1.9	4
47	Convergence Acceleration for Time-Dependent Parametric Multifidelity Models. SIAM Journal on Numerical Analysis, 2019, 57, 1344-1368.	1.1	4
48	Structure-Preserving Function Approximation via Convex Optimization. SIAM Journal of Scientific Computing, 2020, 42, A3006-A3029.	1.3	4
49	Model reduction for fractional elliptic problems using Kato's formula. Mathematical Control and Related Fields, 2022, 12, 115.	0.6	4
50	L1-Based Reduced Over Collocation and Hyper Reduction for Steady State and Time-Dependent Nonlinear Equations. Journal of Scientific Computing, 2021, 87, 1.	1.1	4
51	Optimal design for kernel interpolation: Applications to uncertainty quantification. Journal of Computational Physics, 2021, 430, 110094.	1.9	4
52	Robust topology optimization with low rank approximation using artificial neural networks. Computational Mechanics, 2021, 68, 1297-1323.	2.2	4
53	A generalization of the Wiener rational basis functions on infinite intervals, Part II – Numerical investigation. Journal of Computational and Applied Mathematics, 2013, 237, 18-34.	1.1	3
54	Numerical Computation of Weil–Peterson Geodesics in the Universal Teichmüller Space. SIAM Journal on Imaging Sciences, 2017, 10, 1322-1345.	1.3	3

#	ARTICLE	IF	CITATIONS
55	Generation of nested quadrature rules for generic weight functions via numerical optimization: Application to sparse grids. <i>Journal of Computational Physics</i> , 2020, 400, 108979.	1.9	3
56	On the Computation of Recurrence Coefficients for Univariate Orthogonal Polynomials. <i>Journal of Scientific Computing</i> , 2021, 88, 1.	1.1	3
57	Using UncertainSCI to Quantify Uncertainty in Cardiac Simulations. , 0, , .		3
58	An Orthogonality Property of the Legendre Polynomials. <i>Constructive Approximation</i> , 2017, 45, 65-81.	1.8	2
59	An efficient solver for cumulative density function-based solutions of uncertain kinematic wave models. <i>Journal of Computational Physics</i> , 2019, 382, 138-151.	1.9	2
60	An efficient method of calculating composition-dependent inter-diffusion coefficients based on compressed sensing method. <i>Computational Materials Science</i> , 2021, 188, 110145.	1.4	2
61	Sensitivity analysis of random linear dynamical systems using quadratic outputs. <i>Journal of Computational and Applied Mathematics</i> , 2021, 387, 112491.	1.1	2
62	KERNEL OPTIMIZATION FOR LOW-RANK MULTIFIDELITY ALGORITHMS. , 2021, 11, 31-54.		2
63	Structure-Preserving Nonlinear Filtering for Continuous and Discontinuous Galerkin Spectral/hp Element Methods. <i>SIAM Journal of Scientific Computing</i> , 2021, 43, A3713-A3732.	1.3	2
64	A Bandit-Learning Approach to Multifidelity Approximation. <i>SIAM Journal of Scientific Computing</i> , 2022, 44, A150-A175.	1.3	2
65	Model Reduction of Linear Dynamical Systems via Balancing for Bayesian Inference. <i>Journal of Scientific Computing</i> , 2022, 91, 1.	1.1	2
66	Approximating the Weil–Petersson Metric Geodesics on the Universal Teichmüller Space by Singular Solutions. <i>SIAM Journal on Imaging Sciences</i> , 2014, 7, 900-923.	1.3	1
67	Sensitivity analysis of random linear differential–algebraic equations using system norms. <i>Journal of Computational and Applied Mathematics</i> , 2021, 397, 113666.	1.1	1
68	Multilevel Designed Quadrature for Partial Differential Equations with Random Inputs. <i>SIAM Journal of Scientific Computing</i> , 2021, 43, A1412-A1440.	1.3	1
69	Fast Barycentric-Based Evaluation Over Spectral/hp Elements. <i>Journal of Scientific Computing</i> , 2022, 90, 1.	1.1	1
70	Sampling high dimensional optimal measures. , 2013, , .		0
71	Data assimilation for models with parametric uncertainty. <i>Journal of Computational Physics</i> , 2019, 396, 785-798.	1.9	0
72	An error bound for the standard deviation in model order reduction of linear stochastic Galerkin systems. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2019, 19, e201900028.	0.2	0

#	ARTICLE	IF	CITATIONS
73	Adaptive density tracking by quadrature for stochastic differential equations. Applied Mathematics and Computation, 2022, 431, 127298.	1.4	0