Harbir Antil

List of Publications by Year in Descending Order

59 papers	628 citations	15 h-index	23 g-index
62 ext. papers	808 ext. citations	2.1 avg, IF	4.97 L-index

#	Paper	IF	Citations
59	A unified framework for optimal control of fractional in time subdiffusive semilinear PDEs. *Discrete and Continuous Dynamical Systems - Series S*, **2022**,	2.8	0
58	Constrained optimization problems governed by PDE models of grain boundary motions. *Advances in Nonlinear Analysis*, **2022**, 11, 1249-1286	2.8	
57	Optimal control, numerics, and applications of fractional PDEs. *Handbook of Numerical Analysis*, **2022**, 87-114	1	0
56	Optimal control of parameterized stationary Maxwell's system: Reduced basis, convergence analysis, and a posteriori error estimates. *Mathematical Control and Related Fields*, **2022**,	1.5	0
55	A deterministic pathogen transmission model based on high-fidelity physics. *Computer Methods in Applied Mechanics and Engineering*, **2022**, 114929	5.7	0
54	Nondiffusive variational problems with distributional and weak gradient constraints. *Advances in Nonlinear Analysis*, **2022**, 11, 1466-1495	2.8	0
53	Novel DNNs for Stiff ODEs with Applications to Chemically Reacting Flows. *Lecture Notes in Computer Science*, **2021**, 23-39	0.9	1
52	Fractional deep neural network via constrained optimization. *Machine Learning: Science and Technology*, **2021**, 2, 015003	5.1	5
51	High-Fidelity Simulation of Pathogen Propagation, Transmission and Mitigation in the Built Environment. *Archives of Computational Methods in Engineering*, **2021**, 1-26	7.8	3
50	High fidelity modeling of aerosol pathogen propagation in built environments with moving pedestrians. *International Journal for Numerical Methods in Biomedical Engineering*, **2021**, 37, e3428	2.6	4
49	A Fast Solver for the Fractional Helmholtz Equation. *SIAM Journal of Scientific Computing*, **2021**, 43, A1362-A1388	2.6	8
48	Deep learning or interpolation for inverse modelling of heat and fluid flow problems?. *International Journal of Numerical Methods for Heat and Fluid Flow*, **2021**, 31, 3036-3046	4.5	0
47	Risk-Averse Control of Fractional Diffusion with Uncertain Exponent. *SIAM Journal on Control and Optimization*, **2021**, 59, 1161-1187	1.9	0
46	Approximation of Integral Fractional Laplacian and Fractional PDEs via sinc-Basis. *SIAM Journal of Scientific Computing*, **2021**, 43, A2897-A2922	2.6	1
45	On a Fractional Version of a Murat Compactness Result and Applications. *SIAM Journal on Mathematical Analysis*, **2021**, 53, 3158-3187	1.7	1
44	Model reduction for fractional elliptic problems using Kato's formula. *Mathematical Control and Related Fields*, **2021**,	1.5	1
43	A note on multigrid preconditioning for fractional PDE-constrained optimization problems. *Results in Applied Mathematics*, **2021**, 9, 100133	1.7	2

42	Fractional diffusion maps. *Applied and Computational Harmonic Analysis*, **2021**, 54, 145-175	3.1	3
41	Optimal Control of Fractional Elliptic PDEs with State Constraints and Characterization of the Dual of Fractional-Order Sobolev Spaces. *Journal of Optimization Theory and Applications*, **2020**, 186, 1-23	1.6	5
40	Bilevel optimization, deep learning and fractional Laplacian regularization with applications in tomography. *Inverse Problems*, **2020**, 36, 064001	2.3	19
39	Optimal control of fractional semilinear PDEs. *ESAIM - Control, Optimisation and Calculus of Variations*, **2020**, 26, 5	1	9
38	External optimal control of fractional parabolic PDEs. *ESAIM - Control, Optimisation and Calculus of Variations*, **2020**, 26, 20	1	10
37	A problem in control of elastodynamics with piezoelectric effects. *IMA Journal of Numerical Analysis* , **2020**, 40, 2839-2870	1.8	
36	Detailed simulation of viral propagation in the built environment. *Computational Mechanics*, **2020**, 66, 1-15	4	15
35	Determination of volumetric material data from boundary measurements. *International Journal of Numerical Methods for Heat and Fluid Flow*, **2020**, 30, 4837-4863	4.5	
34	External optimal control of nonlocal PDEs. *Inverse Problems*, **2019**, 35, 084003	2.3	24
33	Sobolev Spaces with Non-Muckenhoupt Weights, Fractional Elliptic Operators, and Applications. *SIAM Journal on Mathematical Analysis*, **2019**, 51, 2479-2503	1.7	23
32	Optimal control of the coefficient for the regional fractional begin{document} $p$end{document}-Laplace equation: Approximation and convergence. *Mathematical Control and Related Fields*, **2019**, 9, 1-38	1.5	13
31	Reduced Basis Methods for Fractional Laplace Equations via Extension. *SIAM Journal of Scientific Computing*, **2019**, 41, A3552-A3575	2.6	4
30	A Monte Carlo-based multi-objective optimization approach to merge different precipitation estimates for land surface modeling. *Journal of Hydrology*, **2019**, 570, 454-462	6	16
29	An a posteriori error analysis for an optimal control problem involving the fractional Laplacian. *IMA Journal of Numerical Analysis*, **2018**, 38, 198-226	1.8	9
28	Optimization with Respect to Order in a Fractional Diffusion Model: Analysis, Approximation and Algorithmic Aspects. *Journal of Scientific Computing*, **2018**, 77, 204-224	2.3	21
27	Optimal Control of a Degenerate PDE for Surface Shape. *Applied Mathematics and Optimization*, **2018**, 78, 297-328	1.5	
26	. *Computing in Science and Engineering*, **2018**, 20, 10-25	1.5	5
25	Fractional operators with inhomogeneous boundary conditions: analysis, control, and discretization. *Communications in Mathematical Sciences*, **2018**, 16, 1395-1426	1	21

24	A Brief Introduction to PDE-Constrained Optimization. *The IMA Volumes in Mathematics and Its Applications*, **2018**, 3-40	0.5	2
23	Optimizing the Kelvin force in a moving target subdomain. *Mathematical Models and Methods in Applied Sciences*, **2018**, 28, 95-130	3.5	9
22	Fractional elliptic quasi-variational inequalities: Theory and numerics. *Interfaces and Free Boundaries* , **2018**, 20, 1-24	0.7	7
21	Some applications of weighted norm inequalities to the error analysis of PDE-constrained optimization problems. *IMA Journal of Numerical Analysis*, **2018**, 38, 852-883	1.8	4
20	Controlling the Kelvin force: basic strategies and applications to magnetic drug targeting. *Optimization and Engineering*, **2018**, 19, 559-589	2.1	12
19	Shape Optimization of Shell Structure Acoustics. *SIAM Journal on Control and Optimization*, **2017**, 55, 1347-1376	1.9	1
18	Galerkin v. least-squares Petrov–Galerkin projection in nonlinear model reduction. *Journal of Computational Physics*, **2017**, 330, 693-734	4.1	114
17	Spectral Approximation of Fractional PDEs in Image Processing and Phase Field Modeling. *Computational Methods in Applied Mathematics*, **2017**, 17, 661-678	1.2	29
16	A note on semilinear fractional elliptic equation: analysis and discretization. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2017**, 51, 2049-2067	1.8	11
15	Finite horizon model predictive control of electrowetting on dielectric with pinning. *Interfaces and Free Boundaries*, **2017**, 19, 1-30	0.7	9
14	A Space-Time Fractional Optimal Control Problem: Analysis and Discretization. *SIAM Journal on Control and Optimization*, **2016**, 54, 1295-1328	1.9	37
13	Approximation of elliptic equations with bmo coefficients. *IMA Journal of Numerical Analysis*, **2015**, drv001	1.8	
12	A FEM for an Optimal Control Problem of Fractional Powers of Elliptic Operators. *SIAM Journal on Control and Optimization*, **2015**, 53, 3432-3456	1.9	37
11	Optimal Control of a Free Boundary Problem with Surface Tension Effects: A Priori Error Analysis. *SIAM Journal on Numerical Analysis*, **2015**, 53, 2279-2306	2.4	3
10	Optimal Control of a Free Boundary Problem: Analysis with Second-Order Sufficient Conditions. *SIAM Journal on Control and Optimization*, **2014**, 52, 2771-2799	1.9	8
9	Application of the Discrete Empirical Interpolation Method to Reduced Order Modeling of Nonlinear and Parametric Systems **2014**, 101-136		10
8	Two-Step Greedy Algorithm for Reduced Order Quadratures. *Journal of Scientific Computing*, **2013**, 57, 604-637	2.3	28
7	Reduced order modeling based shape optimization of surface acoustic wave driven microfluidic biochips. *Mathematics and Computers in Simulation*, **2012**, 82, 1986-2003	3.3	17

6	Domain decomposition and balanced truncation model reduction for shape optimization of the Stokes system. *Optimization Methods and Software*, **2011**, 26, 643-669	1.3	26
5	Modeling, Simulation, and Optimaization of Surface Acoustic Wave Driven Microfluidic Biochips. *Journal of Computational Mathematics*, **2010**, 28, 149-169	2.1	18
4	Domain decomposition and model reduction for the numerical solution of PDE constrained optimization problems with localized optimization variables. *Computing and Visualization in Science*, **2010**, 13, 249-264	1	23
3	Adaptive Multilevel Interior-Point Methods in PDE Constrained Optimization. *Lecture Notes in Computational Science and Engineering*, **2009**, 15-26	0.3	1
2	Modeling and Simulation of Piezoelectrically Agitated Acoustic Streaming on Microfluidic Biochips. *Lecture Notes in Computational Science and Engineering*, **2008**, 305-312	0.3	3
1	Adaptive Path Following Primal Dual Interior Point Methods for Shape Optimization of Linear and Nonlinear Stokes Flow Problems. *Lecture Notes in Computer Science*, **2008**, 259-266	0.9	1