

Mihai Anitescu

List of Publications by Year in descending order

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papers

2,382
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186265

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all docs

87
docs citations

87
times ranked

1668
citing authors

#	ARTICLE	IF	CITATIONS
1	A Computational Framework for Uncertainty Quantification and Stochastic Optimization in Unit Commitment With Wind Power Generation. IEEE Transactions on Power Systems, 2011, 26, 431-441.	6.5	206
2	Time-stepping for three-dimensional rigid body dynamics. Computer Methods in Applied Mechanics and Engineering, 1999, 177, 183-197.	6.6	121
3	An iterative approach for cone complementarity problems for nonsmooth dynamics. Computational Optimization and Applications, 2010, 47, 207-235.	1.6	107
4	A matrix-free cone complementarity approach for solving large-scale, nonsmooth, rigid body dynamics. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 439-453.	6.6	101
5	A time-stepping method for stiff multibody dynamics with contact and friction. International Journal for Numerical Methods in Engineering, 2002, 55, 753-784.	2.8	99
6	A constraint-stabilized time-stepping approach for rigid multibody dynamics with joints, contact and friction. International Journal for Numerical Methods in Engineering, 2004, 60, 2335-2371.	2.8	97
7	Real-Time Stochastic Optimization of Complex Energy Systems on High-Performance Computers. Computing in Science and Engineering, 2014, 16, 32-42.	1.2	91
8	Optimization-based simulation of nonsmooth rigid multibody dynamics. Mathematical Programming, 2006, 105, 113-143.	2.4	87
9	On-line economic optimization of energy systems using weather forecast information. Journal of Process Control, 2009, 19, 1725-1736.	3.3	75
10	Real-Time Nonlinear Optimization as a Generalized Equation. SIAM Journal on Control and Optimization, 2010, 48, 5444-5467.	2.1	75
11	On Using the Elastic Mode in Nonlinear Programming Approaches to Mathematical Programs with Complementarity Constraints. SIAM Journal on Optimization, 2005, 15, 1203-1236.	2.0	74
12	Polynomial Regression Approaches Using Derivative Information for Uncertainty Quantification. Nuclear Science and Engineering, 2010, 164, 122-139.	1.1	71
13	Formulating Three-Dimensional Contact Dynamics Problems. Mechanics Based Design of Structures and Machines, 1996, 24, 405-437.	0.6	58
14	Degenerate Nonlinear Programming with a Quadratic Growth Condition. SIAM Journal on Optimization, 2000, 10, 1116-1135.	2.0	57
15	Elastic-mode algorithms for mathematical programs with equilibrium constraints: global convergence and stationarity properties. Mathematical Programming, 2007, 110, 337-371.	2.4	54
16	Using Krylov subspace and spectral methods for solving complementarity problems in many-body contact dynamics simulation. International Journal for Numerical Methods in Engineering, 2013, 95, 541-561.	2.8	49
17	A Stochastic Electricity Market Clearing Formulation with Consistent Pricing Properties. Operations Research, 2017, 65, 557-576.	1.9	47
18	A Matrix-free Approach for Solving the Parametric Gaussian Process Maximum Likelihood Problem. SIAM Journal of Scientific Computing, 2012, 34, A240-A262.	2.8	46

#	ARTICLE	IF	CITATIONS
19	Global Convergence of an Elastic Mode Approach for a Class of Mathematical Programs with Complementarity Constraints. <i>SIAM Journal on Optimization</i> , 2005, 16, 120-145.	2.0	44
20	Gradient-Enhanced Universal Kriging for Uncertainty Propagation. <i>Nuclear Science and Engineering</i> , 2012, 170, 168-195.	1.1	43
21	A fixed-point iteration approach for multibody dynamics with contact and small friction. <i>Mathematical Programming</i> , 2004, 101, 3.	2.4	41
22	A linearly implicit trapezoidal method for integrating stiff multibody dynamics with contact, joints, and friction. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 66, 1079-1124.	2.8	39
23	Stochastic approximation of score functions for Gaussian processes. <i>Annals of Applied Statistics</i> , 2013, 7, .	1.1	39
24	Equivalence between different formulations of the linear complementarity problem. <i>Optimization Methods and Software</i> , 1997, 7, 265-290.	2.4	35
25	A Convex Complementarity Approach for Simulating Large Granular Flows. <i>Journal of Computational and Nonlinear Dynamics</i> , 2010, 5, .	1.2	35
26	Optimal control of systems with discontinuous differential equations. <i>Numerische Mathematik</i> , 2010, 114, 653-695.	1.9	34
27	Solution techniques for transient stability-constrained optimal power flow – Part I. <i>IET Generation, Transmission and Distribution</i> , 2017, 11, 3177-3185.	2.5	34
28	Computing $f(A)b$ via Least Squares Polynomial Approximations. <i>SIAM Journal of Scientific Computing</i> , 2011, 33, 195-222.	2.8	28
29	Graph Convolutional Neural Networks for Optimal Load Shedding under Line Contingency. , 2019, , .		26
30	A complementarity-based rolling friction model for rigid contacts. <i>Meccanica</i> , 2013, 48, 1643-1659.	2.0	25
31	Parallel distributed-memory simplex for large-scale stochastic LP problems. <i>Computational Optimization and Applications</i> , 2013, 55, 571-596.	1.6	25
32	Data-driven model for solar irradiation based on satellite observations. <i>Solar Energy</i> , 2014, 110, 22-38.	6.1	24
33	ORTHOGONAL BASES FOR POLYNOMIAL REGRESSION WITH DERIVATIVE INFORMATION IN UNCERTAINTY QUANTIFICATION. , 2011, 1, 297-320.		21
34	Scalable Gaussian Process Computations Using Hierarchical Matrices. <i>Journal of Computational and Graphical Statistics</i> , 2020, 29, 227-237.	1.7	21
35	Discrete Adjoint Sensitivity Analysis of Hybrid Dynamical Systems With Switching. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2017, 64, 1247-1259.	5.4	18
36	Decentralized Schemes With Overlap for Solving Graph-Structured Optimization Problems. <i>IEEE Transactions on Control of Network Systems</i> , 2020, 7, 1225-1236.	3.7	17

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37	GPU-Based Parallel Computing for the Simulation of Complex Multibody Systems with Unilateral and Bilateral Constraints: An Overview. Computational Methods in Applied Sciences (Springer), 2011, , 283-307.	0.3	17
38	Convergence of a Class of Semi-Implicit Time-Stepping Schemes for Nonsmooth Rigid Multibody Dynamics. SIAM Journal on Optimization, 2008, 19, 969-1001.	2.0	15
39	Efficient sampling for spatial uncertainty quantification in multibody system dynamics applications. International Journal for Numerical Methods in Engineering, 2009, 80, 537-564.	2.8	15
40	The parallel solution of dense saddle-point linear systems arising in stochastic programming. Optimization Methods and Software, 2012, 27, 845-864.	2.4	15
41	A scalable design of experiments framework for optimal sensor placement. Journal of Process Control, 2018, 67, 44-55.	3.3	15
42	On the rate of convergence of sequential quadratic programming with nondifferentiable exact penalty function in the presence of constraint degeneracy. Mathematical Programming, 2002, 92, 359-386.	2.4	13
43	Economic impacts of advanced weather forecasting on energy system operations. , 2010, , .		13
44	Scalable Nonlinear Programming via Exact Differentiable Penalty Functions and Trust-Region Newton Methods. SIAM Journal on Optimization, 2014, 24, 528-558.	2.0	12
45	A computational study of the use of an optimization-based method for simulating large multibody systems. Optimization Methods and Software, 2009, 24, 871-894.	2.4	11
46	Solving Large Multibody Dynamics Problems on the GPU. , 2012, , 269-280.		11
47	A preconditioning technique for Schur complement systems arising in stochastic optimization. Computational Optimization and Applications, 2012, 52, 315-344.	1.6	11
48	A Fast NCP Solver for Large Rigid-Body Problems with Contacts, Friction, and Joints. , 2009, , 45-55.		11
49	Solving Nonconvex Problems of Multibody Dynamics with Joints, Contact, and Small Friction by Successive Convex Relaxation. Mechanics Based Design of Structures and Machines, 2003, 31, 335-356.	4.7	10
50	Dynamic security constrained optimal power flow using finite difference sensitivities. , 2014, , .		10
51	Exponentially Accurate Temporal Decomposition for Long-Horizon Linear-Quadratic Dynamic Optimization. SIAM Journal on Optimization, 2018, 28, 2541-2573.	2.0	10
52	Distributed Frequency Divider for Power System Bus Frequency Online Estimation Considering Virtual Inertia From DFigs. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2022, 12, 161-171.	3.6	10
53	Toward Multiperiod AC-Based Contingency Constrained Optimal Power Flow at Large Scale. , 2018, , .		8
54	Frequency wavenumber spectral analysis of spatio-temporal flows. Journal of Fluid Mechanics, 2018, 848, 545-559.	3.4	8

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55	Exponential Decay of Sensitivity in Graph-Structured Nonlinear Programs. SIAM Journal on Optimization, 2022, 32, 1156-1183.	2.0	8
56	An Inversion-Free Estimating Equations Approach for Gaussian Process Models. Journal of Computational and Graphical Statistics, 2017, 26, 98-107.	1.7	7
57	Power grid frequency prediction using spatiotemporal modeling. Statistical Analysis and Data Mining, 2021, 14, 662-675.	2.8	7
58	A hard-constraint time-stepping approach for rigid multibody dynamics with joints, contact, and friction. , 2003, , .		7
59	Order-Disorder Transitions in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mrow} \langle \text{mml:mo stretchy="false"} \langle \text{mml:mo} \langle \text{mml:mrow} \langle \text{mml:msub} \langle \text{mml:mrow} \langle \text{mml:mi} \text{Ca} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \times \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \rangle \rangle \rangle \rangle \rangle \rangle \rangle$. Review Letters, 2022, 128, 095701.		7
60	A parallel linear solver for multilevel Toeplitz systems with possibly several right-hand sides. Parallel Computing, 2014, 40, 408-424.	2.1	6
61	Multidimensional sum-up rounding for integer programming in optimal experimental design. Mathematical Programming, 2021, 185, 37-76.	2.4	6
62	Overlapping Schwarz Decomposition for Constrained Quadratic Programs. , 2020, , .		6
63	Constraint Stabilization for Time-Stepping Approaches for Rigid Multibody Dynamics With Joints, Contact, and Friction. , 2003, , 1071.		5
64	A Real-Time Optimization with Warm-Start of Multiperiod AC Optimal Power Flows. Electric Power Systems Research, 2020, 189, 106721.	3.6	5
65	A high-performance computing framework for analyzing the economic impacts of wind correlation. Electric Power Systems Research, 2016, 141, 372-380.	3.6	4
66	A GPU-Based Implementation of a Cone Convex Complementarity Approach for Simulating Rigid Body Dynamics With Frictional Contact. , 2008, , .		3
67	A note on the regularity of reduced models obtained by nonlocal quasi-continuum-like approaches. Mathematical Programming, 2009, 118, 207-236.	2.4	3
68	New insights into the dynamic stability of wholesale electricity markets. , 2011, , .		3
69	Exponentially Convergent Receding Horizon Strategy for Constrained Optimal Control. Vietnam Journal of Mathematics, 2019, 47, 897-929.	0.8	3
70	A Kinetic Monte Carlo Approach for Simulating Cascading Transmission Line Failure. Multiscale Modeling and Simulation, 2021, 19, 208-241.	1.6	3
71	Convergence Analysis of Fixed Point Chance Constrained Optimal Power Flow Problems. IEEE Transactions on Power Systems, 2022, 37, 4191-4201.	6.5	3
72	Large-Scale Parallel Multibody Dynamics With Frictional Contact on the GPU. , 2008, , .		2

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73	A Parallel Algorithm for Solving Complex Multibody Problems With Stream Processors. , 2009, , .		2
74	MPC as a DVI: Implications on sampling rates and accuracy. , 2017, , .		2
75	A Multiperiod Optimization-Based Metric of Grid Resilience. , 2019, , .		2
76	Flexible nonstationary spatiotemporal modeling of high-frequency monitoring data. Environmetrics, 2021, 32, e2670.	1.4	2
77	Simulating Nanoscale Processes in Solids Using DFT and the Quasicontinuum Method. , 2005, , .		2
78	Detecting Large Frequency Excursions in the Power Grid With Bayesian Decision Theory. IEEE Open Access Journal of Power and Energy, 2022, 9, 66-75.	3.4	2
79	A fast contraction mapping for solving multibody systems. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1062401-1062402.	0.2	1
80	Trust-Region Approximation of Extreme Trajectories in Power System Dynamics. IEEE Transactions on Power Systems, 2022, 37, 3937-3946.	6.5	1
81	Failure Probability Constrained AC Optimal Power Flow. IEEE Transactions on Power Systems, 2022, 37, 4683-4695.	6.5	1
82	A linear assignment approach for the least-squares protein morphing problem. Mathematical Programming, 2010, 125, 195-203.	2.4	0
83	Achieving higher frequencies in large-scale nonlinear model predictive control. , 2010, , .		0
84	Special issue in honour of Professor Florian A. Potra's 60th Birthday. Optimization Methods and Software, 2012, 27, 579-581.	2.4	0
85	Comments on: Algorithms for linear programming with linear complementarity constraints. Top, 2012, 20, 26-27.	1.6	0
86	Variance-Based Sensitivity Analysis of the Composite Dynamic Load Model. , 2020, , .		0