

Paul I Barton

List of Publications by Year in descending order

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245
papers

8,025
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44069

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250
docs citations

250
times ranked

4382
citing authors

#	ARTICLE	IF	CITATIONS
1	End-to-End Continuous Manufacturing of Pharmaceuticals: Integrated Synthesis, Purification, and Final Dosage Formation. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 12359-12363.	13.8	505
2	Economic Analysis of Integrated Continuous and Batch Pharmaceutical Manufacturing: A Case Study. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 10083-10092.	3.7	389
3	Efficient sensitivity analysis of large-scale differential-algebraic systems. <i>Applied Numerical Mathematics</i> , 1997, 25, 41-54.	2.1	186
4	McCormick-Based Relaxations of Algorithms. <i>SIAM Journal on Optimization</i> , 2009, 20, 573-601.	2.0	161
5	Optimally-reduced kinetic models: reaction elimination in large-scale kinetic mechanisms. <i>Combustion and Flame</i> , 2003, 135, 191-208.	5.2	147
6	Combining coal gasification and natural gas reforming for efficient polygeneration. <i>Fuel Processing Technology</i> , 2011, 92, 639-655.	7.2	136
7	Energy Conversion with Solid Oxide Fuel Cell Systems: A Review of Concepts and Outlooks for the Short- and Long-Term. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 3089-3111.	3.7	129
8	Modeling, simulation, sensitivity analysis, and optimization of hybrid systems. <i>ACM Transactions on Modeling and Computer Simulation</i> , 2002, 12, 256-289.	0.8	123
9	DFBAlab: a fast and reliable MATLAB code for dynamic flux balance analysis. <i>BMC Bioinformatics</i> , 2014, 15, 409.	2.6	111
10	State event location in differential-algebraic models. <i>ACM Transactions on Modeling and Computer Simulation</i> , 1996, 6, 137-165.	0.8	110
11	A reliable simulator for dynamic flux balance analysis. <i>Biotechnology and Bioengineering</i> , 2013, 110, 792-802.	3.3	109
12	A dynamic two-dimensional heterogeneous model for water gas shift reactors. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 8877-8891.	7.1	107
13	Dynamic Optimization in a Discontinuous World. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 966-981.	3.7	106
14	Parametric sensitivity functions for hybrid discrete/continuous systems. <i>Applied Numerical Mathematics</i> , 1999, 31, 17-47.	2.1	106
15	Global solution of bilevel programs with a nonconvex inner program. <i>Journal of Global Optimization</i> , 2008, 42, 475-513.	1.8	104
16	A Plant-Wide Dynamic Model of a Continuous Pharmaceutical Process. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 15393-15412.	3.7	102
17	Optimal Design and Operation of Flexible Energy Polygeneration Systems. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 4553-4566.	3.7	99
18	Global Optimization with Nonlinear Ordinary Differential Equations. <i>Journal of Global Optimization</i> , 2006, 34, 159-190.	1.8	96

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19	Outer approximation algorithms for separable nonconvex mixed-integer nonlinear programs. <i>Mathematical Programming</i> , 2004, 100, 517.	2.4	94
20	Global Methods for Dynamic Optimization and Mixed-Integer Dynamic Optimization. <i>Industrial & Engineering Chemistry Research</i> , 2006, 45, 8373-8392.	3.7	93
21	Stochastic pooling problem for natural gas production network design and operation under uncertainty. <i>AIChE Journal</i> , 2011, 57, 2120-2135.	3.6	91
22	Synthesis of heat exchanger networks at subambient conditions with compression and expansion of process streams. <i>AIChE Journal</i> , 2011, 57, 2090-2108.	3.6	90
23	Bounds on the reachable sets of nonlinear control systems. <i>Automatica</i> , 2013, 49, 93-100.	5.0	87
24	DAEPACK: An Open Modeling Environment for Legacy Models. <i>Industrial & Engineering Chemistry Research</i> , 2000, 39, 1826-1839.	3.7	86
25	Model-based design of a plant-wide control strategy for a continuous pharmaceutical plant. <i>AIChE Journal</i> , 2013, 59, 3671-3685.	3.6	86
26	Nonconvex Generalized Benders Decomposition for Stochastic Separable Mixed-Integer Nonlinear Programs. <i>Journal of Optimization Theory and Applications</i> , 2011, 151, 425-454.	1.5	81
27	Global Dynamic Optimization for Parameter Estimation in Chemical Kinetics. <i>Journal of Physical Chemistry A</i> , 2006, 110, 971-976.	2.5	79
28	Dynamic optimization with state variable path constraints. <i>Computers and Chemical Engineering</i> , 1998, 22, 1241-1256.	3.8	78
29	Optimal Design and Operation of Static Energy Polygeneration Systems. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 5099-5113.	3.7	78
30	Generalized McCormick relaxations. <i>Journal of Global Optimization</i> , 2011, 51, 569-606.	1.8	78
31	The Application of an Automated Control Strategy for an Integrated Continuous Pharmaceutical Pilot Plant. <i>Organic Process Research and Development</i> , 2015, 19, 1088-1100.	2.7	75
32	High-efficiency power production from coal with carbon capture. <i>AIChE Journal</i> , 2010, 56, 3120-3136.	3.6	74
33	Effective parameter estimation within a multi-dimensional population balance model framework. <i>Chemical Engineering Science</i> , 2010, 65, 4884-4893.	3.8	73
34	Mixed-integer dynamic optimization I: problem formulation. <i>Computers and Chemical Engineering</i> , 1999, 23, 567-584.	3.8	71
35	Global solution of semi-infinite programs. <i>Mathematical Programming</i> , 2005, 103, 283-307.	2.4	70
36	Bounding the Solutions of Parameter Dependent Nonlinear Ordinary Differential Equations. <i>SIAM Journal of Scientific Computing</i> , 2006, 27, 2167-2182.	2.8	70

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37	High-efficiency power production from natural gas with carbon capture. <i>Journal of Power Sources</i> , 2010, 195, 1971-1983.	7.8	67
38	A short-term operational planning model for natural gas production systems. <i>AIChE Journal</i> , 2008, 54, 495-515.	3.6	66
39	A vector forward mode of automatic differentiation for generalized derivative evaluation. <i>Optimization Methods and Software</i> , 2015, 30, 1185-1212.	2.4	65
40	Application of Continuous Crystallization in an Integrated Continuous Pharmaceutical Pilot Plant. <i>Crystal Growth and Design</i> , 2014, 14, 2148-2157.	3.0	64
41	A Differentiation Index for Partial Differential-Algebraic Equations. <i>SIAM Journal of Scientific Computing</i> , 2000, 21, 2295-2315.	2.8	61
42	On upgrading the numerics in combustion chemistry codes. <i>Combustion and Flame</i> , 2002, 128, 270-291.	5.2	60
43	Bilevel optimization formulation for parameter estimation in liquid-liquid phase equilibrium problems. <i>Chemical Engineering Science</i> , 2009, 64, 548-559.	3.8	58
44	Decision-dependent probabilities in stochastic programs with recourse. <i>Computational Management Science</i> , 2018, 15, 369-395.	1.3	56
45	Spatiotemporal modeling of microbial metabolism. <i>BMC Systems Biology</i> , 2016, 10, 21.	3.0	55
46	Combining coal gasification, natural gas reforming, and solid oxide fuel cells for efficient polygeneration with CO ₂ capture and sequestration. <i>Fuel Processing Technology</i> , 2011, 92, 2105-2115.	7.2	53
47	Nonconvex Generalized Benders Decomposition with Piecewise Convex Relaxations for Global Optimization of Integrated Process Design and Operation Problems. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 7287-7299.	3.7	50
48	Optimization of hybrid discrete/continuous dynamic systems. <i>Computers and Chemical Engineering</i> , 2000, 24, 2171-2182.	3.8	49
49	Interval Methods for Semi-Infinite Programs. <i>Computational Optimization and Applications</i> , 2005, 30, 63-93.	1.6	49
50	Multistream heat exchanger modeling and design. <i>AIChE Journal</i> , 2015, 61, 3390-3403.	3.6	49
51	Bilevel optimization formulation for parameter estimation in vapor-liquid-liquid phase equilibrium problems. <i>Chemical Engineering Science</i> , 2009, 64, 1768-1783.	3.8	48
52	Rigorous valid ranges for optimally reduced kinetic models. <i>Combustion and Flame</i> , 2006, 146, 348-365.	5.2	47
53	Metabolic modeling of synthesis gas fermentation in bubble column reactors. <i>Biotechnology for Biofuels</i> , 2015, 8, 89.	6.2	47
54	Cheap Second Order Directional Derivatives of Stiff ODE Embedded Functionals. <i>SIAM Journal of Scientific Computing</i> , 2005, 26, 1725-1743.	2.8	45

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55	Global mixed-integer dynamic optimization. <i>AIChE Journal</i> , 2005, 51, 2235-2253.	3.6	44
56	Relaxation-Based Bounds for Semi-Infinite Programs. <i>SIAM Journal on Optimization</i> , 2008, 19, 77-113.	2.0	44
57	Generalized branch-and-cut framework for mixed-integer nonlinear optimization problems. <i>Computers and Chemical Engineering</i> , 2000, 24, 1361-1366.	3.8	43
58	Alternatives for Micropower Generation Processes. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 74-84.	3.7	43
59	Optimal dynamic allocation of mobile plants to monetize associated or stranded natural gas, part I: Bakken shale play case study. <i>Energy</i> , 2015, 93, 1581-1594.	8.8	43
60	Generalized Derivatives for Solutions of Parametric Ordinary Differential Equations with Non-differentiable Right-Hand Sides. <i>Journal of Optimization Theory and Applications</i> , 2014, 163, 355-386.	1.5	41
61	Sensitivity Analysis for Oscillating Dynamical Systems. <i>SIAM Journal of Scientific Computing</i> , 2009, 31, 2706-2732.	2.8	40
62	From sugars to biodiesel using microalgae and yeast. <i>Green Chemistry</i> , 2016, 18, 461-475.	9.0	40
63	Differential-Algebraic Equations of Index 1 May Have an Arbitrarily High Structural Index. <i>SIAM Journal of Scientific Computing</i> , 2000, 21, 1987-1990.	2.8	39
64	Design of process operations using hybrid dynamic optimization. <i>Computers and Chemical Engineering</i> , 2004, 28, 955-969.	3.8	39
65	Optimization of hybrid systems. <i>Computers and Chemical Engineering</i> , 2006, 30, 1576-1589.	3.8	39
66	Improved relaxations for the parametric solutions of ODEs using differential inequalities. <i>Journal of Global Optimization</i> , 2013, 57, 143-176.	1.8	39
67	On computational differentiation. <i>Computers and Chemical Engineering</i> , 1998, 22, 475-490.	3.8	38
68	Optimal design and steady-state operation of micro power generation employing fuel cells. <i>Chemical Engineering Science</i> , 2005, 60, 4535-4556.	3.8	38
69	Nonsmooth model for dynamic simulation of phase changes. <i>AIChE Journal</i> , 2016, 62, 3334-3351.	3.6	37
70	Capacity Planning under Clinical Trials Uncertainty in Continuous Pharmaceutical Manufacturing, 1: Mathematical Framework. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 13692-13702.	3.7	36
71	Convex and concave relaxations of implicit functions. <i>Optimization Methods and Software</i> , 2015, 30, 424-460.	2.4	36
72	Hidden Discontinuities and Parametric Sensitivity Calculations. <i>SIAM Journal of Scientific Computing</i> , 2002, 23, 1861-1874.	2.8	35

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73	Optimization of single mixed-refrigerant natural gas liquefaction processes described by nondifferentiable models. <i>Energy</i> , 2018, 150, 860-876.	8.8	35
74	Dynamic flux balance modeling to increase the production of high-value compounds in green microalgae. <i>Biotechnology for Biofuels</i> , 2016, 9, 165.	6.2	34
75	Computationally relevant generalized derivatives: theory, evaluation and applications. <i>Optimization Methods and Software</i> , 2018, 33, 1030-1072.	2.4	34
76	Tight, efficient bounds on the solutions of chemical kinetics models. <i>Computers and Chemical Engineering</i> , 2010, 34, 717-731.	3.8	33
77	Nonlinear convex and concave relaxations for the solutions of parametric ODEs. <i>Optimal Control Applications and Methods</i> , 2013, 34, 145-163.	2.1	33
78	A dual extremum principle in thermodynamics. <i>AIChE Journal</i> , 2007, 53, 2131-2147.	3.6	32
79	Optimal Campaign Continuous Manufacturing. <i>Industrial & Engineering Chemistry Research</i> , 2015, 54, 11344-11359.	3.7	31
80	Optimal shale oil and gas investments in the United States. <i>Energy</i> , 2017, 141, 398-422.	8.8	30
81	Construction of Convex Relaxations Using Automated Code Generation Techniques. <i>Optimization and Engineering</i> , 2002, 3, 305-326.	2.4	29
82	Towards global bilevel dynamic optimization. <i>Journal of Global Optimization</i> , 2009, 45, 63-93.	1.8	29
83	Symbolic Incorporation of External Procedures into Process Modeling Environments. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 3867-3876.	3.7	28
84	Decomposition strategy for the stochastic pooling problem. <i>Journal of Global Optimization</i> , 2012, 54, 765-790.	1.8	28
85	Decomposition strategy for the global optimization of flexible energy polygeneration systems. <i>AIChE Journal</i> , 2012, 58, 3080-3095.	3.6	28
86	Chance-Constrained Optimization for Refinery Blend Planning under Uncertainty. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 12139-12150.	3.7	28
87	Azeotropic Distillation in a Middle Vessel Batch Column. 1. Model Formulation and Linear Separation Boundaries. <i>Industrial & Engineering Chemistry Research</i> , 1999, 38, 1504-1530.	3.7	27
88	The cluster problem revisited. <i>Journal of Global Optimization</i> , 2014, 58, 429-438.	1.8	27
89	Differentiable McCormick relaxations. <i>Journal of Global Optimization</i> , 2017, 67, 687-729.	1.8	27
90	Modeling phase changes in multistream heat exchangers. <i>International Journal of Heat and Mass Transfer</i> , 2017, 105, 207-219.	4.8	26

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91	Generalized Derivatives of Differential-Algebraic Equations. Journal of Optimization Theory and Applications, 2016, 171, 1-26.	1.5	25
92	Optimal dynamic allocation of mobile plants to monetize associated or stranded natural gas, part II: Dealing with uncertainty. Energy, 2016, 96, 461-467.	8.8	25
93	Efficient solution of ordinary differential equations with a parametric lexicographic linear program embedded. Numerische Mathematik, 2016, 133, 623-653.	1.9	25
94	Homogeneous multicomponent azeotropic batch distillation. AIChE Journal, 1996, 42, 3419-3433.	3.6	24
95	Global optimization of linear hybrid systems with explicit transitions. Systems and Control Letters, 2004, 51, 363-375.	2.3	24
96	What is the design objective for portable power generation: Efficiency or energy density?. Journal of Power Sources, 2007, 164, 678-687.	7.8	24
97	Parametric mixed-integer 0-1 linear programming: The general case for a single parameter. European Journal of Operational Research, 2009, 194, 663-686.	5.7	24
98	Controlled Formation of Nanostructures with Desired Geometries. 2. Robust Dynamic Paths. Industrial & Engineering Chemistry Research, 2010, 49, 7746-7757.	3.7	24
99	Mathematical modeling and design of layer crystallization in a concentric annulus with and without recirculation. AIChE Journal, 2013, 59, 1308-1321.	3.6	24
100	The Per2 Negative Feedback Loop Sets the Period in the Mammalian Circadian Clock Mechanism. PLoS Computational Biology, 2007, 3, e242.	3.2	23
101	Design of Microbial Consortia for Industrial Biotechnology. Computer Aided Chemical Engineering, 2014, , 65-74.	0.5	23
102	Integrated crude selection and refinery optimization under uncertainty. AIChE Journal, 2016, 62, 1038-1053.	3.6	23
103	Designing man-portable power generation systems for varying power demand. AIChE Journal, 2008, 54, 1254-1269.	3.6	22
104	Convex and Concave Relaxations for the Parametric Solutions of Semi-explicit Index-One Differential-Algebraic Equations. Journal of Optimization Theory and Applications, 2013, 156, 617-649.	1.5	22
105	Design, Execution, and Analysis of Time-Varying Experiments for Model Discrimination and Parameter Estimation in Microreactors. Organic Process Research and Development, 2014, 18, 1461-1467.	2.7	22
106	Optimal design and operation of energy systems under uncertainty. Journal of Process Control, 2015, 30, 1-9.	3.3	22
107	Dependence of solutions of nonsmooth differential-algebraic equations on parameters. Journal of Differential Equations, 2017, 262, 2254-2285.	2.2	22
108	Reliable Flash Calculations: Part 1. Nonsmooth Inside-Out Algorithms. Industrial & Engineering Chemistry Research, 2017, 56, 960-973.	3.7	22

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109	Product sequences in azeotropic batch distillation. <i>AIChE Journal</i> , 1998, 44, 1051-1070.	3.6	21
110	Controlled Formation of Nanostructures with Desired Geometries. 1. Robust Static Structures. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 7728-7745.	3.7	21
111	Optimal campaigns in end-to-end continuous pharmaceuticals manufacturing. Part 2: Dynamic optimization. <i>Chemical Engineering and Processing: Process Intensification</i> , 2018, 125, 124-132.	3.6	21
112	Nonsmooth differential-algebraic equations in chemical engineering. <i>Computers and Chemical Engineering</i> , 2018, 114, 52-68.	3.8	21
113	Implicit model checking of logic-based control systems. <i>AIChE Journal</i> , 1997, 43, 2246-2260.	3.6	20
114	Capacity Planning under Clinical Trials Uncertainty in Continuous Pharmaceutical Manufacturing, 2: Solution Method. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 13703-13711.	3.7	20
115	Evaluating an element of the Clarke generalized Jacobian of a composite piecewise differentiable function. <i>ACM Transactions on Mathematical Software</i> , 2013, 39, 1-28.	2.9	20
116	Reverse propagation of McCormick relaxations. <i>Journal of Global Optimization</i> , 2015, 63, 1-36.	1.8	20
117	Efficient polyhedral enclosures for the reachable set of nonlinear control systems. <i>Mathematics of Control, Signals, and Systems</i> , 2016, 28, 1.	2.3	20
118	Optimization of a dual mixed refrigerant process using a nonsmooth approach. <i>Energy</i> , 2020, 196, 116999.	8.8	19
119	Dynamic Optimization with Equality Path Constraints. <i>Industrial & Engineering Chemistry Research</i> , 1999, 38, 2350-2363.	3.7	18
120	Biological network design strategies: discovery through dynamic optimization. <i>Molecular BioSystems</i> , 2006, 2, 650.	2.9	18
121	Generalized derivatives of dynamic systems with a linear program embedded. <i>Automatica</i> , 2016, 63, 198-208.	5.0	18
122	Process-wide integration of solvent mixtures. <i>Computers and Chemical Engineering</i> , 1999, 23, 1365-1380.	3.8	17
123	Averaging Level Control to Reduce Off-Spec Material in a Continuous Pharmaceutical Pilot Plant. <i>Processes</i> , 2013, 1, 330-348.	2.8	17
124	Generalized Derivatives for Hybrid Systems. <i>IEEE Transactions on Automatic Control</i> , 2017, 62, 3193-3208.	5.7	17
125	Bounds on stochastic chemical kinetic systems at steady state. <i>Journal of Chemical Physics</i> , 2018, 148, 084106.	3.0	17
126	Dynamic simulation and optimization with inequality path constraints. <i>Computers and Chemical Engineering</i> , 1996, 20, S707-S712.	3.8	16

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127	Computation of heteroazeotropes. Part I: Theory. Chemical Engineering Science, 2000, 55, 3817-3834.	3.8	16
128	Robust simulation and design using semi-infinite programs with implicit functions. International Journal of Reliability and Safety, 2011, 5, 378.	0.2	16
129	A master-equation approach to simulate kinetic traps during directed self-assembly. Journal of Chemical Physics, 2012, 136, 184109.	3.0	16
130	Azeotropic Distillation in a Middle Vessel Batch Column. 3. Model Validation. Industrial & Engineering Chemistry Research, 1999, 38, 1549-1564.	3.7	15
131	Reliable Flash Calculations: Part 2. Process Flowsheeting with Nonsmooth Models and Generalized Derivatives. Industrial & Engineering Chemistry Research, 2017, 56, 14848-14864.	3.7	15
132	Azeotropic Distillation in a Middle Vessel Batch Column. 2. Nonlinear Separation Boundaries. Industrial & Engineering Chemistry Research, 1999, 38, 1531-1548.	3.7	14
133	Interval bounds on the solutions of semi-explicit index-one DAEs. Part 1: analysis. Numerische Mathematik, 2013, 125, 1-25.	1.9	14
134	Generalized Sensitivity Analysis of Nonlinear Programs. SIAM Journal on Optimization, 2018, 28, 272-301.	2.0	14
135	Versatile Simulation Method for Complex Single Mixed Refrigerant Natural Gas Liquefaction Processes. Industrial & Engineering Chemistry Research, 2018, 57, 5881-5894.	3.7	14
136	An Improved Multi-parametric Programming Algorithm for Flux Balance Analysis of Metabolic Networks. Journal of Optimization Theory and Applications, 2018, 178, 502-537.	1.5	14
137	Optimal Dynamic Continuous Manufacturing of Pharmaceuticals with Recycle. Industrial & Engineering Chemistry Research, 2019, 58, 13423-13436.	3.7	14
138	Computation of heteroazeotropes. Part II: efficient calculation of changes in phase equilibrium structure. Chemical Engineering Science, 2000, 55, 3835-3853.	3.8	13
139	An outer-approximation approach for information-maximizing sensor selection. Optimization Letters, 2013, 7, 745-764.	1.6	13
140	Reachability-based fault detection method for uncertain chemical flow reactors. IFAC-PapersOnLine, 2016, 49, 1-6.	0.9	13
141	Large-Scale Dynamic Optimization Using the Directional Second-Order Adjoint Method. Industrial & Engineering Chemistry Research, 2005, 44, 1804-1811.	3.7	12
142	Methodology for the Design of Man-Portable Power Generation Devices. Industrial & Engineering Chemistry Research, 2007, 46, 7164-7176.	3.7	12
143	Nonsmooth exclusion test for finding all solutions of nonlinear equations. BIT Numerical Mathematics, 2010, 50, 885-917.	2.0	12
144	Semi-Infinite Optimization with Implicit Functions. Industrial & Engineering Chemistry Research, 2015, 54, 307-317.	3.7	12

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145	Bounds on reachable sets using ordinary differential equations with linear programs embedded. IMA Journal of Mathematical Control and Information, 2016, 33, 519-541.	1.7	12
146	How to solve a design centering problem. Mathematical Methods of Operations Research, 2017, 86, 215-254.	1.0	12
147	Index and Characteristic Analysis of Linear PDAE Systems. SIAM Journal of Scientific Computing, 2003, 24, 905-923.	2.8	11
148	Product engineering for man-portable power generation based on fuel cells. AIChE Journal, 2005, 51, 2199-2219.	3.6	11
149	Convex relaxations for nonconvex optimal control problems. , 2011, , .		11
150	Global optimization of bounded factorable functions with discontinuities. Journal of Global Optimization, 2014, 58, 1-30.	1.8	11
151	Reliable Flash Calculations: Part 3. A Nonsmooth Approach to Density Extrapolation and Pseudoproperty Evaluation. Industrial & Engineering Chemistry Research, 2017, 56, 14832-14847.	3.7	11
152	Optimal campaigns in end-to-end continuous pharmaceuticals manufacturing. Part 1: Nonsmooth dynamic modeling. Chemical Engineering and Processing: Process Intensification, 2018, 125, 298-310.	3.6	11
153	Production of biofuels from sunlight and lignocellulosic sugars using microbial consortia. Chemical Engineering Science, 2021, 239, 116615.	3.8	11
154	Potential Canals for Control of Nonlinear Stochastic Systems in the Absence of State Measurements. IEEE Transactions on Control Systems Technology, 2017, 25, 161-174.	5.2	10
155	The cluster problem in constrained global optimization. Journal of Global Optimization, 2017, 69, 629-676.	1.8	10
156	Simulation of Dual Mixed Refrigerant Natural Gas Liquefaction Processes Using a Nonsmooth Framework. Processes, 2018, 6, 193.	2.8	10
157	Dynamic bounds on stochastic chemical kinetic systems using semidefinite programming. Journal of Chemical Physics, 2018, 149, 074103.	3.0	10
158	Interval bounds on the solutions of semi-explicit index-one DAEs. Part 2: computation. Numerische Mathematik, 2013, 125, 27-60.	1.9	9
159	Refinery Optimization Integrated with a Nonlinear Crude Distillation Unit Model. IFAC-PapersOnLine, 2015, 48, 205-210.	0.9	9
160	Controlled Formation of Nanostructures with Desired Geometries: Part 3. Dynamic Modeling and Simulation of Directed Self-Assembly of Nanoparticles through Adaptive Finite State Projection. Industrial & Engineering Chemistry Research, 2015, 54, 4371-4384.	3.7	9
161	Evaluating an Element of the Clarke Generalized Jacobian of a Piecewise Differentiable Function. Lecture Notes in Computational Science and Engineering, 2012, , 115-125.	0.3	9
162	Formal verification of sequence controllers. Computers and Chemical Engineering, 2000, 23, 1783-1793.	3.8	8

#	ARTICLE	IF	CITATIONS
163	Simulation and Design Methods for Multiphase Multistream Heat Exchangers**The authors are grateful to Statoil for providing financial support for this research.. IFAC-PapersOnLine, 2016, 49, 839-844.	0.9	8
164	Using Semidefinite Programming to Calculate Bounds on Stochastic Chemical Kinetic Systems at Steady State. Computer Aided Chemical Engineering, 2017, , 2239-2244.	0.5	8
165	Dynamic Flux Balance Analysis Using DFBAlab. Methods in Molecular Biology, 2018, 1716, 353-370.	0.9	8
166	Convergence-order analysis for differential-inequalities-based bounds and relaxations of the solutions of ODEs. Journal of Global Optimization, 2019, 73, 113-151.	1.8	8
167	Global optimization of a hybrid waste tire and natural gas feedstock polygeneration system. Energy, 2022, 250, 123722.	8.8	8
168	Clean Coal: A new power generation process with high efficiency, carbon capture and zero emissions. Computer Aided Chemical Engineering, 2010, 28, 991-996.	0.5	7
169	Efficient Control Discretization Based on Turnpike Theory for Dynamic Optimization. Processes, 2017, 5, 85.	2.8	7
170	Nonsmooth Formulation for Handling Unclassified Process Streams in the Optimization of Work and Heat Exchange Networks. Industrial & Engineering Chemistry Research, 2019, 58, 9526-9539.	3.7	7
171	Reachability Analysis and Deterministic Global Optimization of DAE Models. Differential-algebraic Equations Forum, 2015, , 61-116.	0.6	7
172	Solvent recovery targeting. AIChE Journal, 1999, 45, 335-349.	3.6	6
173	Efficient Calculation of Sparse Jacobians. SIAM Journal of Scientific Computing, 1999, 20, 2282-2296.	2.8	6
174	Sensitivity Analysis of Limit-Cycle Oscillating Hybrid Systems. SIAM Journal of Scientific Computing, 2011, 33, 1475-1504.	2.8	6
175	Generalized gradient elements for nonsmooth optimal control problems. , 2014, , .		6
176	Worst-case design of subsea production facilities using semi-infinite programming. AIChE Journal, 2014, 60, 2513-2524.	3.6	6
177	Switching behavior of solutions of ordinary differential equations with abs-factorable right-hand sides. Systems and Control Letters, 2015, 84, 27-34.	2.3	6
178	Lower level duality and the global solution of generalized semi-infinite programs. Optimization, 2016, 65, 1129-1149.	1.7	6
179	Interval enclosures for reachable sets of chemical kinetic flow systems. Part 2: Direct-bounding method. Chemical Engineering Science, 2017, 166, 345-357.	3.8	6
180	Natural gas production network infrastructure development under uncertainty. Optimization and Engineering, 2017, 18, 35-62.	2.4	6

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