

Lorenz T Biegler

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

362
papers

15,832
citations

60
h-index

118
g-index

376
ext. papers

18,397
ext. citations

3.2
avg, IF

7.29
L-index

#	Paper	IF	Citations
362	Development of a Robust Receding-Horizon Nonlinear Kalman Filter Using M-Estimators. <i>Industrial & Engineering Chemistry Research</i> , 2022 , 61, 1808-1829	3.9	0
361	Multiscale modeling and nonlinear model predictive control for flue gas desulfurization. <i>Chemical Engineering Science</i> , 2022 , 252, 117451	4.4	0
360	Parameter estimation with improved model prediction for over-parametrized nonlinear systems. <i>Computers and Chemical Engineering</i> , 2022 , 157, 107601	4	0
359	A fast, fully distributed nonlinear model predictive control algorithm with parametric sensitivity through Jacobi iteration. <i>Journal of Process Control</i> , 2022 , 110, 133-153	3.9	0
358	Kinetic model development and Bayesian uncertainty quantification for the complete reduction of Fe-based oxygen carriers with CH ₄ , CO, and H ₂ for chemical looping combustion. <i>Chemical Engineering Science</i> , 2022 , 252, 117512	4.4	0
357	Kinetic parameter estimation with nonlinear mixed-effects models. <i>Chemical Engineering Journal</i> , 2022 , 136319	14.7	0
356	Don't search! Solve! Process optimization modeling with IDAES 2022 , 33-55		
355	Generalized Parameter Estimation Method for Model-Based Real-Time Optimization. <i>Chemical Engineering Science</i> , 2022 , 117754	4.4	
354	Prediction of the Thermal Runaway Limit and Optimal Operation of Heat Transfer-Limited, Fixed-Bed Reactor Systems. <i>Industrial & Engineering Chemistry Research</i> , 2021 , 60, 15087-15094	3.9	1
353	Semi-infinite programming yields optimal disturbance model for offset-free nonlinear model predictive control. <i>Journal of Process Control</i> , 2021 , 101, 35-51	3.9	1
352	The IDAES process modeling framework and model library flexibility for process simulation and optimization. <i>Journal of Advanced Manufacturing and Processing</i> , 2021 , 3, e10095	2.7	10
351	Sensitivity-Assisted multistage nonlinear model predictive control: Robustness, stability and computational efficiency. <i>Computers and Chemical Engineering</i> , 2021 , 148, 107269	4	2
350	A modified collocation modeling framework for dynamic evolution of molecular weight distributions in general polymer kinetic systems. <i>Chemical Engineering Science</i> , 2021 , 237, 116519	4.4	2
349	Hierarchical decompositions for MPC of resource constrained control systems: applications to building energy management. <i>Optimization and Engineering</i> , 2021 , 22, 187-215	2.1	6
348	Kinetic Parameter Estimation from Spectroscopic Data for a Multi-Stage Solid-Liquid Pharmaceutical Process. <i>Organic Process Research and Development</i> , 2021 , 25, 373-383	3.9	
347	Generalized initialization for the dynamic simulation and optimization of grade transition processes using two-dimensional collocation. <i>AIChE Journal</i> , 2021 , 67,	3.6	2
346	Demand-based optimization of a chlorobenzene process with high-fidelity and surrogate reactor models under trust region strategies. <i>AIChE Journal</i> , 2021 , 67,	3.6	5

345	Continuous reactor network design for rigid polyol production. <i>Chemical Engineering Science</i> , 2021 , 230, 116189	4.4	4
344	Heat exchanger network synthesis with detailed exchanger designs. Hybrid optimization strategy for synthesis of heat exchanger networks. <i>AIChE Journal</i> , 2021 , 67,	3.6	2
343	Heat exchanger network synthesis with detailed exchanger designs: Part 1. A discretized differential algebraic equation model for shell and tube heat exchanger design. <i>AIChE Journal</i> , 2021 , 67,	3.6	1
342	Optimization of Graded Bed Reactors for Syngas to Olefin (STO) Processes. <i>Computer Aided Chemical Engineering</i> , 2021 , 50, 115-121	0.6	1
341	Advanced-multi-step Moving Horizon Estimation. <i>IFAC-PapersOnLine</i> , 2021 , 54, 269-274	0.7	0
340	Optimization of pressure swing adsorption via a trust-region filter algorithm and equilibrium theory. <i>Computers and Chemical Engineering</i> , 2021 , 151, 107340	4	0
339	Implications of dimensional analysis in bioreactor models: Parameter estimation and identifiability. <i>Chemical Engineering Journal</i> , 2021 , 417, 129220	14.7	3
338	A trust region framework for heat exchanger network synthesis with detailed individual heat exchanger designs. <i>Computers and Chemical Engineering</i> , 2021 , 153, 107447	4	5
337	Real-time refinery optimization with reduced-order fluidized catalytic cracker model and surrogate-based trust region filter method. <i>Computers and Chemical Engineering</i> , 2021 , 153, 107455	4	0
336	A Nested Schur decomposition approach for multiperiod optimization of chemical processes. <i>Computers and Chemical Engineering</i> , 2021 , 155, 107509	4	2
335	Nonlinear Optimization Strategies for Process Separations and Process Intensification. <i>Chemie-Ingenieur-Technik</i> , 2020 , 92, 867-878	0.8	2
334	Adaptive horizon economic nonlinear model predictive control. <i>Journal of Process Control</i> , 2020 , 92, 1083-1098	3.8	4
333	Optimal polymer grade transitions for fluidized bed reactors. <i>Journal of Process Control</i> , 2020 , 88, 86-100	0.9	2
332	A multi-objective reactive distillation optimization model for Fischer-Tropsch synthesis. <i>Computers and Chemical Engineering</i> , 2020 , 135, 106754	4	8
331	Near-optimal time series sampling based on the reduced Hessian. <i>AIChE Journal</i> , 2020 , 66, e16248	3.6	
330	The Exact Penalty-Barrier Phase for Degenerate Nonlinear Programming Problems in Ipopt. <i>IFAC-PapersOnLine</i> , 2020 , 53, 6496-6501	0.7	
329	Fast cooperative distributed model predictive control based on parametric sensitivity. <i>IFAC-PapersOnLine</i> , 2020 , 53, 6019-6024	0.7	
328	MHE Based State and Parameter Estimation for Systems subjected to Non-Gaussian Disturbances. <i>IFAC-PapersOnLine</i> , 2020 , 53, 5940-5945	0.7	1

327	Nonlinear Model Predictive Control of the Hydraulic Fracturing Process. <i>IFAC-PapersOnLine</i> , 2020 , 53, 11428-11433	0.7	0
326	Dynamic optimization with complementarity constraints: Smoothing for direct shooting. <i>Computers and Chemical Engineering</i> , 2020 , 139, 106891	4	12
325	An indirect approach for singular optimal control problems. <i>Computers and Chemical Engineering</i> , 2020 , 139, 106923	4	7
324	Sensitivity-assisted Robust Nonlinear Model Predictive Control with Scenario Generation. <i>IFAC-PapersOnLine</i> , 2020 , 53, 7204-7209	0.7	1
323	Distributed Dynamic Optimization for Chemical Process Networks Based on Differential Games. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 2441-2456	3.9	
322	Dynamic optimization for gas blending in pipeline networks with gas interchangeability control. <i>AIChE Journal</i> , 2020 , 66, e16908	3.6	1
321	Dynamic optimization of natural gas pipeline networks with demand and composition uncertainty. <i>Chemical Engineering Science</i> , 2020 , 215, 115449	4.4	10
320	Advanced-step multistage nonlinear model predictive control: Robustness and stability. <i>Journal of Process Control</i> , 2020 , 85, 15-29	3.9	1
319	Optimal Start-Up of Air Separation Processes using Dynamic Optimization with Complementarity Constraints. <i>Computer Aided Chemical Engineering</i> , 2020 , 48, 1147-1152	0.6	2
318	Receding Horizon Optimization Method for Solving the Cops and Robbers Problems in a Complex Environment with Obstacles. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2020 , 100, 83-112	2.9	3
317	Heat Exchanger Network Optimization including Detailed Heat Exchanger Models using Trust Region Method. <i>Computer Aided Chemical Engineering</i> , 2020 , 48, 1051-1056	0.6	3
316	Serial advanced-multi-step nonlinear model predictive control using an extended sensitivity method. <i>Journal of Process Control</i> , 2020 , 96, 82-93	3.9	5
315	Simultaneous orthogonal collocation decomposition method for extended Lion and Man problems. <i>Optimization and Engineering</i> , 2020 , 21, 973-1017	2.1	
314	A Trust-Region Framework for Real-Time Optimization with Structural Process-Model Mismatch. <i>Vietnam Journal of Mathematics</i> , 2020 , 48, 809-830	0.5	2
313	Robust optimization of solid-liquid batch reactors under parameter uncertainty. <i>Chemical Engineering Science</i> , 2020 , 212, 115170	4.4	2
312	Reduced Hessian based parameter selection and estimation with simultaneous collocation approach. <i>AIChE Journal</i> , 2020 , 66, e16242	3.6	4
311	Operational Optimization of Polymerization Reactors with Computational Fluid Dynamics and Embedded Molecular Weight Distribution Using the Iterative Surrogate Model Method. <i>Industrial & Engineering Chemistry Research</i> , 2020 , 59, 9165-9179	3.9	5
310	An MPCC Reactive Distillation Optimization Model for Multi-Objective Fischer-Tropsch Synthesis. <i>Computer Aided Chemical Engineering</i> , 2019 , 451-456	0.6	5

309	Adaptive Scenario Generation for Multistage NMPC with Shrinking Horizons. <i>IFAC-PapersOnLine</i> , 2019 , 52, 586-591	0.7	1
308	Simultaneous State and Parameter Estimation using Robust Receding-horizon Nonlinear Kalman Filter. <i>IFAC-PapersOnLine</i> , 2019 , 52, 10-15	0.7	4
307	Batch and Moving Horizon Estimation for Systems subjected to Non-additive Stochastic Disturbances. <i>IFAC-PapersOnLine</i> , 2019 , 52, 16-21	0.7	1
306	Optimal Grade Transitions in a Gas-phase Polymerization Fluidized Bed Reactor. <i>IFAC-PapersOnLine</i> , 2019 , 52, 448-453	0.7	1
305	Recent advances in gas-to-liquids process intensification with emphasis on reactive distillation. <i>Current Opinion in Chemical Engineering</i> , 2019 , 25, 95-100	5.4	10
304	A reduced regularization strategy for economic NMPC. <i>Journal of Process Control</i> , 2019 , 73, 46-57	3.9	2
303	Multi-point powered descent guidance based on optimal sensitivity. <i>Aerospace Science and Technology</i> , 2019 , 86, 465-477	4.9	7
302	Multistage NMPC with on-line generated scenario trees: Application to a semi-batch polymerization process. <i>Journal of Process Control</i> , 2019 , 80, 167-179	3.9	17
301	Contact-Implicit Trajectory Optimization Using Orthogonal Collocation. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 2242-2249	4.2	19
300	Optimization of multistage olefin/paraffin membrane separation processes through rigorous modeling. <i>AICHE Journal</i> , 2019 , 65, e16588	3.6	11
299	Reduced order models for dynamic molecular weight distribution in polymerization processes. <i>Computers and Chemical Engineering</i> , 2019 , 126, 280-291	4	2
298	A simultaneous approach for singular optimal control based on partial moving grid. <i>AICHE Journal</i> , 2019 , 65, e16584	3.6	9
297	Direct trajectory optimization framework for vertical takeoff and vertical landing reusable rockets: case study of two-stage rockets. <i>Engineering Optimization</i> , 2019 , 51, 627-645	2	7
296	An optimization model for the treatment of perfluorocarboxylic acids considering membrane preconcentration and BDD electrooxidation. <i>Water Research</i> , 2019 , 164, 114954	12.5	19
295	Nonlinear Optimization of Detailed Heat Exchanger Models with Phase Change. <i>Computer Aided Chemical Engineering</i> , 2019 , 151-156	0.6	3
294	110th Anniversary: Fischer-Tropsch Synthesis for Multiphase Product Recovery through Reactive Distillation. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 13249-13259	3.9	5
293	KIPET [An Open-Source Kinetic Parameter Estimation Toolkit. <i>Computer Aided Chemical Engineering</i> , 2019 , 47, 299-304	0.6	2
292	Terminal region characterization and stability analysis of discrete time quasi-infinite horizon nonlinear model predictive control. <i>Journal of Process Control</i> , 2019 , 83, 30-52	3.9	5

291	Sensitivity-based hierarchical distributed model predictive control of nonlinear processes. <i>Journal of Process Control</i> , 2019 , 84, 146-167	3.9	7
290	A Unified Framework for Kinetic Parameter Estimation Based on Spectroscopic Data with or without Unwanted Contributions. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 13651-13663	3.9	1
289	Optimization Opportunities in Product Development: Perspective from A Manufacturing Company. <i>Computer Aided Chemical Engineering</i> , 2019 , 47, 275-286	0.6	
288	Advanced-step multistage nonlinear model predictive control: Robustness and stability. <i>Journal of Process Control</i> , 2019 , 84, 192-206	3.9	11
287	Nonlinear Programming Formulations for Nonlinear and Economic Model Predictive Control. <i>Control Engineering</i> , 2019 , 465-489	1	2
286	Dynamic real-time optimization for a CO2 capture process. <i>AIChE Journal</i> , 2019 , 65, e16511	3.6	11
285	Dynamic optimization for grade transition processes using orthogonal collocation on molecular weight distribution. <i>AIChE Journal</i> , 2019 , 65, 1198-1210	3.6	7
284	Process Intensification of Polymerization Processes with Embedded Molecular Weight Distributions Models: An Advanced Optimization Approach. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 6133-6145	3.9	10
283	An efficient direct/indirect transcription approach for singular optimal control. <i>AIChE Journal</i> , 2019 , 65, 937-946	3.6	8
282	Parallel cyclic reduction decomposition for dynamic optimization problems. <i>Computers and Chemical Engineering</i> , 2019 , 120, 54-69	4	7
281	Optimized distillation coupled with state-of-the-art membranes for propylene purification. <i>Journal of Membrane Science</i> , 2018 , 556, 321-328	9.6	26
280	Parallel cyclic reduction strategies for linear systems that arise in dynamic optimization problems. <i>Computational Optimization and Applications</i> , 2018 , 70, 321-350	1.4	1
279	Stochastic back-off algorithm for simultaneous design, control, and scheduling of multiproduct systems under uncertainty. <i>AIChE Journal</i> , 2018 , 64, 2379-2389	3.6	48
278	Synthesis of mass exchanger networks in a two-step hybrid optimization strategy. <i>Chemical Engineering Science</i> , 2018 , 178, 118-135	4.4	18
277	pyomo.dae: a modeling and automatic discretization framework for optimization with differential and algebraic equations. <i>Mathematical Programming Computation</i> , 2018 , 10, 187-223	7.8	44
276	New directions for nonlinear process optimization. <i>Current Opinion in Chemical Engineering</i> , 2018 , 21, 32-40	5.4	12
275	Trajectory optimization for lunar rover performing vertical takeoff vertical landing maneuvers in the presence of terrain. <i>Acta Astronautica</i> , 2018 , 146, 289-299	2.9	11
274	Advanced optimization strategies for integrated dynamic process operations. <i>Computers and Chemical Engineering</i> , 2018 , 114, 3-13	4	23

273	Next Generation Multi-Scale Process Systems Engineering Framework. <i>Computer Aided Chemical Engineering</i> , 2018 , 2209-2214	0.6	13
272	Development of robust extended Kalman filter and moving window estimator for simultaneous state and parameter/disturbance estimation. <i>Journal of Process Control</i> , 2018 , 69, 158-178	3.9	15
271	A General Framework for Sensitivity-Based Optimal Control and State Estimation. <i>Computer Aided Chemical Engineering</i> , 2018 , 44, 787-792	0.6	2
270	A Simultaneous Parameter and State Estimator for Polymerization Process Based on Molecular Weight Distribution. <i>Computer Aided Chemical Engineering</i> , 2018 , 43, 1117-1122	0.6	
269	Kinetic parameter estimation based on spectroscopic data with unknown absorbing species. <i>AIChE Journal</i> , 2018 , 64, 3595-3613	3.6	6
268	Monte-Carlo-simulation-based optimization for copolymerization processes with embedded chemical composition distribution. <i>Computers and Chemical Engineering</i> , 2018 , 109, 261-275	4	12
267	Economic NMPC Strategies for Solid Sorbent-Based CO ₂ Capture. <i>IFAC-PapersOnLine</i> , 2018 , 51, 103-108	0.7	3
266	Large-scale Optimization Formulations and Strategies for Nonlinear Model Predictive Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 1-15	0.7	7
265	Advanced-step Multistage Nonlinear Model Predictive Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 122-127	0.7	7
264	Quasi-Infinite Adaptive Horizon Nonlinear Model Predictive Control. <i>IFAC-PapersOnLine</i> , 2018 , 51, 506-511	0.7	2
263	Surrogate Equations of State for Equation-Oriented Optimization of Polymerization Processes. <i>Computer Aided Chemical Engineering</i> , 2018 , 44, 781-786	0.6	1
262	Robustly stable adaptive horizon nonlinear model predictive control. <i>Journal of Process Control</i> , 2018 , 70, 109-122	3.9	18
261	A Smooth, Square Flash Formulation for Equation-Oriented Flowsheet Optimization. <i>Computer Aided Chemical Engineering</i> , 2018 , 871-876	0.6	4
260	Process optimization and working fluid mixture design for organic Rankine cycles (ORCs) recovering compression heat in oxy-combustion power plants. <i>Energy Conversion and Management</i> , 2018 , 175, 132-141	10.6	12
259	Advanced trust region optimization strategies for glass box/black box models. <i>AIChE Journal</i> , 2018 , 64, 3934-3943	3.6	15
258	An optimization model for assessment of membrane-based post-combustion gas upcycling into hydrogen or syngas. <i>Journal of Membrane Science</i> , 2018 , 563, 83-92	9.6	13
257	Parameters estimation and model discrimination for solid-liquid reactions in batch processes. <i>Chemical Engineering Science</i> , 2018 , 187, 455-469	4.4	12
256	Equation-Oriented Framework for Optimal Synthesis of Integrated Reactive Distillation Systems for Fischer-Tropsch Processes. <i>Energy & Fuels</i> , 2018 , 32, 7199-7209	4.1	15

255	Integrated Parameter Mapping and Real-Time Optimization for Load Changes in High-Temperature Gas-Cooled Pebble Bed Reactors. <i>Industrial & Engineering Chemistry Research</i> , 2018 , 57, 9171-9184	3.9	3
254	Dynamic real-time optimization under uncertainty of a hydroformylation mini-plant. <i>Computers and Chemical Engineering</i> , 2017 , 106, 836-848	4	15
253	New nonlinear programming paradigms for the future of process optimization. <i>AIChE Journal</i> , 2017 , 63, 1178-1193	3.6	17
252	Energy-efficient CO ₂ liquefaction for oxy-combustion power plant with ASU-CPU integration enhanced by cascaded sub-ambient energy utilization and waste heat recovery. <i>International Journal of Greenhouse Gas Control</i> , 2017 , 61, 124-137	4.2	3
251	Process integration and superstructure optimization of Organic Rankine Cycles (ORCs) with heat exchanger network synthesis. <i>Computers and Chemical Engineering</i> , 2017 , 107, 257-270	4	39
250	Non-equilibrium responses of PFPE lubricants with various atomistic/molecular architecture at elevated temperature. <i>AIP Advances</i> , 2017 , 7, 056520	1.5	3
249	Simultaneous heat integration and techno-economic optimization of Organic Rankine Cycle (ORC) for multiple waste heat stream recovery. <i>Energy</i> , 2017 , 119, 322-333	7.9	57
248	Development of moving window state and parameter estimators under maximum likelihood and Bayesian frameworks. <i>Journal of Process Control</i> , 2017 , 60, 48-67	3.9	11
247	Trajectory Optimization for Planetary Multi-Point Powered Landing. <i>IFAC-PapersOnLine</i> , 2017 , 50, 8291-8296	3.9	3
246	Robustly stable economic NMPC for non-dissipative stage costs. <i>Journal of Process Control</i> , 2017 , 57, 116-126	3.9	20
245	Structured regularization for barrier NLP solvers. <i>Computational Optimization and Applications</i> , 2017 , 66, 401-424	1.4	3
244	Integrated Dynamic Optimization and Scheduling of Polymerization Processes with First Principle Models. <i>Chemie-Ingenieur-Technik</i> , 2017 , 89, 1490-1502	0.8	
243	Integrated Optimization Strategies for Dynamic Process Operations. <i>Theoretical Foundations of Chemical Engineering</i> , 2017 , 51, 910-927	0.9	9
242	Physics-Based Surrogate Models for Optimal Control of a CO ₂ Methanation Reactor. <i>Computer Aided Chemical Engineering</i> , 2017 , 40, 127-132	0.6	1
241	A systematic method to customize an efficient organic Rankine cycle (ORC) to recover waste heat in refineries. <i>Applied Energy</i> , 2016 , 179, 302-315	10.7	29
240	Development of a Moving Window Maximum Likelihood Parameter Estimator and its Application on Ideal Reactive Distillation System. <i>IFAC-PapersOnLine</i> , 2016 , 49, 484-489	0.7	1
239	Three-Dimensional Aircraft Conflict Resolution Based on Smoothing Methods. <i>Journal of Guidance, Control, and Dynamics</i> , 2016 , 39, 1481-1490	2.1	4
238	A trust region filter method for glass box/black box optimization. <i>AIChE Journal</i> , 2016 , 62, 3124-3136	3.6	38

237	Development of a first-principles hybrid boiler model for oxy-combustion power generation system. <i>International Journal of Greenhouse Gas Control</i> , 2016 , 46, 136-157	4.2	10
236	On an inexact trust-region SQP-filter method for constrained nonlinear optimization. <i>Computational Optimization and Applications</i> , 2016 , 63, 613-638	1.4	3
235	Rheological Properties of PFPE Lubricants at Elevated Temperatures. <i>IEEE Transactions on Magnetics</i> , 2016 , 52, 1-4	2	2
234	Physiochemical Response of Organic Molecules in Head-Disk Interface Under Heat-Assisted Magnetic Recording Environment. <i>IEEE Transactions on Magnetics</i> , 2016 , 52, 1-4	2	
233	Moving-horizon State Estimation with Gross Error Detection for a Hydroformylation Mini-plant. <i>Computer Aided Chemical Engineering</i> , 2016 , 38, 1485-1490	0.6	2
232	Dynamic Real-time Optimization Under Uncertainty of a Hydroformylation Mini-plant. <i>Computer Aided Chemical Engineering</i> , 2016 , 2337-2342	0.6	
231	Nested direct transcription optimization for singular optimal control problems. <i>AICHE Journal</i> , 2016 , 62, 3611-3627	3.6	20
230	Optimization of grade transitions in polyethylene solution polymerization processes. <i>AICHE Journal</i> , 2016 , 62, 1126-1142	3.6	19
229	Optimal flowsheet configuration of a polymerization process with embedded molecular weight distributions. <i>AICHE Journal</i> , 2016 , 62, 131-145	3.6	9
228	Optimization of grade transitions in polyethylene solution polymerization process under uncertainty. <i>Computers and Chemical Engineering</i> , 2016 , 95, 260-279	4	34
227	A robust NMPC scheme for semi-batch polymerization reactors. <i>IFAC-PapersOnLine</i> , 2016 , 49, 37-42	0.7	24
226	Advanced Modeling and Control of a Solid Sorbent-Based CO ₂ Capture Process. <i>IFAC-PapersOnLine</i> , 2016 , 49, 633-638	0.7	4
225	A Stable and Robust NMPC Strategy with Reduced Models and Nonuniform Grids. <i>IFAC-PapersOnLine</i> , 2016 , 49, 31-36	0.7	8
224	A parallel function evaluation approach for solution to large-scale equation-oriented models. <i>Computers and Chemical Engineering</i> , 2016 , 93, 309-322	4	4
223	D-RM Builder: A software tool for generating fast and accurate nonlinear dynamic reduced models from high-fidelity models. <i>Computers and Chemical Engineering</i> , 2016 , 94, 60-74	4	7
222	An approach for simultaneous estimation of reaction kinetics and curve resolution from process and spectral data. <i>Journal of Chemometrics</i> , 2016 , 30, 506-522	1.6	13
221	Degeneracy Hunter: An Algorithm for Determining Irreducible Sets of Degenerate Constraints in Mathematical Programs. <i>Computer Aided Chemical Engineering</i> , 2015 , 809-814	0.6	3
220	Dynamic Reduced Order Models for Simulating Bubbling Fluidized Bed Adsorbers. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 6959-6974	3.9	26

219	Optimization of sub-ambient separation systems with embedded cubic equation of state thermodynamic models and complementarity constraints. <i>Computers and Chemical Engineering</i> , 2015 , 81, 323-343	4	18
218	Integrating self-optimizing control and real-time optimization using zone control MPC. <i>Journal of Process Control</i> , 2015 , 34, 35-48	3.9	10
217	A multi-thread parallel computation method for dynamic simulation of molecular weight distribution of multisite polymerization. <i>Computers and Chemical Engineering</i> , 2015 , 82, 55-67	4	9
216	A framework for efficient large scale equation-oriented flowsheet optimization. <i>Computers and Chemical Engineering</i> , 2015 , 72, 3-20	4	118
215	Discrete Time Formulation for the Integration of Scheduling and Dynamic Optimization. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 4303-4315	3.9	53
214	Parallel Monte Carlo Simulation of Molecular Weight Distribution and Chemical Composition Distribution for Copolymerization on a Graphics Processing Unit Platform. <i>Macromolecular Theory and Simulations</i> , 2015 , 24, 521-536	1.5	10
213	Reduced model trust region methods for embedding complex simulations in optimization problems. <i>Computer Aided Chemical Engineering</i> , 2015 , 37, 773-778	0.6	2
212	Pressure Swing Adsorption Optimization Strategies for CO ₂ Capture. <i>Computer Aided Chemical Engineering</i> , 2015 , 36, 197-223	0.6	5
211	Trajectory Bounds of Input-to-State Stability for Nonlinear Model Predictive Control**This material is based upon work supported by the National Science Foundation Graduate Research Fellowship Program Grant No. DGE1252522. The first author would also like to thank the Pittsburgh chapter of the ARCS Foundation and the Choctaw Nation of Oklahoma for generous support..	0.7	
210	Nonlinear Programming Properties for Stable and Robust NMPC. <i>IFAC-PapersOnLine</i> , 2015 , 48, 1027-1032	0.7	15
209	Optimal operations for large-scale seawater reverse osmosis networks. <i>Journal of Membrane Science</i> , 2015 , 476, 508-524	9.6	17
208	Optimal operation of a membrane reactor network. <i>AIChE Journal</i> , 2014 , 60, 170-180	3.6	7
207	Advanced solution methods for microkinetic models of catalytic reactions: A methanol synthesis case study. <i>AIChE Journal</i> , 2014 , 60, 1336-1346	3.6	16
206	A bilevel NLP sensitivity-based decomposition for dynamic optimization with moving finite elements. <i>AIChE Journal</i> , 2014 , 60, 966-979	3.6	16
205	Nonlinear programming strategies for dynamic chemical process optimization. <i>Theoretical Foundations of Chemical Engineering</i> , 2014 , 48, 541-554	0.9	15
204	Extended Discrete-Time Resource Task Network Formulation for the Reactive Scheduling of a Mixed Batch/Continuous Process. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 17112-17123	3.9	43
203	Kinetic parameter estimation of HDPE slurry process from molecular weight distribution: Estimability analysis and multistep methodology. <i>AIChE Journal</i> , 2014 , 60, 3442-3459	3.6	13
202	Dynamic optimization based integrated operation strategy design for passive cooling ventilation and active building air conditioning. <i>Energy and Buildings</i> , 2014 , 85, 126-135	7	18

201	Reactor Modeling and Recipe Optimization of Ring-Opening Polymerization: Block Copolymers. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 7434-7446	3.9	9
200	Multi-scale optimization for process systems engineering. <i>Computers and Chemical Engineering</i> , 2014 , 60, 17-30	4	82
199	Fast economic model predictive control based on NLP-sensitivities. <i>Journal of Process Control</i> , 2014 , 24, 1260-1272	3.9	60
198	Heterogeneous parallel method for mixed integer nonlinear programming. <i>Computers and Chemical Engineering</i> , 2014 , 66, 290-300	4	6
197	Optimization of Fractional Order Dynamic Chemical Processing Systems. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 5110-5127	3.9	39
196	Coal Oxycombustion Power Plant Optimization Using First Principles and Surrogate Boiler Models. <i>Energy Procedia</i> , 2014 , 63, 352-361	2.3	8
195	MPCCs and ROMs: New Paradigms for Multi-scale Process Optimization. <i>Computer Aided Chemical Engineering</i> , 2014 , 34, 75-87	0.6	
194	Equation-Oriented Optimization of Cryogenic Systems for Coal Oxycombustion Power Plants. <i>Computer Aided Chemical Engineering</i> , 2014 , 501-506	0.6	2
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4	Process control strategies for constrained nonlinear systems. <i>Industrial & Engineering Chemistry Research</i> , 1988 , 27, 1421-1433	3.9	64

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2	Solution of dynamic optimization problems by successive quadratic programming and orthogonal collocation. <i>Computers and Chemical Engineering</i> , 1984 , 8, 243-247	4	277
1	Modular gas-to-liquids process with membrane steam-methane reformer and Fischer-Tropsch reactive distillation. <i>AICHE Journal</i> , e17467	3.6	0