

Lorenz T Biegler

List of Publications by Citations

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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	On the implementation of an interior-point filter line-search algorithm for large-scale nonlinear programming. <i>Mathematical Programming</i> , 2006 , 106, 25-57	2.1	4467
361	Retrospective on optimization. <i>Computers and Chemical Engineering</i> , 2004 , 28, 1169-1192	4	413
360	Nonlinear Programming 2010 ,		375
359	An overview of simultaneous strategies for dynamic optimization. <i>Chemical Engineering and Processing: Process Intensification</i> , 2007 , 46, 1043-1053	3.7	352
358	Advances in simultaneous strategies for dynamic process optimization. <i>Chemical Engineering Science</i> , 2002 , 57, 575-593	4.4	302
357	Solution of dynamic optimization problems by successive quadratic programming and orthogonal collocation. <i>Computers and Chemical Engineering</i> , 1984 , 8, 243-247	4	277
356	Large-scale nonlinear programming using IPOPT: An integrating framework for enterprise-wide dynamic optimization. <i>Computers and Chemical Engineering</i> , 2009 , 33, 575-582	4	266
355	The advanced-step NMPC controller: Optimality, stability and robustness. <i>Automatica</i> , 2009 , 45, 86-93	5.7	265
354	Line Search Filter Methods for Nonlinear Programming: Motivation and Global Convergence. <i>SIAM Journal on Optimization</i> , 2005 , 16, 1-31	2	226
353	Optimization of a Pressure-Swing Adsorption Process Using Zeolite 13X for CO ₂ Sequestration. <i>Industrial & Engineering Chemistry Research</i> , 2003 , 42, 339-348	3.9	214
352	Simultaneous solution and optimization strategies for parameter estimation of differential-algebraic equation systems. <i>Industrial & Engineering Chemistry Research</i> , 1991 , 30, 376-383	3.9	161
351	Simultaneous dynamic optimization strategies: Recent advances and challenges. <i>Computers and Chemical Engineering</i> , 2006 , 30, 1560-1575	4	156
350	Lyapunov stability of economically oriented NMPC for cyclic processes. <i>Journal of Process Control</i> , 2011 , 21, 501-509	3.9	142
349	Line Search Filter Methods for Nonlinear Programming: Local Convergence. <i>SIAM Journal on Optimization</i> , 2005 , 16, 32-48	2	140
348	Optimization of Pressure Swing Adsorption and Fractionated Vacuum Pressure Swing Adsorption Processes for CO ₂ Capture. <i>Industrial & Engineering Chemistry Research</i> , 2005 , 44, 8084-8094	3.9	140
347	Optimization strategies for simulated moving bed and PowerFeed processes. <i>AIChE Journal</i> , 2006 , 52, 1343-1350	3.6	136
346	Data reconciliation and gross-error detection for dynamic systems. <i>AIChE Journal</i> , 1996 , 42, 2841-2856	3.6	134

345	A superstructure-based optimal synthesis of PSA cycles for post-combustion CO ₂ capture. <i>AICHE Journal</i> , 2009 , 56, 1813-1828	3.6	129
344	Convergence rates for direct transcription of optimal control problems using collocation at Radau points. <i>Computational Optimization and Applications</i> , 2008 , 41, 81-126	1.4	129
343	A framework for efficient large scale equation-oriented flowsheet optimization. <i>Computers and Chemical Engineering</i> , 2015 , 72, 3-20	4	118
342	Contamination Source Determination for Water Networks. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2005 , 131, 125-134	2.8	117
341	A Reduced Hessian Method for Large-Scale Constrained Optimization. <i>SIAM Journal on Optimization</i> , 1995 , 5, 314-347	2	112
340	Constraint handling and stability properties of model-predictive control. <i>AICHE Journal</i> , 1994 , 40, 1138-1155	3.5	108
339	Simulation and optimization of pressure-swing adsorption systems for air separation. <i>AICHE Journal</i> , 2003 , 49, 1140-1157	3.6	107
338	Optimizing process economics online using model predictive control. <i>Computers and Chemical Engineering</i> , 2013 , 58, 334-343	4	104
337	Targeting strategies for the synthesis and energy integration of nonisothermal reactor networks. <i>Industrial & Engineering Chemistry Research</i> , 1992 , 31, 2152-2164	3.9	96
336	Advanced step nonlinear model predictive control for air separation units. <i>Journal of Process Control</i> , 2009 , 19, 678-685	3.9	95
335	Dynamic Optimization in the Design and Scheduling of Multiproduct Batch Plants. <i>Industrial & Engineering Chemistry Research</i> , 1996 , 35, 2234-2246	3.9	94
334	A fast moving horizon estimation algorithm based on nonlinear programming sensitivity. <i>Journal of Process Control</i> , 2008 , 18, 876-884	3.9	93
333	MPEC problem formulations and solution strategies with chemical engineering applications. <i>Computers and Chemical Engineering</i> , 2008 , 32, 2903-2913	4	89
332	Redescending estimators for data reconciliation and parameter estimation. <i>Computers and Chemical Engineering</i> , 2001 , 25, 1585-1599	4	87
331	Dynamic Optimization Strategies for Three-Dimensional Conflict Resolution of Multiple Aircraft. <i>Journal of Guidance, Control, and Dynamics</i> , 2004 , 27, 586-594	2.1	86
330	Synthesis of Optimal Chemical Reactor Networks. <i>Industrial & Engineering Chemistry Research</i> , 1996 , 35, 1344-1353	3.9	84
329	Multi-scale optimization for process systems engineering. <i>Computers and Chemical Engineering</i> , 2014 , 60, 17-30	4	82
328	Simulation and Optimization of Pressure Swing Adsorption Systems Using Reduced-Order Modeling. <i>Industrial & Engineering Chemistry Research</i> , 2009 , 48, 2327-2343	3.9	79

327	Interior-point decomposition approaches for parallel solution of large-scale nonlinear parameter estimation problems. <i>Chemical Engineering Science</i> , 2008 , 63, 4834-4845	4.4	79
326	Optimal sensitivity based on IPOPT. <i>Mathematical Programming Computation</i> , 2012 , 4, 307-331	7.8	78
325	On-line implementation of nonlinear MPC: an experimental case study. <i>Control Engineering Practice</i> , 2001 , 9, 847-857	3.9	78
324	An extension of Newton-type algorithms for nonlinear process control. <i>Automatica</i> , 1995 , 31, 281-286	5.7	78
323	Mathematical programs with equilibrium constraints (MPECs) in process engineering. <i>Computers and Chemical Engineering</i> , 2003 , 27, 1381-1392	4	75
322	Robust stability of economically oriented infinite horizon NMPC that include cyclic processes. <i>Journal of Process Control</i> , 2012 , 22, 51-59	3.9	74
321	A reduced space interior point strategy for optimization of differential algebraic systems. <i>Computers and Chemical Engineering</i> , 2000 , 24, 39-51	4	73
320	New strategies for flexibility analysis and design under uncertainty. <i>Computers and Chemical Engineering</i> , 2000 , 24, 2193-2209	4	73
319	An MPEC formulation for dynamic optimization of distillation operations. <i>Computers and Chemical Engineering</i> , 2004 , 28, 2037-2052	4	70
318	Modeling multistream heat exchangers with and without phase changes for simultaneous optimization and heat integration. <i>AIChE Journal</i> , 2012 , 58, 190-204	3.6	69
317	Reduced Order Model Based on Principal Component Analysis for Process Simulation and Optimization. <i>Energy & Fuels</i> , 2009 , 23, 1695-1706	4.1	68
316	An equation-oriented approach for handling thermodynamics based on cubic equation of state in process optimization. <i>Computers and Chemical Engineering</i> , 2010 , 34, 2085-2096	4	68
315	Mixed-Integer Approach for Obtaining Unique Solutions in Source Inversion of Water Networks. <i>Journal of Water Resources Planning and Management - ASCE</i> , 2006 , 132, 242-251	2.8	68
314	An Interior Point Method for Mathematical Programs with Complementarity Constraints (MPCCs). <i>SIAM Journal on Optimization</i> , 2005 , 15, 720-750	2	68
313	Optimal process design with model parameter uncertainty and process variability. <i>AIChE Journal</i> , 2003 , 49, 438-449	3.6	68
312	Integrated scheduling and dynamic optimization of batch processes using state equipment networks. <i>AIChE Journal</i> , 2012 , 58, 3416-3432	3.6	66
311	Nonlinear Programming Superstructure for Optimal Dynamic Operations of Simulated Moving Bed Processes. <i>Industrial & Engineering Chemistry Research</i> , 2006 , 45, 8503-8513	3.9	66
310	Convergence depth control for interior point methods. <i>AIChE Journal</i> , 2010 , 56, 3146-3161	3.6	65

309	Dynamic Optimization of HIPS Open-Loop Unstable Polymerization Reactors. <i>Industrial & Engineering Chemistry Research</i> , 2005 , 44, 2659-2674	3.9	65
308	Economic Nonlinear Model Predictive Control for periodic optimal operation of gas pipeline networks. <i>Computers and Chemical Engineering</i> , 2013 , 52, 90-99	4	64
307	Process control strategies for constrained nonlinear systems. <i>Industrial & Engineering Chemistry Research</i> , 1988 , 27, 1421-1433	3.9	64
306	Design for model parameter uncertainty using nonlinear confidence regions. <i>AIChE Journal</i> , 2001 , 47, 1794-1804	3.6	63
305	Constructive targeting approaches for the synthesis of chemical reactor networks. <i>Industrial & Engineering Chemistry Research</i> , 1992 , 31, 300-312	3.9	63
304	Simulation and optimal design of multiple-bed pressure swing adsorption systems. <i>AIChE Journal</i> , 2004 , 50, 2904-2917	3.6	62
303	Dynamic optimization of the Tennessee Eastman process using the OptControlCentre. <i>Computers and Chemical Engineering</i> , 2003 , 27, 1513-1531	4	62
302	Fast economic model predictive control based on NLP-sensitivities. <i>Journal of Process Control</i> , 2014 , 24, 1260-1272	3.9	60
301	Optimization-based strategies for the operation of low-density polyethylene tubular reactors: nonlinear model predictive control. <i>Computers and Chemical Engineering</i> , 2009 , 33, 1735-1746	4	59
300	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
299	Superstructure-Based Optimal Synthesis of Pressure Swing Adsorption Cycles for Precombustion CO ₂ Capture. <i>Industrial & Engineering Chemistry Research</i> , 2010 , 49, 5066-5079	3.9	57
298	Recent Advances in Simulation and Optimal Design of Pressure Swing Adsorption Systems. <i>Separation and Purification Reviews</i> , 2005 , 33, 1-39	7.3	57
297	A quasi-sequential approach to large-scale dynamic optimization problems. <i>AIChE Journal</i> , 2006 , 52, 255-268	3.6	56
296	Quadratic programming algorithms for large-scale model predictive control. <i>Journal of Process Control</i> , 2002 , 12, 775-795	3.9	56
295	Algorithmic synthesis of chemical reactor networks using mathematical programming. <i>Industrial & Engineering Chemistry Fundamentals</i> , 1986 , 25, 621-627		55
294	Discrete Time Formulation for the Integration of Scheduling and Dynamic Optimization. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 4303-4315	3.9	53
293	Constrained particle filter approach to approximate the arrival cost in Moving Horizon Estimation. <i>Journal of Process Control</i> , 2011 , 21, 909-919	3.9	53
292	Failure of global convergence for a class of interior point methods for nonlinear programming. <i>Mathematical Programming</i> , 2000 , 88, 565-574	2.1	52

291	Dynamic Optimization of a Batch Cooling Crystallization Process. <i>Industrial & Engineering Chemistry Research</i> , 1999 , 38, 1469-1477	3.9	52
290	A Moving Horizon Estimator for processes with multi-rate measurements: A Nonlinear Programming sensitivity approach. <i>Journal of Process Control</i> , 2012 , 22, 677-688	3.9	51
289	Fast Offset-Free Nonlinear Model Predictive Control Based on Moving Horizon Estimation. <i>Industrial & Engineering Chemistry Research</i> , 2010 , 49, 7882-7890	3.9	51
288	Fast implementations and rigorous models: Can both be accommodated in NMPC?. <i>International Journal of Robust and Nonlinear Control</i> , 2008 , 18, 800-815	3.6	49
287	A new optimization algorithm with application to nonlinear MPC. <i>Journal of Process Control</i> , 2004 , 14, 853-865	3.9	49
286	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
285	Stable Decomposition for Dynamic Optimization. <i>Industrial & Engineering Chemistry Research</i> , 1995 , 34, 1253-1266	3.9	48
284	Fast nonlinear model predictive control: Formulation and industrial process applications. <i>Computers and Chemical Engineering</i> , 2013 , 51, 55-64	4	47
283	Incorporating joint confidence regions into design under uncertainty. <i>Computers and Chemical Engineering</i> , 1999 , 23, 1563-1575	4	47
282	Smoothing methods for complementarity problems in process engineering. <i>AIChE Journal</i> , 1999 , 45, 1535-1547	3.6	46
281	QPSchur: A dual, active-set, Schur-complement method for large-scale and structured convex quadratic programming. <i>Optimization and Engineering</i> , 2006 , 7, 5-32	2.1	45
280	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
279	A trust-region framework for constrained optimization using reduced order modeling. <i>Optimization and Engineering</i> , 2013 , 14, 3-35	2.1	44
278	Advanced-multi-step nonlinear model predictive control. <i>Journal of Process Control</i> , 2013 , 23, 1116-1128	3.9	44
277	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
276	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
275	Optimization of Fractional Order Dynamic Chemical Processing Systems. <i>Industrial & Engineering Chemistry Research</i> , 2014 , 53, 5110-5127	3.9	39
274	Optimization-based strategies for the operation of low-density polyethylene tubular reactors: Moving horizon estimation. <i>Computers and Chemical Engineering</i> , 2009 , 33, 379-390	4	39

273	Large-Scale Parameter Estimation in Low-Density Polyethylene Tubular Reactors. <i>Industrial & Engineering Chemistry Research</i> , 2006 , 45, 7867-7881	3.9	39
272	Parameter estimation in metabolic flux balance models for batch fermentation Formulation & Solution using Differential Variational Inequalities (DVI). <i>Annals of Operations Research</i> , 2006 , 148, 251-270	3.7	39
271	A trust region filter method for glass box/black box optimization. <i>AICHE Journal</i> , 2016 , 62, 3124-3136	3.6	38
270	Improvement of state profile accuracy in nonlinear dynamic optimization with the quasi-sequential approach. <i>AICHE Journal</i> , 2011 , 57, 2185-2197	3.6	38
269	Large scale nonlinear optimization for asymmetric operation and design of Simulated Moving Beds. <i>Journal of Chromatography A</i> , 2006 , 1133, 226-40	4.5	38
268	Linear programming formulations for attainable region analysis. <i>Chemical Engineering Science</i> , 2002 , 57, 2015-2028	4.4	38
267	Large-scale optimization strategies for pressure swing adsorption cycle synthesis. <i>AICHE Journal</i> , 2012 , 58, 3777-3791	3.6	36
266	Reactor modeling and recipe optimization of polyether polyol processes: Polypropylene glycol. <i>AICHE Journal</i> , 2013 , 59, 2515-2529	3.6	36
265	On-line state estimation of nonlinear dynamic systems with gross errors. <i>Computers and Chemical Engineering</i> , 2014 , 70, 149-159	4	35
264	Optimization of IGCC processes with reduced order CFD models. <i>Computers and Chemical Engineering</i> , 2011 , 35, 1705-1717	4	35
263	Optimization of grade transitions in polyethylene solution polymerization process under uncertainty. <i>Computers and Chemical Engineering</i> , 2016 , 95, 260-279	4	34
262	Robust stability of nonlinear model predictive control based on extended Kalman filter. <i>Journal of Process Control</i> , 2012 , 22, 82-89	3.9	33
261	Nonlinear Programming Strategies for State Estimation and Model Predictive Control. <i>Lecture Notes in Control and Information Sciences</i> , 2009 , 419-432	0.5	33
260	Global Optimization of Highly Nonlinear Dynamic Systems. <i>Industrial & Engineering Chemistry Research</i> , 2008 , 47, 2643-2655	3.9	33
259	Modeling and optimization of a seeded suspension polymerization process. <i>Chemical Engineering Science</i> , 2010 , 65, 4350-4362	4.4	32
258	State-space nonlinear process modeling: Identification and universality. <i>AICHE Journal</i> , 1998 , 44, 2229-2239	3.9	32
257	Global optimization of Optimal Power Flow using a branch & bound algorithm 2012 ,		31
256	Simulation and Optimization of a Pressure Swing Adsorption System: Recovering Hydrogen from Methane. <i>Adsorption</i> , 2005 , 11, 615-620	2.6	31

255	Convex attainable region projections for reactor network synthesis. <i>Computers and Chemical Engineering</i> , 2000 , 24, 225-229	4	31
254	Numerical Experience with a Reduced Hessian Method for Large Scale Constrained Optimization. <i>Computational Optimization and Applications</i> , 2000 , 15, 45-67	1.4	31
253	Optimal Grade Transitions in the High-Impact Polystyrene Polymerization Process. <i>Industrial & Engineering Chemistry Research</i> , 2006 , 45, 6175-6189	3.9	30
252	A stable elemental decomposition for dynamic process optimization. <i>Journal of Computational and Applied Mathematics</i> , 2000 , 120, 41-57	2.4	30
251	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
250	Recent improvements to a multiplier-free reduced Hessian successive quadratic programming algorithm. <i>Computers and Chemical Engineering</i> , 1998 , 22, 963-978	4	27
249	Dynamic Reduced Order Models for Simulating Bubbling Fluidized Bed Adsorbers. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 6959-6974	3.9	26
248	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
247	Dynamic Optimization for Batch Design and Scheduling with Process Model Uncertainty. <i>Industrial & Engineering Chemistry Research</i> , 1997 , 36, 3708-3717	3.9	26
246	Optimal Active Catalyst and Inert Distribution in Catalytic Packed Bed Reactors: ortho-Xylene Oxidation. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 15311-15320	3.9	25
245	Aggregate models based on improved group methods for simulation and optimization of distillation systems. <i>Computers and Chemical Engineering</i> , 2010 , 34, 1312-1319	4	25
244	Integrated control and process design during optimal polymer grade transition operations. <i>Computers and Chemical Engineering</i> , 2008 , 32, 2823-2837	4	25
243	Dynamic optimization for the core-flooding problem in reservoir engineering. <i>Computers and Chemical Engineering</i> , 2005 , 29, 1787-1800	4	24
242	Interior point SQP strategies for large-scale, structured process optimization problems. <i>Computers and Chemical Engineering</i> , 1999 , 23, 543-554	4	24
241	A robust NMPC scheme for semi-batch polymerization reactors. <i>IFAC-PapersOnLine</i> , 2016 , 49, 37-42	0.7	24
240	Advanced optimization strategies for integrated dynamic process operations. <i>Computers and Chemical Engineering</i> , 2018 , 114, 3-13	4	23
239	Numerical simulation and optimization of a direct methanol fuel cell. <i>Computers and Chemical Engineering</i> , 2005 , 29, 1849-1860	4	23
238	Accurate determination of optimal reflux policies for the maximum distillate problem in batch distillation. <i>Industrial & Engineering Chemistry Research</i> , 1993 , 32, 692-700	3.9	23

237	A Trust Region SQP Algorithm for Equality Constrained Parameter Estimation with Simple Parameter Bounds. <i>Computational Optimization and Applications</i> , 2004 , 28, 51-86	1.4	21
236	Robustly stable economic NMPC for non-dissipative stage costs. <i>Journal of Process Control</i> , 2017 , 57, 116-126	3.9	20
235	Multiperiod design and planning with interior point methods. <i>Computers and Chemical Engineering</i> , 1999 , 23, 919-932	4	20
234	Nested direct transcription optimization for singular optimal control problems. <i>AIChE Journal</i> , 2016 , 62, 3611-3627	3.6	20
233	Contact-Implicit Trajectory Optimization Using Orthogonal Collocation. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 2242-2249	4.2	19
232	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
231	Rigorous Optimization-based Synthesis of Distillation Cascades without Integer Variables. <i>Computer Aided Chemical Engineering</i> , 2014 , 55-60	0.6	19
230	Sensitivity of PEFC Models to Cathode Layer Microstructure. <i>Journal of the Electrochemical Society</i> , 2010 , 157, B1222	3.9	19
229	Advantages of Nonlinear-Programming-Based Methodologies for Inequality Path-Constrained Optimal Control Problems: A Numerical Study. <i>SIAM Journal of Scientific Computing</i> , 2008 , 30, 957-981	2.6	19
228	Large scale optimization strategies for zone configuration of simulated moving beds. <i>Computers and Chemical Engineering</i> , 2008 , 32, 135-144	4	19
227	Parameter Estimation for a Polymerization Reactor Model with a Composite-Step Trust-Region NLP Algorithm. <i>Industrial & Engineering Chemistry Research</i> , 2004 , 43, 3616-3631	3.9	19
226	Design and optimization of pressure swing adsorption systems with parallel implementation. <i>Computers and Chemical Engineering</i> , 2005 , 29, 393-399	4	19
225	Optimization of grade transitions in polyethylene solution polymerization processes. <i>AIChE Journal</i> , 2016 , 62, 1126-1142	3.6	19
224	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
223	Synthesis of mass exchanger networks in a two-step hybrid optimization strategy. <i>Chemical Engineering Science</i> , 2018 , 178, 118-135	4.4	18
222	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
221	Robustly stable adaptive horizon nonlinear model predictive control. <i>Journal of Process Control</i> , 2018 , 70, 109-122	3.9	18
220	New nonlinear programming paradigms for the future of process optimization. <i>AIChE Journal</i> , 2017 , 63, 1178-1193	3.6	17

219	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
218	Optimal operations for large-scale seawater reverse osmosis networks. <i>Journal of Membrane Science</i> , 2015 , 476, 508-524	9.6	17
217	Global optimization of multi-period optimal power flow 2013 ,		17
216	Comparison of configurations of a four-column simulated moving bed process by multi-objective optimization. <i>Adsorption</i> , 2008 , 14, 433-442	2.6	17
215	A tool to analyze robust stability for model predictive controllers. <i>Journal of Process Control</i> , 1999 , 9, 233-246	3.9	17
214	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
213	A bilevel NLP sensitivity-based decomposition for dynamic optimization with moving finite elements. <i>AIChE Journal</i> , 2014 , 60, 966-979	3.6	16
212	Equation-Oriented Optimization on an Industrial High-Density Polyethylene Slurry Process with Target Molecular Weight Distribution. <i>Industrial & Engineering Chemistry Research</i> , 2013 , 52, 7240-7251	3.9	16
211	Parallel calculation methods for molecular weight distribution of batch free radical polymerization. <i>Computers and Chemical Engineering</i> , 2013 , 48, 175-186	4	16
210	A Survey on Sensitivity-based Nonlinear Model Predictive Control. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013 , 46, 499-510		16
209	Dynamic real-time optimization under uncertainty of a hydroformylation mini-plant. <i>Computers and Chemical Engineering</i> , 2017 , 106, 836-848	4	15
208	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
207	Nonlinear programming strategies for dynamic chemical process optimization. <i>Theoretical Foundations of Chemical Engineering</i> , 2014 , 48, 541-554	0.9	15
206	Robust stability of nonlinear model predictive control with extended Kalman filter and target setting. <i>International Journal of Robust and Nonlinear Control</i> , 2013 , 23, 1240-1264	3.6	15
205	Nonlinear Programming Properties for Stable and Robust NMPC. <i>IFAC-PapersOnLine</i> , 2015 , 48, 388-397	0.7	15
204	Parameter Estimation in Batch Bioreactor Simulation Using Metabolic Models: Sequential Solution with Direct Sensitivities. <i>Industrial & Engineering Chemistry Research</i> , 2011 , 50, 12080-12091	3.9	15
203	An Inexact Trust-Region Algorithm for the Optimization of Periodic Adsorption Processes. <i>Industrial & Engineering Chemistry Research</i> , 2010 , 49, 12004-12013	3.9	15
202	Multi-Scenario-Based Robust Nonlinear Model Predictive Control with First Principle Models. <i>Computer Aided Chemical Engineering</i> , 2009 , 27, 1293-1298	0.6	15

201	Stability of a class of discrete-time nonlinear recursive observers. <i>Journal of Process Control</i> , 2010 , 20, 1150-1160	3.9	15
200	Large-Scale PDE-Constrained Optimization: An Introduction. <i>Lecture Notes in Computational Science and Engineering</i> , 2003 , 3-13	0.3	15
199	Multiperiod reactor network synthesis. <i>Computers and Chemical Engineering</i> , 2000 , 24, 2055-2068	4	15
198	Advanced trust region optimization strategies for glass box/black box models. <i>AIChE Journal</i> , 2018 , 64, 3934-3943	3.6	15
197	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
196	A novel strategy for dynamic optimization of grade transition processes based on molecular weight distribution. <i>AIChE Journal</i> , 2014 , 60, 2498-2512	3.6	14
195	Next Generation Multi-Scale Process Systems Engineering Framework. <i>Computer Aided Chemical Engineering</i> , 2018 , 2209-2214	0.6	13
194	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
193	The Holistic Strategy in Multi-Scale Modeling. <i>Advances in Chemical Engineering</i> , 2011 , 40, 59-118	0.6	13
192	Large-Scale Nonlinear Programming for Multi-scenario Optimization 2008 , 323-336		13
191	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
190	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
189	New directions for nonlinear process optimization. <i>Current Opinion in Chemical Engineering</i> , 2018 , 21, 32-40	5.4	12
188	Interior-point methods for reduced Hessian successive quadratic programming. <i>Computers and Chemical Engineering</i> , 1999 , 23, 859-873	4	12
187	Dynamic optimization with complementarity constraints: Smoothing for direct shooting. <i>Computers and Chemical Engineering</i> , 2020 , 139, 106891	4	12
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