

# Ignacio E Grossmann

## List of Publications by Citations

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571  
papers

32,255  
citations

96  
h-index

155  
g-index

590  
ext. papers

35,364  
ext. citations

3.4  
avg, IF

7.83  
L-index

#	Paper	IF	Citations
571	An outer-approximation algorithm for a class of mixed-integer nonlinear programs. <i>Mathematical Programming</i> , <b>1986</b> , 36, 307-339	2.1	956
570	Simultaneous optimization models for heat integrationII. Heat exchanger network synthesis. <i>Computers and Chemical Engineering</i> , <b>1990</b> , 14, 1165-1184	4	769
569	State-of-the-art review of optimization methods for short-term scheduling of batch processes. <i>Computers and Chemical Engineering</i> , <b>2006</b> , 30, 913-946	4	586
568	A combined penalty function and outer-approximation method for MINLP optimization. <i>Computers and Chemical Engineering</i> , <b>1990</b> , 14, 769-782	4	542
567	A structural optimization approach in process synthesisII: Heat recovery networks. <i>Computers and Chemical Engineering</i> , <b>1983</b> , 7, 707-721	4	527
566	An algorithmic framework for convex mixed integer nonlinear programs. <i>Discrete Optimization</i> , <b>2008</b> , 5, 186-204	1	509
565	Retrospective on optimization. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 28, 1169-1192	4	413
564	An index for operational flexibility in chemical process design. Part I: Formulation and theory. <i>AICHE Journal</i> , <b>1985</b> , 31, 621-630	3.6	388
563	Modelling and computational techniques for logic based integer programming. <i>Computers and Chemical Engineering</i> , <b>1994</b> , 18, 563-578	4	383
562	Review of Nonlinear Mixed-Integer and Disjunctive Programming Techniques. <i>Optimization and Engineering</i> , <b>2002</b> , 3, 227-252	2.1	377
561	Enterprise-wide optimization: A new frontier in process systems engineering. <i>AICHE Journal</i> , <b>2005</b> , 51, 1846-1857	3.6	376
560	Automatic synthesis of optimum heat exchanger network configurations. <i>AICHE Journal</i> , <b>1986</b> , 32, 276-290	3.6	359
559	Scope for industrial applications of production scheduling models and solution methods. <i>Computers and Chemical Engineering</i> , <b>2014</b> , 62, 161-193	4	335
558	Simultaneous optimization and heat integration of chemical processes. <i>AICHE Journal</i> , <b>1986</b> , 32, 123-138	3.6	335
557	Optimal process design under uncertainty. <i>AICHE Journal</i> , <b>1983</b> , 29, 425-433	3.6	330
556	Global optimization for the synthesis of integrated water systems in chemical processes. <i>Computers and Chemical Engineering</i> , <b>2006</b> , 30, 650-673	4	323
555	Active constraint strategy for flexibility analysis in chemical processes. <i>Computers and Chemical Engineering</i> , <b>1987</b> , 11, 675-693	4	283

554	Algorithms for Hybrid MILP/CP Models for a Class of Optimization Problems. <i>INFORMS Journal on Computing</i> , <b>2001</b> , 13, 258-276	2.4	271
553	Mixed-Integer Linear Programming Model for Refinery Short-Term Scheduling of Crude Oil Unloading with Inventory Management. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1996</b> , 35, 1630-1641	3.9	253
552	Simultaneous optimization models for heat integration—Area and energy targeting and modeling of multi-stream exchangers. <i>Computers and Chemical Engineering</i> , <b>1990</b> , 14, 1151-1164	4	250
551	A structural optimization approach in process synthesis—Utility systems. <i>Computers and Chemical Engineering</i> , <b>1983</b> , 7, 695-706	4	249
550	An LP/NLP based branch and bound algorithm for convex MINLP optimization problems. <i>Computers and Chemical Engineering</i> , <b>1992</b> , 16, 937-947	4	243
549	A Continuous Time Mixed Integer Linear Programming Model for Short Term Scheduling of Multistage Batch Plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1995</b> , 34, 3037-3051	3.9	240
548	Logic-based MINLP algorithms for the optimal synthesis of process networks. <i>Computers and Chemical Engineering</i> , <b>1996</b> , 20, 959-978	4	230
547	New General Continuous-Time State-Task Network Formulation for Short-Term Scheduling of Multipurpose Batch Plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2003</b> , 42, 3056-3074	3.9	225
546	A systematic modeling framework of superstructure optimization in process synthesis. <i>Computers and Chemical Engineering</i> , <b>1999</b> , 23, 709-731	4	224
545	Optimal design and planning of sustainable chemical supply chains under uncertainty. <i>AICHE Journal</i> , <b>2009</b> , 55, 99-121	3.6	223
544	Scope for the application of mathematical programming techniques in the synthesis and planning of sustainable processes. <i>Computers and Chemical Engineering</i> , <b>2010</b> , 34, 1365-1376	4	211
543	Global optimization of bilinear process networks with multicomponent flows. <i>Computers and Chemical Engineering</i> , <b>1995</b> , 19, 1219-1242	4	210
542	Relation between MILP modelling and logical inference for chemical process synthesis. <i>Computers and Chemical Engineering</i> , <b>1991</b> , 15, 73-84	4	208
541	A model predictive control strategy for supply chain optimization. <i>Computers and Chemical Engineering</i> , <b>2003</b> , 27, 1201-1218	4	204
540	Research challenges in process systems engineering. <i>AICHE Journal</i> , <b>2000</b> , 46, 1700-1703	3.6	193
539	Optimal production planning under time-sensitive electricity prices for continuous power-intensive processes. <i>Computers and Chemical Engineering</i> , <b>2012</b> , 38, 171-184	4	188
538	An algorithm for the use of surrogate models in modular flowsheet optimization. <i>AICHE Journal</i> , <b>2008</b> , 54, 2633-2650	3.6	183
537	Optimal scheduling of industrial combined heat and power plants under time-sensitive electricity prices. <i>Energy</i> , <b>2013</b> , 54, 194-211	7.9	181

536	New algorithms for nonlinear generalized disjunctive programming. <i>Computers and Chemical Engineering</i> , <b>2000</b> , 24, 2125-2141	4	181
535	Relaxation strategy for the structural optimization of process flow sheets. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1987</b> , 26, 1869-1880	3.9	175
534	Design of responsive supply chains under demand uncertainty. <i>Computers and Chemical Engineering</i> , <b>2008</b> , 32, 3090-3111	4	174
533	Optimal Design of Distributed Wastewater Treatment Networks. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1998</b> , 37, 4036-4048	3.9	165
532	Risk management for a global supply chain planning under uncertainty: Models and algorithms. <i>AICHE Journal</i> , <b>2009</b> , 55, 931-946	3.6	162
531	Decomposition techniques for multistage scheduling problems using mixed-integer and constraint programming methods. <i>Computers and Chemical Engineering</i> , <b>2002</b> , 26, 1533-1552	4	158
530	An index for operational flexibility in chemical process design. Part II: Computational algorithms. <i>AICHE Journal</i> , <b>1985</b> , 31, 631-641	3.6	155
529	A stochastic programming approach to planning of offshore gas field developments under uncertainty in reserves. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 28, 1409-1429	4	151
528	A modelling and decomposition strategy for the minlp optimization of process flowsheets. <i>Computers and Chemical Engineering</i> , <b>1989</b> , 13, 797-819	4	149
527	Optimum Design of Multipurpose Chemical Plants. <i>Industrial &amp; Engineering Chemistry Process Design and Development</i> , <b>1979</b> , 18, 343-348		149
526	Optimization strategies for flexible chemical processes. <i>Computers and Chemical Engineering</i> , <b>1983</b> , 7, 439-462	4	148
525	Optimum design of chemical plants with uncertain parameters. <i>AICHE Journal</i> , <b>1978</b> , 24, 1021-1028	3.6	146
524	Challenges in the new millennium: product discovery and design, enterprise and supply chain optimization, global life cycle assessment. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 29, 29-39	4	144
523	Global superstructure optimization for the design of integrated process water networks. <i>AICHE Journal</i> , <b>2011</b> , 57, 434-457	3.6	143
522	A Class of stochastic programs with decision dependent uncertainty. <i>Mathematical Programming</i> , <b>2006</b> , 108, 355-394	2.1	143
521	Assignment and sequencing models for the scheduling of process systems. <i>Annals of Operations Research</i> , <b>1998</b> , 81, 433-466	3.2	142
520	Part II. Future perspective on optimization. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 28, 1193-1218	4	140
519	Optimization model for long range planning in the chemical industry. <i>Computers and Chemical Engineering</i> , <b>1989</b> , 13, 1049-1063	4	140

518	Energy optimization for the design of corn-based ethanol plants. <i>AIChE Journal</i> , <b>2008</b> , 54, 1499-1525	3.6	139
517	Global optimization of nonconvex mixed-integer nonlinear programming (MINLP) problems in process synthesis. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1988</b> , 27, 1407-1421	3.9	138
516	A simultaneous optimization approach for off-line blending and scheduling of oil-refinery operations. <i>Computers and Chemical Engineering</i> , <b>2006</b> , 30, 614-634	4	137
515	A decomposition approach for the scheduling of a steel plant production. <i>Computers and Chemical Engineering</i> , <b>2001</b> , 25, 1647-1660	4	134
514	Advances in mathematical programming models for enterprise-wide optimization. <i>Computers and Chemical Engineering</i> , <b>2012</b> , 47, 2-18	4	131
513	A global optimization strategy for the environmentally conscious design of chemical supply chains under uncertainty in the damage assessment model. <i>Computers and Chemical Engineering</i> , <b>2010</b> , 34, 42-58	4	130
512	Optimal Planning and Scheduling of Offshore Oil Field Infrastructure Investment and Operations. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1998</b> , 37, 1380-1397	3.9	129
511	Energy optimization of bioethanol production via gasification of switchgrass. <i>AIChE Journal</i> , <b>2011</b> , 57, 3408-3428	3.6	126
510	Optimal cyclic scheduling of multistage continuous multiproduct plants. <i>Computers and Chemical Engineering</i> , <b>1994</b> , 18, 797-816	4	126
509	MINLP model for cyclic multiproduct scheduling on continuous parallel lines. <i>Computers and Chemical Engineering</i> , <b>1991</b> , 15, 85-103	4	126
508	A global MINLP optimization algorithm for the synthesis of heat exchanger networks with no stream splits. <i>Computers and Chemical Engineering</i> , <b>1998</b> , 22, 367-384	4	124
507	A Rigorous MINLP Model for the Optimal Synthesis and Operation of Utility Plants. <i>Chemical Engineering Research and Design</i> , <b>1998</b> , 76, 246-258	5.5	122
506	Recent advances in mathematical programming techniques for the optimization of process systems under uncertainty. <i>Computers and Chemical Engineering</i> , <b>2016</b> , 91, 3-14	4	118
505	Design optimization of stochastic flexibility. <i>Computers and Chemical Engineering</i> , <b>1993</b> , 17, 339-354	4	117
504	Air separation with cryogenic energy storage: Optimal scheduling considering electric energy and reserve markets. <i>AIChE Journal</i> , <b>2015</b> , 61, 1547-1558	3.6	116
503	Mixed-integer programming approach for the synthesis of integrated process flowsheets. <i>Computers and Chemical Engineering</i> , <b>1985</b> , 9, 463-482	4	116
502	Design of distillation sequences: from conventional to fully thermally coupled distillation systems. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 28, 2307-2329	4	115
501	Systematic modeling of discrete-continuous optimization models through generalized disjunctive programming. <i>AIChE Journal</i> , <b>2013</b> , 59, 3276-3295	3.6	113

500	Modeling of discrete/continuous optimization problems: characterization and formulation of disjunctions and their relaxations. <i>Computers and Chemical Engineering</i> , <b>2003</b> , 27, 433-448	4	113
499	Mathematical programming approaches to the synthesis of chemical process systems. <i>Korean Journal of Chemical Engineering</i> , <b>1999</b> , 16, 407-426	2.8	113
498	A global optimization algorithm for linear fractional and bilinear programs. <i>Journal of Global Optimization</i> , <b>1995</b> , 6, 39-76	1.5	113
497	A mixed-integer nonlinear programming algorithm for process systems synthesis. <i>AIChE Journal</i> , <b>1986</b> , 32, 592-606	3.6	113
496	A Bilevel Decomposition Algorithm for Long-Range Planning of Process Networks. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1998</b> , 37, 474-481	3.9	112
495	Computational experience with dicopt solving MINLP problems in process systems engineering. <i>Computers and Chemical Engineering</i> , <b>1989</b> , 13, 307-315	4	111
494	Simultaneous Cyclic Scheduling and Control of a Multiproduct CSTR. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2006</b> , 45, 6698-6712	3.9	110
493	A hybrid MILP/CP decomposition approach for the continuous time scheduling of multipurpose batch plants. <i>Computers and Chemical Engineering</i> , <b>2004</b> , 28, 1921-1949	4	110
492	A Mixed-Integer Linear Programming Model for Short-Term Scheduling of Single-Stage Multiproduct Batch Plants with Parallel Lines. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1997</b> , 36, 1695-1707	3.9	107
491	Synthesis of flexible heat exchanger networks with uncertain flowrates and temperatures. <i>Computers and Chemical Engineering</i> , <b>1987</b> , 11, 319-336	4	107
490	Recent Developments and Challenges in Optimization-Based Process Synthesis. <i>Annual Review of Chemical and Biomolecular Engineering</i> , <b>2017</b> , 8, 249-283	8.9	105
489	A Branch and Contract Algorithm for Problems with Concave Univariate, Bilinear and Linear Fractional Terms. <i>Journal of Global Optimization</i> , <b>1999</b> , 14, 217-249	1.5	104
488	Review of Mixed-Integer Nonlinear and Generalized Disjunctive Programming Methods. <i>Chemie-Ingenieur-Technik</i> , <b>2014</b> , 86, 991-1012	0.8	103
487	Strategic planning, design, and development of the shale gas supply chain network. <i>AIChE Journal</i> , <b>2014</b> , 60, 2122-2142	3.6	103
486	Optimization models for shale gas water management. <i>AIChE Journal</i> , <b>2014</b> , 60, 3490-3501	3.6	102
485	Mixed-Integer Nonlinear Programming Models and Algorithms for Large-Scale Supply Chain Design with Stochastic Inventory Management. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2008</b> , 47, 7802-7817	3.9	102
484	Generalized Convex Disjunctive Programming: Nonlinear Convex Hull Relaxation. <i>Computational Optimization and Applications</i> , <b>2003</b> , 26, 83-100	1.4	102
483	Optimal Design of Complex Distillation Columns Using Rigorous Tray-by-Tray Disjunctive Programming Models. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2000</b> , 39, 4326-4335	3.9	101

482	Optimal feed locations and number of trays for distillation columns with multiple feeds. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1993</b> , 32, 2942-2949	3.9	101
481	Simultaneous optimization models for heat integrationIII. Process and heat exchanger network optimization. <i>Computers and Chemical Engineering</i> , <b>1990</b> , 14, 1185-1200	4	101
480	Synthesis and operational planning of utility systems for multiperiod operation. <i>Computers and Chemical Engineering</i> , <b>1998</b> , 22, 979-993	4	100
479	Approximation to Multistage Stochastic Optimization in Multiperiod Batch Plant Scheduling under Demand Uncertainty. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2004</b> , 43, 3695-3713	3.9	99
478	Global optimization of multiscenario mixed integer nonlinear programming models arising in the synthesis of integrated water networks under uncertainty. <i>Computers and Chemical Engineering</i> , <b>2008</b> , 32, 145-160	4	98
477	Convergence properties of generalized benders decomposition. <i>Computers and Chemical Engineering</i> , <b>1991</b> , 15, 481-491	4	98
476	Multi-period synthesis of optimally integrated biomass and bioenergy supply network. <i>Computers and Chemical Engineering</i> , <b>2014</b> , 66, 57-70	4	97
475	Optimization of Energy and Water Consumption in Corn-Based Ethanol Plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2010</b> , 49, 7972-7982	3.9	95
474	Disjunctive Programming Models for the Optimal Design of Distillation Columns and Separation SequencesII. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2000</b> , 39, 1637-1648	3.9	95
473	Simultaneous Optimization and Heat Integration for Biodiesel Production from Cooking Oil and Algae. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2012</b> , 51, 7998-8014	3.9	94
472	Optimal synthesis of heat exchanger networks involving isothermal process streams. <i>Computers and Chemical Engineering</i> , <b>2008</b> , 32, 1918-1942	4	94
471	A Decomposition Method for the Simultaneous Planning and Scheduling of Single-Stage Continuous Multiproduct Plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2006</b> , 45, 299-315	3.9	94
470	A review and comparison of solvers for convex MINLP. <i>Optimization and Engineering</i> , <b>2019</b> , 20, 397-455	2.1	94
469	Optimization of steel production scheduling with complex time-sensitive electricity cost. <i>Computers and Chemical Engineering</i> , <b>2015</b> , 76, 117-136	4	93
468	Generalized Disjunctive Programming Model for the Optimal Synthesis of Thermally Linked Distillation Columns. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2001</b> , 40, 2260-2274	3.9	92
467	A disjunctive programming approach for the optimal design of reactive distillation columns. <i>Computers and Chemical Engineering</i> , <b>2001</b> , 25, 1661-1673	4	91
466	Cyclic scheduling of continuous parallel-process units with decaying performance. <i>AIChE Journal</i> , <b>1998</b> , 44, 1623-1636	3.6	90
465	New Continuous-Time Scheduling Formulation for Continuous Plants under Variable Electricity Cost. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2009</b> , 48, 6701-6714	3.9	88

464	A strategy for the integration of production planning and reactive scheduling in the optimization of a hydrogen supply network. <i>Computers and Chemical Engineering</i> , <b>2003</b> , 27, 1813-1839	4	88
463	Temporal Decomposition Scheme for Nonlinear Multisite Production Planning and Distribution Models. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2003</b> , 42, 3045-3055	3.9	88
462	Optimal multiperiod operational planning for utility systems. <i>Computers and Chemical Engineering</i> , <b>1997</b> , 21, 787-800	4	87
461	Global optimization for scheduling refinery crude oil operations. <i>Computers and Chemical Engineering</i> , <b>2008</b> , 32, 2745-2766	4	87
460	Process Optimization of FT-Diesel Production from Lignocellulosic Switchgrass. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2011</b> , 50, 13485-13499	3.9	86
459	Integrated stochastic metric of flexibility for systems with discrete state and continuous parameter uncertainties. <i>Computers and Chemical Engineering</i> , <b>1990</b> , 14, 967-985	4	86
458	Synthesis of flexible heat exchanger networks for multiperiod operation. <i>Computers and Chemical Engineering</i> , <b>1986</b> , 10, 153-168	4	86
457	Supply Chain Optimization in Continuous Flexible Process Networks. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2000</b> , 39, 1279-1290	3.9	84
456	Evolution of concepts and models for quantifying resiliency and flexibility of chemical processes. <i>Computers and Chemical Engineering</i> , <b>2014</b> , 70, 22-34	4	83
455	Optimal retrofit design for improving process flexibility in linear systems. <i>Computers and Chemical Engineering</i> , <b>1988</b> , 12, 719-731	4	83
454	Stochastic inventory management for tactical process planning under uncertainties: MINLP models and algorithms. <i>AIChE Journal</i> , <b>2011</b> , 57, 1250-1277	3.6	82
453	Global optimization of nonlinear generalized disjunctive programming with bilinear equality constraints: applications to process networks. <i>Computers and Chemical Engineering</i> , <b>2003</b> , 27, 1557-1575 <sup>4</sup>		82
452	Stochastic Programming Approach for the Planning of Offshore Oil or Gas Field Infrastructure under Decision-Dependent Uncertainty. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2009</b> , 48, 3078-3097	3.9	81
451	Scheduling optimization under uncertainty—An alternative approach. <i>Computers and Chemical Engineering</i> , <b>2003</b> , 27, 469-490	4	81
450	Global optimization of bilinear programs with a multiparametric disaggregation technique. <i>Journal of Global Optimization</i> , <b>2013</b> , 57, 1039-1063	1.5	80
449	New Continuous-Time MILP Model for the Short-Term Scheduling of Multistage Batch Plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2005</b> , 44, 9175-9190	3.9	80
448	An adjustable robust optimization approach to scheduling of continuous industrial processes providing interruptible load. <i>Computers and Chemical Engineering</i> , <b>2016</b> , 86, 106-119	4	79
447	Water and energy integration: A comprehensive literature review of non-isothermal water network synthesis. <i>Computers and Chemical Engineering</i> , <b>2015</b> , 82, 144-171	4	78



446	Supplier selection in the processed food industry under uncertainty. <i>European Journal of Operational Research</i> , <b>2016</b> , 252, 801-814	5.6	78
445	On the Systematic Synthesis of Sustainable Biorefineries. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2013</b> , 52, 3044-3064	3.9	78
444	Structural Considerations and Modeling in the Synthesis of Heat-Integrated Thermally Coupled Distillation Sequences. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2006</b> , 45, 8454-8474	3.9	78
443	A disaggregation algorithm for the optimization of stochastic planning models. <i>Computers and Chemical Engineering</i> , <b>1997</b> , 21, 751-774	4	77
442	An improved piecewise outer-approximation algorithm for the global optimization of MINLP models involving concave and bilinear terms. <i>Computers and Chemical Engineering</i> , <b>2008</b> , 32, 477-493	4	77
441	A Lagrangean Decomposition Heuristic for the Design and Planning of Offshore Hydrocarbon Field Infrastructures with Complex Economic Objectives. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2001</b> , 40, 2857-2875	3.9	76
440	An Iterative Aggregation/Disaggregation Approach for the Solution of a Mixed-Integer Nonlinear Oilfield Infrastructure Planning Model. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2000</b> , 39, 1955-1971	3.9	76
439	Simultaneous Planning for New Product Development and Batch Manufacturing Facilities. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2001</b> , 40, 6147-6164	3.9	76
438	Disjunctive Programming Techniques for the Optimization of Process Systems with Discontinuous Investment Costs Multiple Size Regions. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1996</b> , 35, 2611-2623	3.9	76
437	A Novel Priority-Slot Based Continuous-Time Formulation for Crude-Oil Scheduling Problems. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2009</b> , 48, 8515-8528	3.9	75
436	Optimization Models for the Scheduling of Testing Tasks in New Product Development. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1996</b> , 35, 3498-3510	3.9	75
435	Mixed-integer linear programming reformulations for batch process design with discrete equipment sizes. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1992</b> , 31, 1315-1325	3.9	75
434	Dinkelbach's algorithm as an efficient method to solve a class of MINLP models for large-scale cyclic scheduling problems. <i>Computers and Chemical Engineering</i> , <b>2009</b> , 33, 1879-1889	4	74
433	A rigorous disjunctive optimization model for simultaneous flowsheet optimization and heat integration. <i>Computers and Chemical Engineering</i> , <b>1998</b> , 22, S157-S164	4	74
432	Logic-based outer approximation for globally optimal synthesis of process networks. <i>Computers and Chemical Engineering</i> , <b>2005</b> , 29, 1914-1933	4	74
431	New trends in optimization-based approaches to process synthesis. <i>Computers and Chemical Engineering</i> , <b>1996</b> , 20, 665-683	4	74
430	Symbolic integration of logic in mixed-integer linear programming techniques for process synthesis. <i>Computers and Chemical Engineering</i> , <b>1993</b> , 17, 909-927	4	74
429	Enterprise-wide optimization for industrial demand side management: Fundamentals, advances, and perspectives. <i>Chemical Engineering Research and Design</i> , <b>2016</b> , 116, 114-131	5.5	73

428	Simultaneous production planning and scheduling in multiproduct batch plants. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1990</b> , 29, 570-580	3.9	73
427	Two New Continuous-Time Models for the Scheduling of Multistage Batch Plants with Sequence Dependent Changeovers. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2006</b> , 45, 6210-6226	3.9	72
426	An Efficient Multiperiod MINLP Model for Optimal Planning of Offshore Oil and Gas Field Infrastructure. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2012</b> , 51, 6823-6840	3.9	71
425	Resource-Constrained Scheduling of Tests in New Product Development. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>1999</b> , 38, 3013-3026	3.9	70
424	Optimum design of heat exchanger networks. <i>Computers and Chemical Engineering</i> , <b>1978</b> , 2, 1-7	4	70
423	Modeling multistream heat exchangers with and without phase changes for simultaneous optimization and heat integration. <i>AIChE Journal</i> , <b>2012</b> , 58, 190-204	3.6	69
422	New developments and capabilities in prosynAn automated topology and parameter process synthesizer. <i>Computers and Chemical Engineering</i> , <b>1994</b> , 18, 1097-1114	4	69
421	Mixed-integer nonlinear programming techniques for the synthesis of engineering systems. <i>Research in Engineering Design - Theory, Applications, and Concurrent Engineering</i> , <b>1990</b> , 1, 205-228	3.5	69
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