Zoltan Nagy

List of Publications by Year
in descending order

125	4,163	117453	143772
papers	citations	34 h-index	57 g-index

132	132	132	2313
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Real-Time Monitoring of Powder Mass Flowrates for Plant-Wide Control of a Continuous Direct Compaction Tablet Manufacturing Process. Journal of Pharmaceutical Sciences, 2022, 111, 69-81.	1.6	4
2	Small-Scale Continuous Drug Product Manufacturing using Dropwise Additive Manufacturing and Three Phase Settling for Integration with Upstream Drug Substance Production. Journal of Pharmaceutical Sciences, 2022, 111, 2330-2340.	1.6	5
3	Optimization of Amorphization Kinetics during Hot Melt Extrusion by Particle Engineering: An Experimental and Computational Study. Crystal Growth and Design, 2022, 22, 821-841.	1.4	6
4	Digital Design of the Crystallization of an Active Pharmaceutical Ingredient Using a Population Balance Model with a Novel Size Dependent Growth Rate Expression. From Development of a Digital Twin to In Silico Optimization and Experimental Validation. Crystal Growth and Design, 2022, 22, 497-512.	1.4	11
5	A benchmark simulator for quality-by-design and quality-by-control studies in continuous pharmaceutical manufacturing â€' Intensified filtration-drying of crystallization slurries. Computers and Chemical Engineering, 2022, 163, 107809.	2.0	10
6	Steady-state target calculation integrating economic optimization for constrained model predictive control. Computers and Chemical Engineering, 2021, 145, 107145.	2.0	11
7	Modeling of pharmaceutical filtration and continuous integrated crystallization-filtration processes. Chemical Engineering Journal, 2021, 413, 127566.	6.6	21
8	Integrating virtual sample generation with input-training neural network for solving small sample size problems: application to purified terephthalic acid solvent system. Soft Computing, 2021, 25, 6489-6504.	2.1	11
9	Iterative modelâ€based experimental design for spherical agglomeration processes. AICHE Journal, 2021, 67, e17178.	1.8	10
10	Integrated Continuous Pharmaceutical Technologiesâ€"A Review. Organic Process Research and Development, 2021, 25, 721-739.	1.3	72
11	Amorphous Solid Dispersions Containing Residual Crystallinity: Competition Between Dissolution and Matrix Crystallization. AAPS Journal, 2021, 23, 69.	2.2	26
12	Experimental Investigation of an Integrated Crystallization and Wet-Milling System with Temperature Cycling to Control the Size and Aspect Ratio of Needle-Shaped Pharmaceutical Crystals. Crystal Growth and Design, 2021, 21, 3981-3993.	1.4	21
13	Combination of PAT and mechanistic modeling tools in a fully continuous powder to granule line: Rapid and deep process understanding. Powder Technology, 2021, 388, 70-81.	2.1	14
14	Evaluation of a Combined MHE-NMPC Approach to Handle Plant-Model Mismatch in a Rotary Tablet Press. Processes, 2021, 9, 1612.	1.3	12
15	Modeling and analysis of MSMPR cascades involving nucleation, growth and agglomeration mechanisms with slurry recycling. Chemical Engineering Research and Design, 2021, 174, 42-56.	2.7	8
16	PharmaPy: An object-oriented tool for the development of hybrid pharmaceutical flowsheets. Computers and Chemical Engineering, 2021, 153, 107408.	2.0	18
17	Mathematical modeling and digital design of an intensified filtration-washing-drying unit for pharmaceutical continuous manufacturing. Chemical Engineering Science, 2021, 244, 116803.	1.9	19
18	Cross-Pharma Collaboration for the Development of a Simulation Tool for the Model-Based Digital Design of Pharmaceutical Crystallization Processes (CrySiV). Crystal Growth and Design, 2021, 21, 6448-6464.	1.4	8

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19	Continuous In Situ Seed Generation through the Integration of a Mixed Suspension Mixed Product Removal and an Oscillatory Baffled Crystallizer for the Control of Crystal Size Distribution and Polymorphic Form. Crystal Growth and Design, 2021, 21, 6684-6696.	1.4	6
20	Polymorphic Control and Scale-up Strategy for Crystallization from a Ternary Antisolvent System by Supersaturation Control. Crystal Growth and Design, 2020, 20, 1337-1346.	1.4	12
21	Polymorphic Control and Scale-Up Strategy for Antisolvent Crystallization Using a Sequential Supersaturation and Direct Nucleation Control Approach. Crystal Growth and Design, 2020, 20, 5538-5550.	1.4	10
22	Risk-Based Operation of a Continuous Mixed-Suspension-Mixed-Product-Removal Antisolvent Crystallization Process for Polymorphic Control. Organic Process Research and Development, 2020, 24, 2840-2852.	1.3	7
23	Enabling Mechanical Separation of Enantiomers through Controlled Batchwise Concomitant Crystallization: Digital Design and Experimental Validation. Crystal Growth and Design, 2020, 20, 7726-7741.	1.4	3
24	A Novel Robust Digital Design of a Network of Industrial Continuous Cooling Crystallizers of Dextrose Monohydrate: From Laboratory Experiments to Industrial Application. Industrial & Engineering Chemistry Research, 2020, 59, 22231-22246.	1.8	15
25	Population Balance Model Development Verification and Validation of Cooling Crystallization of Carbamazepine. Crystal Growth and Design, 2020, 20, 5235-5250.	1.4	18
26	Novel semibatch supersaturation control approach for the cooling crystallization of heatâ€sensitive materials. AICHE Journal, 2020, 66, e16955.	1.8	9
27	Polymorphic Control and Scale-Up Strategy for Antisolvent Crystallization Using Direct Nucleation Control. Crystal Growth and Design, 2020, 20, 2683-2697.	1.4	16
28	Mathematical Modeling of Emulsion Solvent Diffusion for Spherical Crystallization: How To Deconvolute Primary Crystal Size Distribution from Agglomerate Size Distribution?. Industrial & Engineering Chemistry Research, 2020, 59, 6288-6300.	1.8	7
29	Continuous Spherical Crystallization of Lysozyme in an Oscillatory Baffled Crystallizer Using Emulsion Solvent Diffusion in Droplets. Crystal Growth and Design, 2020, 20, 934-947.	1.4	20
30	End-to-end continuous manufacturing of conventional compressed tablets: From flow synthesis to tableting through integrated crystallization and filtration. International Journal of Pharmaceutics, 2020, 581, 119297.	2.6	42
31	Application of Model-Free and Model-Based Quality-by-Control (QbC) for the Efficient Design of Pharmaceutical Crystallization Processes. Crystal Growth and Design, 2020, 20, 3979-3996.	1.4	38
32	Continuous Crystallization: Equipment and Operation. AAPS Advances in the Pharmaceutical Sciences Series, 2020, , 129-192.	0.2	4
33	Thermodynamic Polymorph Selection in Enantiotropic Systems Using Supersaturation-Controlled Batch and Semibatch Cooling Crystallization. Crystal Growth and Design, 2019, 19, 6715-6726.	1.4	11
34	Steady-State Data Reconciliation Framework for a Direct Continuous Tableting Line. Journal of Pharmaceutical Innovation, 2019, 14, 221-238.	1.1	6
35	Encrustation in Continuous Pharmaceutical Crystallization Processesâ€”A Review. Organic Process Research and Development, 2019, 23, 1134-1142.	1.3	29
36	Sensor Network Robustness Using Model-Based Data Reconciliation for Continuous Tablet Manufacturing. Journal of Pharmaceutical Sciences, 2019, 108, 2599-2612.	1.6	8

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37	Model-Based Optimization of Cooling Crystallization of Active Pharmaceutical Ingredients Undergoing Thermal Degradation. Crystal Growth and Design, 2019, 19, 3417-3429.	1.4	25
38	Data reconciliation in the Quality-by-Design (QbD) implementation of pharmaceutical continuous tablet manufacturing. International Journal of Pharmaceutics, 2019, 563, 259-272.	2.6	26
39	A comparative study of continuous operation between a dynamic baffle crystallizer and a stirred tank crystallizer. Chemical Engineering Journal, 2019, 367, 278-294.	6.6	27
40	Development of Continuous Filtration in a Novel Continuous Filtration Carousel Integrated with Continuous Crystallization. Organic Process Research and Development, 2019, 23, 2655-2665.	1.3	30
41	Economic optimization in transient processes for model predictive control with a dynamic reference trajectory. Computers and Chemical Engineering, 2019, 121, 224-231.	2.0	0
42	The Role of Residence Time Distribution in the Continuous Steady-State Mixed Suspension Mixed Product Removal Crystallization of Glycine. Crystal Growth and Design, 2019, 19, 66-80.	1.4	10
43	Further Understanding of Agglomeration Mechanisms in Spherical Crystallization Systems: Benzoic Acid Case Study. Crystal Growth and Design, 2019, 19, 1668-1679.	1.4	31
44	Piezoelectric-based high performance spray solvent delivery system for desorption electrospray ionization mass spectrometry: Systematic design and case studies for high throughput screening of N-alkylation reactions. Chemical Engineering Science, 2019, 195, 1010-1020.	1.9	6
45	Dropwise Additive Manufacturing of Pharmaceutical Products Using Particle Suspensions. Journal of Pharmaceutical Sciences, 2019, 108, 914-928.	1.6	10
46	Experimental implementation of a Quality-by-Control (QbC) framework using a mechanistic PBM-based nonlinear model predictive control involving chord length distribution measurement for the batch cooling crystallization of l-ascorbic acid. Chemical Engineering Science, 2019, 195, 335-346.	1.9	32
47	Chord Length Distribution Based Modeling and Adaptive Model Predictive Control of Batch Crystallization Processes Using High Fidelity Full Population Balance Models. Industrial & Engineering Chemistry Research, 2018, 57, 3320-3332.	1.8	28
48	Population Balance Modeling and Optimization of an Integrated Batch Crystallizerâ€“Wet Mill System for Crystal Size Distribution Control. Crystal Growth and Design, 2018, 18, 1415-1424.	1.4	24
49	Raman Spectroscopy for Monitoring the Continuous Crystallization of Carbamazepine. Organic Process Research and Development, 2018, 22, 156-165.	1.3	31
50	A real-time optimization framework for the time-varying economic environment. Computers and Chemical Engineering, 2018, 115, 333-341.	2.0	4
51	A continuous multi-stage mixed-suspension mixed-product-removal crystallization system with fines dissolution. Chemical Engineering Research and Design, 2018, 135, 112-120.	2.7	20
52	Aspect Ratio Distribution and Chord Length Distribution Driven Modeling of Crystallization of Two-Dimensional Crystals for Real-Time Model-Based Applications. Crystal Growth and Design, 2018, 18, 5311-5321.	1.4	26
53	A high-throughput multi-microfluidic crystal generator (MMicroCryGen) platform for facile screening of polymorphism and crystal morphology for pharmaceutical compounds. Lab on A Chip, 2018, 18, 2235-2245.	3.1	16
54	Model-based analysis of stirred cooling crystallizer of high aspect ratio crystals with linear and nonlinear breakage. Computers and Chemical Engineering, 2017, 98, 180-196.	2.0	31

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55	Solubility curves and nucleation rates from molecular dynamics for polymorph prediction â€“ moving beyond lattice energy minimization. Physical Chemistry Chemical Physics, 2017, 19, 5285-5295.	1.3	23
56	Real-Time Image Processing Based Online Feedback Control System for Cooling Batch Crystallization. Organic Process Research and Development, 2017, 21, 511-519.	1.3	48
57	ONâ€“OFF Feedback Control of Plug-Flow Crystallization: A Case of Quality-by-Control in Continuous Manufacturing. IEEE Life Sciences Letters, 2017, 3, 1-4.	1.2	8
58	Mass spectrometric directed system for the continuous-flow synthesis and purification of diphenhydramine. Chemical Science, 2017, 8, 4363-4370.	3.7	30
59	Process Analytical Tools To Control Polymorphism and Particle Size in Batch Crystallization Processes. Organic Process Research and Development, 2017, 21, 855-865.	1.3	23
60	Molecular Dynamics Electric Field Crystallization Simulations of Paracetamol Produce a New Polymorph. Crystal Growth and Design, 2017, 17, 3751-3765.	1.4	23
61	Dropwise additive manufacturing of pharmaceutical products for amorphous and self emulsifying drug delivery systems. International Journal of Pharmaceutics, 2017, 524, 424-432.	2.6	34
62	Nanocrystal Dissolution Kinetics and Solubility Increase Prediction from Molecular Dynamics: The Case of Î±-, Î²-, and Î³-Glycine. Molecular Pharmaceutics, 2017, 14, 1023-1032.	2.3	18
63	Investigation of the Evolution of Crystal Size and Shape during Temperature Cycling and in the Presence of a Polymeric Additive Using Combined Process Analytical Technologies. Crystal Growth and Design, 2017, 17, 1695-1706.	1.4	40
64	Application of feedback control and in situ milling to improve particle size and shape in the crystallization of a slow growing needle-like active pharmaceutical ingredient. International Journal of Pharmaceutics, 2017, 533, 49-61.	2.6	31
65	Application of X-Ray Sensors for In-line and Noninvasive Monitoring of Mass Flow Rate in Continuous Tablet Manufacturing. Journal of Pharmaceutical Sciences, 2017, 106, 3591-3603.	1.6	16
66	A Systematic Framework for Process Control Design and Risk Analysis in Continuous Pharmaceutical Solid-Dosage Manufacturing. Journal of Pharmaceutical Innovation, 2017, 12, 327-346.	1.1	30
67	Model-Based Evaluation of Direct Nucleation Control Approaches for the Continuous Cooling Crystallization of Paracetamol in a Mixed Suspension Mixed Product Removal System. Crystal Growth and Design, 2017, 17, 5377-5383.	1.4	18
68	Real-time feasible multi-objective optimization based nonlinear model predictive control of particle size and shape in a batch crystallization process. Control Engineering Practice, 2017, 69, 1-8.	3.2	20
69	Process Intensification through Continuous Spherical Crystallization Using an Oscillatory Flow Baffled Crystallizer. Crystal Growth and Design, 2017, 17, 4776-4784.	1.4	47
70	Preparation of Microcrystals of Piroxicam Monohydrate by Antisolvent Precipitation via Microfabricated Metallic Membranes with Ordered Pore Arrays. Crystal Growth and Design, 2017, 17, 6692-6702.	1.4	11
71	Modeling and Characterization of an in Situ Wet Mill Operation. Organic Process Research and Development, 2017, 21, 1069-1079.	1.3	27
72	Mathematical modelling and experimental validation of a novel periodic flow crystallization using MSMPR crystallizers. AICHE Journal, 2017, 63, 1313-1327.	1.8	38

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73	Real-time monitoring of the mechanism of ibuprofen-cationic dextran crystanule formation using crystallization process informatics system (CryPRINS). International Journal of Pharmaceutics, 2016, 509, 264-278.	2.6	25
74	Three-Way Coupling Simulation of a Gas-Liquid Stirred Tank using a Multi-Compartment Population Balance Model. Chemical Product and Process Modeling, 2016, 11, 205-216.	0.5	11
75	Tuning Crystal Morphology of Succinic Acid Using a Polymer Additive. Crystal Growth and Design, 2016, 16, 4349-4359.	1.4	79
76	Application of Wet Milling-Based Automated Direct Nucleation Control in Continuous Cooling Crystallization Processes. Industrial & Engineering Chemistry Research, 2016, 55, 4987-4996.	1.8	49
77	Encapsulation and Controlled Release of Rapamycin from Polycaprolactone Nanoparticles Prepared by Membrane Micromixing Combined with Antisolvent Precipitation. Langmuir, 2016, 32, 10685-10693.	1.6	25
78	Evaluation of mixed suspension mixed product removal crystallization processes coupled with a continuous filtration system. Chemical Engineering and Processing: Process Intensification, 2016, 108, 212-219.	1.8	47
79	Application of Ultra-Performance Liquid Chromatography as an Online Process Analytical Technology Tool in Pharmaceutical Crystallization. Crystal Growth and Design, 2016, 16, 7074-7082.	1.4	23
80	Multi-Impurity Adsorption Model for Modeling Crystal Purity and Shape Evolution during Crystallization Processes in Impure Media. Crystal Growth and Design, 2016, 16, 555-568.	1.4	47
81	Analysis of the crystallization process of a biopharmaceutical compound in the presence of impurities using process analytical technology (PAT) tools. Journal of Chemical Technology and Biotechnology, 2016, 91, 1461-1470.	1.6	19
82	Fabrication of composite poly(d,l-lactide)/montmorillonite nanoparticles for controlled delivery of acetaminophen by solvent-displacement method using glass capillary microfluidics. Colloids and Surfaces B: Biointerfaces, 2016, 141, 187-195.	2.5	27
83	Monitoring Continuous Crystallization of Paracetamol in the Presence of an Additive Using an Integrated PAT Array and Multivariate Methods. Organic Process Research and Development, 2016, 20, 626-636.	1.3	46
84	Drop-on-Demand System for Manufacturing of Melt-based Solid Oral Dosage: Effect of Critical Process Parameters on Product Quality. AAPS PharmSciTech, 2016, 17, 284-293.	1.5	12
85	Graphical Processing Unit (GPU) Accelerated Solution of Multi-Dimensional Population Balances Using High Resolution Finite Volume Algorithm. Computer Aided Chemical Engineering, 2015, 37, 947-952.	0.3	1
86	Numerical analysis of crystallization of high aspect ratio crystals with breakage. Powder Technology, 2015, 283, 152-162.	2.1	16
87	Combined Cooling and Antisolvent Crystallization in Continuous Mixed Suspension, Mixed Product Removal Cascade Crystallizers: Steady-State and Startup Optimization. Industrial & Engineering Chemistry Research, 2015, 54, 5673-5682.	1.8	67
88	Advanced control approaches for combined cooling/antisolvent crystallization in continuous mixed suspension mixed product removal cascade crystallizers. Chemical Engineering Science, 2015, 127, 362-373.	1.9	59
89	Dynamic Modeling of Encrust Formation and Mitigation Strategy in a Continuous Plug Flow Crystallizer. Crystal Growth and Design, 2015, 15, 1129-1140.	1.4	40
90	Multiobjective Optimization of an Unseeded Batch Cooling Crystallizer for Shape and Size Manipulation. Industrial & Engineering Chemistry Research, 2015, 54, 2156-2166.	1.8	42

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91	Application of Process Analytical Technology-Based Feedback Control Strategies To Improve Purity and Size Distribution in Biopharmaceutical Crystallization. Crystal Growth and Design, 2015, 15, 2908-2919.	1.4	59
92	Modeling Crystallization from Solution with Heat Effects. Crystal Growth and Design, 2015, 15, 5726-5737.	1.4	3
93	Process Intensification through Continuous Spherical Crystallization Using a Two-Stage Mixed Suspension Mixed Product Removal (MSMPR) System. Crystal Growth and Design, 2015, 15, 4225-4236.	1.4	81
94	Simultaneous design and control framework for multi-segment multi-addition plug-flow crystallizer for anti-solvent crystallizations. , 2015, , .		2
95	Anti-Fouling Control of Plug-Flow Crystallization via Heating and Cooling Cycle. IFAC-PapersOnLine, 2015, 48, 193-198.	0.5	24
96	Toward Continuous Crystallization of Urea-Barbituric Acid: A Polymorphic Co-Crystal System. Crystal Growth and Design, 2015, 15, 4821-4836.	1.4	45
97	Mathematical Modeling, Design, and Optimization of a Multisegment Multiaddition Plug-Flow Crystallizer for Antisolvent Crystallizations. Organic Process Research and Development, 2015, 19, 1859-1870.	1.3	43
98	Automated Direct Nucleation Control in Continuous Mixed Suspension Mixed Product Removal Cooling Crystallization. Crystal Growth and Design, 2015, 15, 5839-5848.	1.4	53
99	Integrated Upstream and Downstream Application of Wet Milling with Continuous Mixed Suspension Mixed Product Removal Crystallization. Crystal Growth and Design, 2015, 15, 5879-5885.	1.4	65
100	Reaction precipitation of amorphous calcium phosphate: Population balance modelling and kinetics. Chemical Engineering Research and Design, 2015, 93, 278-286.	2.7	23
101	Characterisation of high 1,3â€distearoylâ€2â€oleoylâ€snâ€glycerol content stearins produced by acidolysis of high oleic sunflower oil with stearic and palmitic acids. European Journal of Lipid Science and Technology, 2014, 116, 532-547.	1.0	11
102	Intelligent Process Management for Continuous Operations in Pharmaceutical Manufacturing. Computer Aided Chemical Engineering, 2014, 33, 391-396.	0.3	10
103	The impact of different preparation modes on enhancing the undergraduate process control engineering laboratory: A comparative study. Computer Applications in Engineering Education, 2014, 22, 110-119.	2.2	14
104	Raman, UV, NIR, and Midâ€IR Spectroscopy with Focused Beam Reflectance Measurement in Monitoring Polymorphic Transformations. Chemical Engineering and Technology, 2014, 37, 1305-1313.	0.9	31
105	Systematic classification of unseeded batch crystallization systems for achievable shape and size analysis. Journal of Crystal Growth, 2014, 394, 97-105.	0.7	35
106	Model-Based Systematic Design and Analysis Approach for Unseeded Combined Cooling and Antisolvent Crystallization (CCAC) Systems. Crystal Growth and Design, 2014, 14, 687-698.	1.4	45
107	Developing the TriLab, a triple access mode (handsâ€on, virtual, remote) laboratory, of a process control rig using LabVIEW and Joomla. Computer Applications in Engineering Education, 2013, 21, 614-626.	2.2	44
108	Effects of a structurally related substance on the crystallization of paracetamol. Frontiers of Chemical Science and Engineering, 2013, 7, 79-87.	2.3	30

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109	Fines removal in a continuous plug flow crystallizer by optimal spatial temperature profiles with controlled dissolution. AICHE Journal, 2013, 59, 4582-4594.	1.8	54
110	Crystallization and polymorphic behavior of shea stearin and the effect of removal of polar components. European Journal of Lipid Science and Technology, 2013, 115, 1094-1106.	1.0	22
111	Nonlinear Model-Based Control of a Semi-Industrial Batch Crystallizer Using a Population Balance Modeling Framework. IEEE Transactions on Control Systems Technology, 2012, 20, 1188-1201.	3.2	54
112	Automated direct nucleation control for in situ dynamic fines removal in batch cooling crystallization. CrystEngComm, 2012, 14, 2196.	1.3	84
113	Advances and New Directions in Crystallization Control. Annual Review of Chemical and Biomolecular Engineering, 2012, 3, 55-75.	3.3	260
114	Automatic differentiationâ€based quadrature method of moments for solving population balance equations. AICHE Journal, 2012, 58, 842-854.	1.8	22
115	Realâ€time control of a semiâ€industrial fedâ€batch evaporative crystallizer using different direct optimization strategies. AICHE Journal, 2011, 57, 1557-1569.	1.8	44
116	Kinetic Modelling of the Fenton-Like Oxidation of Maleic Acid Using a Heterogeneous Modified Polyacrylonitrile (Pan) Catalyst. Progress in Reaction Kinetics and Mechanism, 2011, 36, 189-214.	1.1	7
117	Distributional uncertainty analysis using polynomial chaos expansions. , 2010, , .		10
118	Guest editorialÃ¢Â€Â”computer-aided process engineering. Asia-Pacific Journal of Chemical Engineering, 2009, 4, 843-844.	0.8	0
119	Seeded Batch Cooling Crystallization with Temperature Cycling for the Control of Size Uniformity and Polymorphic Purity of Sulfathiazole Crystals. Organic Process Research and Development, 2009, 13, 1343-1356.	1.3	90
120	Endoscopy-Based in Situ Bulk Video Imaging of Batch Crystallization Processes. Organic Process Research and Development, 2009, 13, 1254-1261.	1.3	69
121	Determination of the Kinetic Parameters for the Crystallization of Paracetamol from Water Using Metastable Zone Width Experiments. Industrial & Engineering Chemistry Research, 2008, 47, 1245-1252.	1.8	135
122	A nonlinear model predictive control approach for robust end-point property control of a thin-film deposition process. International Journal of Robust and Nonlinear Control, 2007, 17, 1600-1613.	2.1	15
123	Nonlinear model predictive control of a four tank system: An experimental stability study. , 2006, , .		32
124	Real-time optimization and nonlinear model predictive control of processes governed by differential-algebraic equations. Journal of Process Control, 2002, 12, 577-585.	1.7	573
125	Nonlinear model predictive control of a four tank system: An experimental stability study. , 0, .		29