

Hao-Hsuan Chang

List of Publications by Year in descending order

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111
papers

1,505
citations

394286

19
h-index

377752

34
g-index

111
all docs

111
docs citations

111
times ranked

633
citing authors

#	ARTICLE	IF	CITATIONS
1	A Mathematical Programming Model for Water Usage and Treatment Network Design. Industrial & Engineering Chemistry Research, 1999, 38, 2666-2679.	1.8	191
2	Simultaneous optimization approach for integrated water-allocation and heat-exchange networks. Chemical Engineering Science, 2008, 63, 3664-3678.	1.9	110
3	Water Usage and Treatment Network Design Using Genetic Algorithms. Industrial & Engineering Chemistry Research, 2001, 40, 4874-4888.	1.8	67
4	Retrofitting Heat Exchanger Networks Based on Simple Pinch Analysis. Industrial & Engineering Chemistry Research, 2010, 49, 3967-3971.	1.8	50
5	Integrated Water Network Designs for Batch Processes. Industrial & Engineering Chemistry Research, 2007, 46, 1241-1253.	1.8	49
6	A fuzzy diagnosis approach using dynamic fault trees. Chemical Engineering Science, 2002, 57, 2971-2985.	1.9	45
7	A Mathematical Programming Model for Discontinuous Water-Reuse System Design. Industrial & Engineering Chemistry Research, 2006, 45, 5027-5036.	1.8	45
8	A New Approach to Generate Flexible Multiperiod Heat Exchanger Network Designs with Timesharing Mechanisms. Industrial & Engineering Chemistry Research, 2013, 52, 3794-3804.	1.8	43
9	Improved Optimization Strategies for Generating Practical Water-Usage and -Treatment Network Structures. Industrial & Engineering Chemistry Research, 2005, 44, 3607-3618.	1.8	33
10	A simple design strategy for fault monitoring systems. AIChE Journal, 1993, 39, 1146-1163.	1.8	31
11	A game-theory based optimization strategy to configure inter-plant heat integration schemes. Chemical Engineering Science, 2014, 118, 60-73.	1.9	30
12	Application of a Mathematic Programming Model for Integrated Planning and Scheduling of Petroleum Supply Networks. Industrial & Engineering Chemistry Research, 2008, 47, 1935-1954.	1.8	29
13	A fuzzy-logic based fault diagnosis strategy for process control loops. Chemical Engineering Science, 2003, 58, 3395-3411.	1.9	26
14	Development of a Generalized Mixed Integer Nonlinear Programming Model for Assessing and Improving the Operational Flexibility of Water Network Designs. Industrial & Engineering Chemistry Research, 2009, 48, 3496-3504.	1.8	26
15	On the use of risk-based Shapley values for cost sharing in interplant heat integration programs. Applied Energy, 2018, 211, 904-920.	5.1	26
16	A heuristic revamp strategy to improve operational flexibility of water networks based on active constraints. Chemical Engineering Science, 2010, 65, 2758-2770.	1.9	24
17	Implementation issues concerning the EKF-based fault diagnosis techniques. Chemical Engineering Science, 1995, 50, 2861-2882.	1.9	22
18	An effective computation strategy for assessing operational flexibility of high-dimensional systems with complicated feasible regions. Chemical Engineering Science, 2016, 147, 137-149.	1.9	21

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19	An algorithmic approach to generate timesharing schemes for multi-period HEN designs. <i>Chemical Engineering Research and Design</i> , 2015, 93, 402-410.	2.7	20
20	Game-theory based optimization strategies for stepwise development of indirect interplant heat integration plans. <i>Energy</i> , 2018, 148, 90-111.	4.5	20
21	Optimal design of wastewater equalization systems in batch processes. <i>Computers and Chemical Engineering</i> , 2006, 30, 797-806.	2.0	19
22	Single-Objective and Multiobjective Designs for Hydrogen Networks with Fuel Cells. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 6006-6020.	1.8	19
23	Generation of batch operating procedures for multiple material-transfer tasks with Petri nets. <i>Computers and Chemical Engineering</i> , 2005, 29, 1822-1836.	2.0	18
24	A mathematical programming formulation for temporal flexibility analysis. <i>Computers and Chemical Engineering</i> , 2013, 57, 151-158.	2.0	18
25	Improved Model Formulations for Multiperiod Hydrogen Network Designs. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 20204-20222.	1.8	18
26	Automatic hazard analysis of batch operations with Petri nets. <i>Reliability Engineering and System Safety</i> , 2002, 76, 91-104.	5.1	17
27	Petri-Net Based Approach To Configure Online Fault Diagnosis Systems for Batch Processes. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 4249-4268.	1.8	17
28	A hierarchical approach to construct Petri nets for modeling the fault propagation mechanisms in sequential operations. <i>Computers and Chemical Engineering</i> , 2003, 27, 259-280.	2.0	16
29	Iterative Identification of Continuous-Time Hammerstein and Wiener Systems Using a Two-Stage Estimation Algorithm. <i>Industrial & Engineering Chemistry Research</i> , 2009, 48, 1495-1510.	1.8	15
30	Petri-net based scheduling strategy for semiconductor manufacturing processes. <i>Chemical Engineering Research and Design</i> , 2011, 89, 291-300.	2.7	15
31	An automata based method for online synthesis of emergency response procedures in batch processes. <i>Computers and Chemical Engineering</i> , 2012, 38, 151-170.	2.0	15
32	Efficient Flexibility Assessment Procedure for Water Network Designs. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 3763-3774.	1.8	14
33	Automata generated test plans for fault diagnosis in sequential material- and energy-transfer operations. <i>Chemical Engineering Science</i> , 2014, 113, 101-115.	1.9	14
34	Optimal planning strategy for the supply chains of light aromatic compounds in petrochemical industries. <i>Computers and Chemical Engineering</i> , 2008, 32, 1147-1166.	2.0	13
35	An automaton-based approach to evaluate and improve online diagnosis schemes for multi-failure scenarios in batch chemical processes. <i>Chemical Engineering Research and Design</i> , 2011, 89, 2652-2666.	2.7	13
36	Studies on the Digraph-Based Approach for Fault-Tree Synthesis. 1. The Ratio-Control Systems. <i>Industrial & Engineering Chemistry Research</i> , 1994, 33, 1520-1529.	1.8	12

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37	Simultaneous optimization strategy for synthesizing heat exchanger networks with multi-stream mixers. <i>Chemical Engineering Research and Design</i> , 2008, 86, 299-309.	2.7	12
38	A Simultaneous Optimization Approach To Generate Design Specifications and Maintenance Policies for the Multilayer Protective Systems in Chemical Processes. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 5543-5555.	1.8	12
39	An algorithmic revamp strategy for improving operational flexibility of multi-contaminant water networks. <i>Chemical Engineering Science</i> , 2013, 102, 289-299.	1.9	12
40	Optimal Sensor Placement and Maintenance Strategies for Mass-Flow Networks. <i>Industrial & Engineering Chemistry Research</i> , 2003, 42, 4366-4375.	1.8	11
41	Petri-Net Based Binary Integer Programs for Automatic Synthesis of Batch Operating Procedures. <i>Industrial & Engineering Chemistry Research</i> , 2007, 46, 2797-2813.	1.8	11
42	Heuristic Approach to Incorporate Timesharing Schemes in Multiperiod Heat Exchanger Network Designs. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 7967-7987.	1.8	11
43	An automata-based approach to synthesize untimed operating procedures in batch chemical processes. <i>Korean Journal of Chemical Engineering</i> , 2012, 29, 583-594.	1.2	11
44	Automata-based operating procedure for abnormal situation management in batch processes. <i>Computers and Chemical Engineering</i> , 2017, 97, 220-241.	2.0	11
45	Petri-Net Models for Risk Analysis of Hazardous Liquid Loading Operations. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 4823-4836.	1.8	10
46	Petri-Net-Based Strategy To Synthesize the Operating Procedures for Cleaning Pipeline Networks. <i>Industrial & Engineering Chemistry Research</i> , 2005, 44, 114-123.	1.8	10
47	Fuzzy diagnosis method for control systems with coupled feed forward and feedback loops. <i>Chemical Engineering Science</i> , 2006, 61, 3105-3128.	1.9	10
48	Two-Tier Search Strategy to Identify Nominal Operating Conditions for Maximum Flexibility. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 10707-10716.	1.8	10
49	Fault diagnosis with automata generated languages. <i>Computers and Chemical Engineering</i> , 2011, 35, 329-341.	2.0	10
50	Systematic generation of cyclic operating procedures based on timed automata. <i>Chemical Engineering Research and Design</i> , 2014, 92, 139-155.	2.7	10
51	Studies on the Digraph-Based Approach for Fault-Tree Synthesis. 2. The Trip Systems. <i>Industrial & Engineering Chemistry Research</i> , 1994, 33, 1700-1707.	1.8	9
52	Constructing Fault Trees for Advanced Process Control Systems—Application to Cascade Control Loops. <i>IEEE Transactions on Reliability</i> , 2004, 53, 43-60.	3.5	9
53	Petri-Net-Based Deductive Reasoning Strategy for Fault Identification in Batch Processes. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 2704-2720.	1.8	9
54	Systematic Enumeration of Fuzzy Diagnosis Rules for Identifying Multiple Faults in Chemical Processes. <i>Industrial & Engineering Chemistry Research</i> , 2007, 46, 3635-3655.	1.8	9

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55	Development of fault diagnosis strategies based on qualitative predictions of symptom evolution behaviors. <i>Journal of Process Control</i> , 2009, 19, 842-858.	1.7	9
56	Development of an Optimal Sensor Placement Procedure Based on Fault Evolution Sequences. <i>Industrial & Engineering Chemistry Research</i> , 2008, 47, 7335-7346.	1.8	8
57	Practicable total-site heat integration plan for retrofitting multiple heat exchanger networks. <i>Chemical Engineering Research and Design</i> , 2021, 174, 137-157.	2.7	8
58	FAULT DETECTION AND DIAGNOSIS IN BATCH AND SEMI-BATCH PROCESSES USING ARTIFICIAL NEURAL NETWORKS. <i>Chemical Engineering Communications</i> , 1996, 143, 39-71.	1.5	7
59	Optimal alarm logic design for mass-flow networks. <i>AIChE Journal</i> , 1997, 43, 3021-3030.	1.8	7
60	Fault-tree structures of override control systems. <i>Reliability Engineering and System Safety</i> , 2003, 81, 163-181.	5.1	7
61	Multiobjective Optimization of Water-Using Networks with Multiple Contaminants. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 5651-5660.	1.8	7
62	On Heuristic Computation and Application of Flexibility Indices for Unsteady Process Design. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 670-682.	1.8	7
63	Development of mathematical programs for evaluating dynamic and temporal flexibility indices based on KKT conditions. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2017, 73, 86-92.	2.7	7
64	Prototype for intergrated hazard analysis. <i>AIChE Journal</i> , 1997, 43, 1494-1510.	1.8	6
65	Simplification techniques for EKF computations in fault diagnosis: Model decomposition. <i>AIChE Journal</i> , 1998, 44, 1392-1403.	1.8	6
66	Design and Maintenance of Multichannel Protective Systems. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 11421-11433.	1.8	6
67	Petri-net models for comprehensive hazard analysis of MOCVD processes. <i>Computers and Chemical Engineering</i> , 2011, 35, 356-371.	2.0	6
68	A Model-Based Search Strategy for Exhaustive Identification of Alternative Water Network Designs. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 3653-3659.	1.8	5
69	Automatic generation of interlock designs using genetic algorithms. <i>Computers and Chemical Engineering</i> , 2017, 101, 167-192.	2.0	5
70	THE MODIFIED DIFFERENTIAL QUADRATURES AND THEIR APPLICATIONS. <i>Chemical Engineering Communications</i> , 1993, 123, 135-164.	1.5	4
71	SMDDS design based on temporal flexibility analysis. <i>Desalination</i> , 2013, 320, 96-104.	4.0	4
72	Model Based Approach To Identify Optimal System Structures and Maintenance Policies for Safety Interlocks with Time-Varying Failure Rates. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 4398-4412.	1.8	4

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73	Model based approach to synthesize spare-supported cleaning schedules for existing heat exchanger networks. Computers and Chemical Engineering, 2016, 93, 413-427.	2.0	4
74	Timed-automata based method for synthesizing diagnostic tests in batch processes. Computers and Chemical Engineering, 2016, 84, 12-27.	2.0	4
75	Optimal Retrofit of a Multiplant Heat Exchanger Network with a Fair Benefit Allocation Plan. Industrial & Engineering Chemistry Research, 2020, 59, 18088-18105.	1.8	4
76	Statistical operating strategies for charging batch reactors. AIChE Journal, 1996, 42, 1304-1318.	1.8	3
77	The use of mixers in heat recovery system design. Chemical Engineering Science, 1997, 52, 183-194.	1.9	3
78	An Exponentially Weighted Moving Average Method for Identification and Monitoring of Stochastic Systems. Industrial & Engineering Chemistry Research, 2008, 47, 8239-8249.	1.8	3
79	Design Approach To Synthesize, Validate, and Evaluate Operating Procedures Based on Untimed Automata and Dynamic Simulation. Industrial & Engineering Chemistry Research, 2019, 58, 8172-8183.	1.8	3
80	Optimization of Multilayer Standby Mechanisms in Continuous Chemical Processes. Industrial & Engineering Chemistry Research, 2020, 59, 2049-2059.	1.8	3
81	Sequential Approach to Design Batch Distillation Processes for Homogeneous Azeotropic Systems. Industrial & Engineering Chemistry Research, 2010, 49, 4308-4328.	1.8	2
82	Retrofitting industrial Heat Exchanger Network based on pinch analysis. , 2017, , .		2
83	Optimal Design Refinements To Accommodate HEN Cleaning Schedules. Industrial & Engineering Chemistry Research, 2018, 57, 997-1013.	1.8	2
84	An automata based hybrid modeling approach to synthesize sequential diagnostic tests. Chemical Engineering Research and Design, 2019, 145, 29-47.	2.7	2
85	An Effective Numerical Procedure for Evaluating Flexibility Indices of Dynamic Systems with Piecewise Constant Manipulated Variables. Computers and Chemical Engineering, 2021, 154, 107464.	2.0	2
86	A statistics based approach to enhancing safety and reliability of the batch-reactor charging operation. Computers and Chemical Engineering, 1996, 20, S647-S652.	2.0	1
87	A simple graphic approach for observer decomposition. Journal of Process Control, 2002, 12, 857-873.	1.7	1
88	Hierarchical Petri Nets for Modeling Metabolic Phenotype in Prokaryotes. Industrial & Engineering Chemistry Research, 2005, 44, 2218-2240.	1.8	1
89	Automata Based Test Plans for Fault Diagnosis in Batch Processes. Computer Aided Chemical Engineering, 2015, 37, 1781-1786.	0.3	1
90	Optimal designs of multi-event interlocks. Reliability Engineering and System Safety, 2020, 199, 106915.	5.1	1

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91	Synthesis, Validation, and Evaluation of Operating Procedures Based on Timed Automata and Dynamic Simulation. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 8769-8782.	1.8	1
92	Optimization of Multilayer Standby Mechanisms in Continuous Processes under Varying Loads. <i>Chemical Engineering Research and Design</i> , 2021, 166, 86-96.	2.7	1
93	Operating Strategies for Charging Batch Reactors under Multiple Constraints. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 1364-1371.	1.8	0
94	Development of fault diagnosis methods based on qualitative predictions of symptom evolution behaviors. , 2007, , .		0
95	Systematic Development of Automata Generated Languages for Fault Diagnosis in Continuous Chemical Processes. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2009, 42, 303-308.	0.4	0
96	Operations scheduling in batch chemical plants with timed automata. , 2017, , .		0
97	Optimal allocations of area margins and spares to accommodate HEN cleaning schedules. , 2017, , .		0
98	A hybrid modeling strategy for synthesizing diagnostic tests in sequential material- and energy-transfer operations. , 2017, , .		0
99	Fault-tolerant design of membrane modules for organic mixture separation. , 2017, , .		0
100	On flexibility assessment of process control systems. , 2018, , .		0
101	Model-Based Approach to Procedure Synthesis. <i>Advances in Industrial Control</i> , 2021, , 29-72.	0.4	0
102	Petri Net-Based Operating Procedures. <i>Advances in Industrial Control</i> , 2021, , 95-166.	0.4	0
103	Generation of Test Plans for Fault Diagnosis with Untimed Automata. <i>Advances in Industrial Control</i> , 2021, , 253-282.	0.4	0
104	Normal Operating Procedures Obtained with Timed Automata. <i>Advances in Industrial Control</i> , 2021, , 203-252.	0.4	0
105	Synthesis of Diagnostic Test Plans Based on Hybrid Automata. <i>Advances in Industrial Control</i> , 2021, , 311-347.	0.4	0
106	Normal Operating Procedures Obtained with Untimed Automata. <i>Advances in Industrial Control</i> , 2021, , 167-201.	0.4	0
107	Synthesis of Diagnostic Tests Based on Timed Automata. <i>Advances in Industrial Control</i> , 2021, , 283-310.	0.4	0
108	Performance Evaluation of Unsteady Processes with Dynamic and Temporal Flexibility Indices. <i>Computer Aided Chemical Engineering</i> , 2016, 38, 85-90.	0.3	0

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109	Temporal Flexibility Index. , 2017, , 77-90.		0
110	Volumetric Flexibility Analysis. , 2017, , 33-60.		0
111	Identification of Design Modifications for Implementing Optimal HEN Cleaning Schedules. Computer Aided Chemical Engineering, 2018, 44, 1009-1014.	0.3	0