

John D Hedengren

List of Publications by Year in descending order

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74
papers

1,705
citations

304743

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330143

37
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76
all docs

76
docs citations

76
times ranked

1459
citing authors

#	ARTICLE	IF	CITATIONS
1	GEKKO Optimization Suite. Processes, 2018, 6, 106.	2.8	192
2	Nonlinear modeling, estimation and predictive control in APMonitor. Computers and Chemical Engineering, 2014, 70, 133-148.	3.8	158
3	Thermal energy storage to minimize cost and improve efficiency of a polygeneration district energy system in a real-time electricity market. Energy, 2016, 113, 52-63.	8.8	75
4	A steady-state detection (SSD) algorithm to detect non-stationary drifts in processes. Journal of Process Control, 2013, 23, 326-331.	3.3	71
5	Plant-level dynamic optimization of Cryogenic Carbon Capture with conventional and renewable power sources. Applied Energy, 2015, 149, 354-366.	10.1	70
6	Dynamic optimization of a hybrid solar thermal and fossil fuel system. Solar Energy, 2014, 108, 210-218.	6.1	58
7	Benchmark temperature microcontroller for process dynamics and control. Computers and Chemical Engineering, 2020, 135, 106736.	3.8	52
8	Initialization strategies for optimization of dynamic systems. Computers and Chemical Engineering, 2015, 78, 39-50.	3.8	44
9	Comparison of SfM computer vision point clouds of a landslide derived from multiple small UAV platforms and sensors to a TLS-based model. Journal of Unmanned Vehicle Systems, 2016, 4, 246-265.	1.2	41
10	Evolutionary View Planning for Optimized UAV Terrain Modeling in a Simulated Environment. Remote Sensing, 2016, 8, 26.	4.0	39
11	A comparison of model predictive control and PID temperature control in friction stir welding. Journal of Manufacturing Processes, 2017, 29, 232-241.	5.9	37
12	Review of Field Development Optimization of Waterflooding, EOR, and Well Placement Focusing on History Matching and Optimization Algorithms. Processes, 2017, 5, 34.	2.8	37
13	An optimized simulation model for iron-based Fischer-Tropsch catalyst design: Transfer limitations as functions of operating and design conditions. Chemical Engineering Journal, 2015, 263, 268-279.	12.7	33
14	Dynamic optimization of a hybrid system of energy-storing cryogenic carbon capture and a baseline power generation unit. Applied Energy, 2016, 172, 66-79.	10.1	33
15	Constrained Nonlinear Estimation for Industrial Process Fouling. Industrial & Engineering Chemistry Research, 2010, 49, 7824-7831.	3.7	32
16	Optimal Trajectory Generation Using Model Predictive Control for Aerially Towed Cable Systems. Journal of Guidance, Control, and Dynamics, 2014, 37, 525-539.	2.8	29
17	Drilling Modeling and Simulation: Current State and Future Goals. , 2015, , .		28
18	Overview of estimation methods for industrial dynamic systems. Optimization and Engineering, 2017, 18, 155-178.	2.4	28

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19	Optimal combined long-term facility design and short-term operational strategy for CHP capacity investments. Energy, 2017, 118, 97-115.	8.8	28
20	Dynamic parameter estimation and optimization for batch distillation. Computers and Chemical Engineering, 2016, 86, 18-32.	3.8	27
21	Reconnaissance of Two Liquefaction Sites Using Small Unmanned Aerial Vehicles and Structure from Motion Computer Vision Following the April 1, 2014 Chile Earthquake. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2017, 143, .	3.0	25
22	Parameter estimation for towed cable systems using moving horizon estimation. IEEE Transactions on Aerospace and Electronic Systems, 2015, 51, 1432-1446.	4.7	24
23	Real time model identification using multi-fidelity models in managed pressure drilling. Computers and Chemical Engineering, 2017, 97, 76-84.	3.8	23
24	An APMonitor Temperature Lab PID Control Experiment for Undergraduate Students. , 2019, , .		22
25	Dynamic optimization of a district energy system with storage using a novel mixed-integer quadratic programming algorithm. Optimization and Engineering, 2019, 20, 575-603.	2.4	22
26	Potential Benefits of Combining Anomaly Detection with View Planning for UAV Infrastructure Modeling. Remote Sensing, 2017, 9, 434.	4.0	21
27	Introducing Digital Controllers to Undergraduate Students using the TCLab Arduino Kit. IFAC-PapersOnLine, 2020, 53, 17524-17529.	0.9	21
28	Combined Rate of Penetration and Pressure Regulation for Drilling Optimization by Use of High-Speed Telemetry. SPE Drilling and Completion, 2015, 30, 17-26.	1.6	20
29	Approximate nonlinear model predictive control with in situ adaptive tabulation. Computers and Chemical Engineering, 2008, 32, 706-714.	3.8	19
30	Multivariate Control for Managed-Pressure-Drilling Systems by Use of High-Speed Telemetry. SPE Journal, 2016, 21, 459-470.	3.1	19
31	Integrated scheduling and control in discrete-time with dynamic parameters and constraints. Computers and Chemical Engineering, 2018, 115, 361-376.	3.8	18
32	Moving Horizon Estimation and Control for an Industrial Gas Phase Polymerization Reactor. Proceedings of the American Control Conference, 2007, , .	0.0	17
33	Dynamic optimization of a solar thermal energy storage system over a 24 hour period using weather forecasts. , 2013, , .		17
34	Creating Open Source Models, Test Cases, and Data for Oilfield Drilling Challenges. , 2019, , .		17
35	Swarm-Based Design of Proportional Integral and Derivative Controllers Using a Compromise Cost Function: An Arduino Temperature Laboratory Case Study. Algorithms, 2020, 13, 315.	2.1	17
36	In Situ Adaptive Tabulation for Real-Time Control. Industrial & Engineering Chemistry Research, 2005, 44, 2716-2724.	3.7	16

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37	Automated 3D Reconstruction Using Optimized View-Planning Algorithms for Iterative Development of Structure-from-Motion Models. Remote Sensing, 2020, 12, 2169.	4.0	16
38	Addressing UBO and MPD Challenges with Wired Drill Pipe Telemetry. , 2014, , .		14
39	Dynamic Optimization of High-Altitude Solar Aircraft Trajectories Under Station-Keeping Constraints. Journal of Guidance, Control, and Dynamics, 2019, 42, 538-552.	2.8	13
40	Model predictive automatic control of sucker rod pump system with simulation case study. Computers and Chemical Engineering, 2019, 121, 265-284.	3.8	13
41	Model predictive control with a rigorous model of a Solid Oxide Fuel Cell. , 2013, , .		12
42	Dynamic modeling of friction stir welding for model predictive control. Journal of Manufacturing Processes, 2016, 23, 165-174.	5.9	12
43	Combined model predictive control and scheduling with dominant time constant compensation. Computers and Chemical Engineering, 2017, 104, 271-282.	3.8	12
44	Economic Benefit from Progressive Integration of Scheduling and Control for Continuous Chemical Processes. Processes, 2017, 5, 84.	2.8	12
45	A Continuous Formulation for Logical Decisions in Differential Algebraic Systems using Mathematical Programs with Complementarity Constraints. Processes, 2016, 4, 7.	2.8	11
46	Proactive Energy Optimization in Residential Buildings with Weather and Market Forecasts. Processes, 2019, 7, 929.	2.8	11
47	Model predictive control and estimation of managed pressure drilling using a real-time high fidelity flow model. ISA Transactions, 2020, 105, 256-268.	5.7	11
48	Large-Scale Reality Modeling of a University Campus Using Combined UAV and Terrestrial Photogrammetry for Historical Preservation and Practical Use. Drones, 2021, 5, 136.	4.9	11
49	Ensemble Model Predictive Control for Robust Automated Managed Pressure Drilling. , 2015, , .		10
50	Performance comparison of low temperature and chemical absorption carbon capture processes in response to dynamic electricity demand and price profiles. Applied Energy, 2018, 228, 577-592.	10.1	10
51	Sequential Earthquake Damage Assessment Incorporating Optimized sUAV Remote Sensing at Pescara del Tronto. Geosciences (Switzerland), 2019, 9, 332.	2.2	10
52	Hybrid Dynamic Optimization Methods for Systems Biology with Efficient Sensitivities. Processes, 2015, 3, 701-729.	2.8	9
53	Order reduction of large scale DAE models. Computers and Chemical Engineering, 2005, 29, 2069-2077.	3.8	8
54	Application and Accuracy of Structure from Motion Computer Vision Models with Full-Scale Geotechnical Field Tests. , 2015, , .		8

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55	Investigating the impact of Cryogenic Carbon Capture on power plant performance. , 2015, , .		8
56	Combined Noncyclic Scheduling and Advanced Control for Continuous Chemical Processes. Processes, 2017, 5, 83.	2.8	8
57	Achieving Tiered Model Quality in 3D Structure from Motion Models Using a Multi-Scale View-Planning Algorithm for Automated Targeted Inspection. Sensors, 2019, 19, 2703.	3.8	8
58	MOVING HORIZON ESTIMATION FOR AN INDUSTRIAL GAS PHASE POLYMERIZATION REACTOR. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 1040-1045.	0.4	6
59	Survey of 8 UAV Set-Covering Algorithms for Terrain Photogrammetry. Remote Sensing, 2020, 12, 2285.	4.0	6
60	Advanced Deepwater Monitoring System. , 2013, , .		6
61	Constrained control and optimization of tubular solid oxide fuel cells for extending cell lifetime. , 2012, , .		5
62	Fiber Optic Monitoring of Subsea Equipment. , 2012, , .		4
63	Multivariate Control for Managed Pressure Drilling Systems Using High Speed Telemetry. , 2014, , .		3
64	Post-Installed Fiber Optic Pressure Sensors on Subsea Production Risers for Severe Slugging Control. , 2015, , .		3
65	Combined Trajectory and Propulsion Optimization for Solar-Regenerative High-Altitude Long Endurance Unmanned Aircraft. , 2019, , .		3
66	Bridging Theory to Practice: Feedforward and Cascade Control with TLab Arduino Kit. Lecture Notes in Electrical Engineering, 2021, , 23-32.	0.4	3
67	New Advances in Post-Installed Subsea Monitoring Systems for Structural and Flow Assurance Evaluation. , 2014, , .		2
68	Targeted 3D modeling from UAV imagery. , 2018, , .		2
69	Benchmarks for Grid Energy Management with Python Gekko. , 2021, , .		2
70	The Use of Unmanned Aerial Vehicles and Structures from Motion to Measure the Volume Change at a Deep Dynamic Compaction Site. , 2017, , .		1
71	ORDER REDUCTION OF DAE MODELS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 106-111.	0.4	0
72	New Flow Assurance System With High Speed Subsea Fiber Optic Monitoring of Pressure and Temperature. , 2018, , .		0

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73	Announcing the 2019 Processes Travel Awards for Post-Doctoral Fellows and Ph.D. Students. Processes, 2019, 7, 19.	2.8	0
74	Disaster Reconnaissance Using Multiple Small Unmanned Aerial Vehicles. Mechanical Engineering, 2019, 141, S7-S11.	0.1	0