

Lars Imsland

List of Publications by Year in descending order

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Version: 2024-02-01

145
papers

3,211
citations

279798

23
h-index

182427

51
g-index

148
all docs

148
docs citations

148
times ranked

2447
citing authors

#	ARTICLE	IF	CITATIONS
1	Integration of maintenance scheduling and planning for large-scale asset fleets. Optimization and Engineering, 2022, 23, 1255-1287.	2.4	3
2	Influence of data pre-processing and sensor dynamics on grey-box models for space-heating: Analysis using field measurements. Building and Environment, 2022, 212, 108832.	6.9	6
3	Nonlinear Model Predictive Control of Electrical Submersible Pumps based on Echo State Networks. Advanced Engineering Informatics, 2022, 52, 101553.	8.0	8
4	Data pre-processing and optimization techniques for stochastic and deterministic low-order grey-box models of residential buildings. Energy and Buildings, 2021, 236, 110775.	6.7	20
5	Wind farm control –Part I: A review on control system concepts and structures. IET Renewable Power Generation, 2021, 15, 2085-2108.	3.1	40
6	A rolling horizon approach for scheduling of multiproduct batch production and maintenance using generalized disjunctive programming models. Computers and Chemical Engineering, 2021, 148, 107268.	3.8	7
7	Adaptive sampling for UAV sensor network in oil spill management. , 2021, , .		1
8	Sensor fusion based on Extended and Unscented Kalman Filter for bioprocess monitoring. Journal of Process Control, 2021, 106, 195-207.	3.3	10
9	Hybrid Gaussian Process Modeling Applied to Economic Stochastic Model Predictive Control of Batch Processes. Lecture Notes in Control and Information Sciences, 2021, , 191-218.	1.0	6
10	Distributed learning for wind farm optimization with Gaussian processes. , 2020, , .		3
11	Adaptive detection and prediction of performance degradation in off-shore turbomachinery. Applied Energy, 2020, 268, 114934.	10.1	19
12	Stochastic data-driven model predictive control using gaussian processes. Computers and Chemical Engineering, 2020, 139, 106844.	3.8	66
13	Optimal production and maintenance scheduling for a multiproduct batch plant considering degradation. Computers and Chemical Engineering, 2020, 135, 106734.	3.8	9
14	Developing a Hybrid Data-Driven, Mechanistic Virtual Flow Meter - a Case Study. IFAC-PapersOnLine, 2020, 53, 11692-11697.	0.9	13
15	Managed Pressure Drilling System State Estimation Using The Multiple Model Adaptive Estimation Approach. , 2020, , .		0
16	Real-time optimization of wind farms using modifier adaptation and machine learning. Wind Energy Science, 2020, 5, 885-896.	3.3	11
17	Combined Optimal Control and Combinatorial Optimization for Searching and Tracking Using an Unmanned Aerial Vehicle. Journal of Intelligent and Robotic Systems: Theory and Applications, 2019, 95, 691-706.	3.4	7
18	Short-term Scheduling of a Multipurpose Batch Plant Considering Degradation Effects. Computer Aided Chemical Engineering, 2019, , 1213-1218.	0.5	4

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19	Optimal Maintenance Scheduling for Washing of Compressors to Increase Operational Efficiency. Computer Aided Chemical Engineering, 2019, 46, 1321-1326.	0.5	3
20	Economic stochastic nonlinear model predictive control of a semi-batch polymerization reaction. IFAC-PapersOnLine, 2019, 52, 667-672.	0.9	5
21	Robust State Estimation for Fouling Evolution in Batch Processes using the EM Algorithm. IFAC-PapersOnLine, 2019, 52, 685-690.	0.9	1
22	Dynamic Real-Time Optimisation of a CO2 Capture Facility. IFAC-PapersOnLine, 2019, 52, 856-861.	0.9	1
23	Improved predictions from measured disturbances in linear model predictive control. Journal of Process Control, 2019, 75, 86-106.	3.3	17
24	Campaign-based modeling for degradation evolution in batch processes using a multiway partial least squares approach. Computers and Chemical Engineering, 2019, 128, 117-127.	3.8	10
25	Output feedback stochastic nonlinear model predictive control for batch processes. Computers and Chemical Engineering, 2019, 126, 434-450.	3.8	13
26	Nonlinear model predictive control with explicit back-offs for Gaussian process state space models. , 2019, , .		5
27	Stochastic nonlinear model predictive control of a batch fermentation process. Computer Aided Chemical Engineering, 2019, 46, 1237-1242.	0.5	0
28	On Kalman filtering with linear state equality constraints. Automatica, 2019, 101, 467-470.	5.0	22
29	An iceberg forecast approach based on a statistical ocean current model. Cold Regions Science and Technology, 2019, 158, 128-142.	3.5	1
30	Optimization-based motion planning for trawling. Journal of Marine Science and Technology, 2019, 24, 984-995.	2.9	1
31	Data-driven degradation model for batch processes: a case study on heat exchanger fouling. Computer Aided Chemical Engineering, 2018, , 139-144.	0.5	6
32	Stochastic Nonlinear Model Predictive Control Using Gaussian Processes. , 2018, , .		22
33	Reliability improvement of compressors based on asset fleet reliability data. IFAC-PapersOnLine, 2018, 51, 217-224.	0.9	2
34	Asset fleet management in the process industry - a conceptual model. IFAC-PapersOnLine, 2018, 51, 281-286.	0.9	1
35	Economic Stochastic Model Predictive Control Using the Unscented Kalman Filter. IFAC-PapersOnLine, 2018, 51, 417-422.	0.9	25
36	Survey: mobile sensor networks for target searching and tracking. Cyber-Physical Systems, 2018, 4, 57-98.	2.0	12

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37	Comparison of statistical iceberg forecast models. Cold Regions Science and Technology, 2018, 155, 69-89.	3.5	2
38	Stochastic NMPC of Batch Processes Using Parameterized Control Policies. Computer Aided Chemical Engineering, 2018, 44, 625-630.	0.5	1
39	Block factorization of step response model predictive control problems. Journal of Process Control, 2017, 53, 1-14.	3.3	4
40	Design and Experimental Validation of Nonlinear Infinite-Dimensional Adaptive Observer in Automated Managed Pressure Drilling. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	7
41	Performance bounds for tracking multiple objects using a single UAV. , 2017, , .		5
42	Iterative algorithms for computing the feedback Nash equilibrium point for positive systems. International Journal of Systems Science, 2017, 48, 729-737.	5.5	5
43	Scenario-based approaches for handling uncertainty in MPC for power system frequency control * *The financial support from the Research Council of Norway project 207690 "Optimal Power Network Design and Operation" is gratefully acknowledged.. IFAC-PapersOnLine, 2017, 50, 5529-5535.	0.9	4
44	Constrained Posterior Cram�r-Rao Bound for Discrete-Time Systems 1 This work was supported by Statoil ASA, and in part by Centre for Autonomous Marine Operations and Systems (CoE AMOS, RCN) Tj ETQq0 0 OrqBT / Overlock 10 T		
45	A Study on an Iceberg Drift Trajectory. , 2017, , .		0
46	Partially distributed optimization for mobile sensor path-planning. , 2017, , .		4
47	Structure exploitation of practical MPC formulations for speeding up first-order methods. , 2017, , .		0
48	Forecasting using multivariate empirical mode decomposition " Applied to iceberg drift forecast. , 2017, , .		4
49	Expectation constrained stochastic nonlinear model predictive control of a batch bioreactor. Computer Aided Chemical Engineering, 2017, 40, 1621-1626.	0.5	7
50	UAV Path Planning using MILP with Experiments. Modeling, Identification and Control, 2017, 38, 21-32.	1.1	15
51	On convergence of the unscented Kalman" Bucy filter using contraction theory. International Journal of Systems Science, 2016, 47, 1816-1827.	5.5	10
52	Efficient quadratic programming frameworks for industrial embedded model predictive control. , 2016, , .		0
53	An Iceberg Drift Prediction Study Offshore Newfoundland. , 2016, , .		0
54	Efficient implementation of step response models for embedded Model Predictive Control. Computers and Chemical Engineering, 2016, 90, 121-135.	3.8	8

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55	An estimation-forecast set-up for iceberg drift prediction. Cold Regions Science and Technology, 2016, 131, 88-107.	3.5	13
56	Numerical Optimal Control Mixing Collocation with Single Shooting: A Case Study. IFAC-PapersOnLine, 2016, 49, 290-295.	0.9	3
57	Optimal boundary control of 2 \tilde{A} - 2 linear hyperbolic PDEs. , 2016, , .		3
58	Estimation of systems with oscillating inputs - applied to iceberg drift forecast. , 2016, , .		1
59	The moving horizon estimator used in iceberg drift estimation and Forecast. , 2016, , .		1
60	Combined economic and regulatory predictive control. Automatica, 2016, 69, 342-347.	5.0	19
61	Model predictive load-frequency control taking into account imbalance uncertainty. Control Engineering Practice, 2016, 53, 139-150.	5.5	32
62	Model Predictive Load-Frequency Control. IEEE Transactions on Power Systems, 2016, 31, 777-785.	6.5	211
63	High-performance Embedded Model Predictive Control using Step Response Models**This work is funded by the Research Council of Norway (NFR) and Statoil through the PETROMAKS project 215684, and also by NFR, Statoil, and DNV through the AMOS project 223254.. IFAC-PapersOnLine, 2015, 48, 138-143.	0.9	0
64	LQR problem of linear discrete time systems with nonnegative state constraints. AIP Conference Proceedings, 2015, , .	0.4	0
65	Efficient Implementation of Step Response Prediction Models for Embedded Model Predictive Control**This work is funded by the Research Council of Norway (NFR) and Statoil through the PETROMAKS project 215684, and also by NFR, Statoil, and DNV through the AMOS project 223254.. IFAC-PapersOnLine, 2015, 48, 197-204.	0.9	2
66	Automatically generated embedded model predictive control: Moving an industrial PC-based MPC to an embedded platform. Optimal Control Applications and Methods, 2015, 36, 705-727.	2.1	12
67	Early Pack-Off Diagnosis in Drilling Using an Adaptive Observer and Statistical Change Detection. IFAC-PapersOnLine, 2015, 48, 177-182.	0.9	5
68	Monitoring an Advection-Diffusion Process Using Aerial Mobile Sensors. Unmanned Systems, 2015, 03, 221-238.	3.6	13
69	Automatic deployment of industrial embedded model predictive control using qpOASES. , 2015, , .		13
70	Monitoring Moving Objects Using Aerial Mobile Sensors. IEEE Transactions on Control Systems Technology, 2015, , 1-1.	5.2	15
71	Fault diagnosis of downhole drilling incidents using adaptive observers and statistical change detection. Journal of Process Control, 2015, 30, 90-103.	3.3	55
72	Drillstring Washout Diagnosis Using Friction Estimation and Statistical Change Detection. IEEE Transactions on Control Systems Technology, 2015, 23, 1886-1900.	5.2	32

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73	Incident detection and isolation in drilling using analytical redundancy relations. Control Engineering Practice, 2015, 41, 1-12.	5.5	31
74	Mobile Sensor Path Planning for Iceberg Monitoring using a MILP Framework. , 2015, , .		1
75	Efficient implementation of solvers for linear model predictive control on embedded devices. , 2014, , .		22
76	Optimal control strategies for oil production under gas coning conditions. , 2014, , .		3
77	Moving horizon estimation in managed pressure drilling using distributed models. , 2014, , .		14
78	Full algorithmic differentiation of a Rosenbrock-type method for direct single shooting. , 2014, , .		0
79	Embedded Model Predictive Control on a PLC using a primal-dual first-order method for a subsea separation process. , 2014, , .		34
80	Optimal and robust production of high pressure steam. , 2014, , .		1
81	On multi-objective economic predictive control for cyclic process operation. Journal of Process Control, 2014, 24, 1328-1336.	3.3	18
82	Model Predictive Control for Power System Frequency Control Taking into Account Imbalance Uncertainty. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 981-986.	0.4	18
83	Performance and Stability for Combined Economic and Regulatory Control in MPC. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 639-645.	0.4	6
84	The Arctic DP Research Project: Effective Stationkeeping in Ice. Modeling, Identification and Control, 2014, 35, 191-210.	1.1	13
85	Autonomous Aerial Ice Observation for Ice Defense. Modeling, Identification and Control, 2014, 35, 279-291.	1.1	2
86	On asymptotic closed-loop performance for linear MPC with terminal constraints. , 2013, , .		2
87	Applying model predictive control to power system frequency control. , 2013, , .		9
88	Short-term production optimization of offshore oil and gas production using nonlinear model predictive control. Journal of Process Control, 2013, 23, 215-223.	3.3	27
89	UAV Path Planning for Multitarget Tracking with Experiments*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 316-323.	0.4	4
90	A Framework for Fault Diagnosis in Managed Pressure Drilling Applied to Flow-Loop Data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 625-630.	0.4	7

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91	Optimization-based autonomous remote sensing of surface objects using an unmanned aerial vehicle. , 2013, , .		3
92	A convergence result for the unscented Kalman-Bucy filter using contraction theory. , 2013, , .		1
93	Fault diagnosis in managed pressure drilling using nonlinear adaptive observers. , 2013, , .		5
94	Multi-objective Predictive Control for non steady-state operation. , 2013, , .		3
95	Using MPC for Managed Pressure Drilling. Modeling, Identification and Control, 2013, 34, 131-138.	1.1	11
96	State estimation of ice thickness distribution using mobile sensors. , 2012, , .		7
97	Adaptive approximation-based estimation of downhole pressure in managed pressure drilling. , 2012, , .		2
98	Coordinated control of multiple HVDC links using backstepping. , 2012, , .		4
99	Short-term Production Optimization of Offshore Oil and Gas Production Using Nonlinear Model Predictive Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10851-10856.	0.4	3
100	On combining economical performance with control performance in NMPC. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 5501-5506.	0.4	3
101	Regularized and Adaptive Nonlinear Moving Horizon Estimation of Bottomhole Pressure during Oil Well Drilling. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10511-10516.	0.4	5
102	Nonlinear model predictive control of a benchmark nonlinear boiler. , 2011, , .		3
103	Experimental disturbance rejection on a full-scale drilling rig. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1338-1343.	0.4	19
104	Parameter estimation and compensation in systems with nonlinearly parameterized perturbations. Automatica, 2010, 46, 19-28.	5.0	47
105	odel-Based Optimizing Control and Estimation Using Modelica Model. Modeling, Identification and Control, 2010, 31, 107-121.	1.1	10
106	Vehicle sideslip estimation. IEEE Control Systems, 2009, 29, 36-52.	0.8	104
107	Dynamic modelling of an oxygen mixed conducting membrane and model reduction for control. Journal of Membrane Science, 2009, 336, 50-60.	8.2	12
108	Estimation of road inclination and bank angle in automotive vehicles. , 2009, , .		16

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109	Applying the unscented Kalman filter for nonlinear state estimation. Journal of Process Control, 2008, 18, 753-768.	3.3	396
110	Nonlinear vehicle side-slip estimation with friction adaptation. Automatica, 2008, 44, 611-622.	5.0	109
111	Robust triple mode MPC. International Journal of Control, 2008, 81, 679-689.	1.9	34
112	Constrained state estimation using the Unscented Kalman Filter. , 2008, , .		48
113	Comparative Study of State Estimation of Fuel Cell Hybrid System Using UKF and EKF. , 2007, , .		10
114	STATE ESTIMATION OF SOFC/GT HYBRID SYSTEM USING UKF. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 81-86.	0.4	0
115	On non-linear unknown input observersâ€‘applied to lateral vehicle velocity estimation on banked roads. International Journal of Control, 2007, 80, 1741-1750.	1.9	60
116	Modeling and control of a SOFC-GT-based autonomous power system. Energy, 2007, 32, 406-417.	8.8	139
117	Nonlinear Vehicle Velocity Observer with Road-Tire Friction Adaptation. , 2006, , .		15
118	Integrated modeling and control of a load-connected SOFC-GT autonomous power system. , 2006, , .		9
119	Vehicle velocity estimation using nonlinear observers. Automatica, 2006, 42, 2091-2103.	5.0	182
120	Control strategy for a solid oxide fuel cell and gas turbine hybrid system. Journal of Power Sources, 2006, 158, 303-315.	7.8	185
121	Robust triple mode MPC. , 2006, , .		5
122	Control-relevant modeling and simulation of a SOFC-GT hybrid system. Modeling, Identification and Control, 2006, 27, 143-156.	1.1	5
123	TIME VARYING TERMINAL CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 447-452.	0.4	8
124	Control Issues in the Design of a Gas Turbine Cycle for CO2Capture. International Journal of Green Energy, 2005, 2, 217-231.	3.8	6
125	More efficient predictive control. Automatica, 2005, 41, 1395-1403.	5.0	59
126	A new algorithm for efficient MPC and a comparison with competing schemes. , 2004, , .		6

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127	Stabilization of Gas Lifted Wells Based on State Estimation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 323-328.	0.4	38
128	Modeling and Control of a O ₂ /CO ₂ Gas Turbine Cycle for CO ₂ Capture. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 727-732.	0.4	2
129	A note on stability, robustness and performance of output feedback nonlinear model predictive control. Journal of Process Control, 2003, 13, 633-644.	3.3	51
130	Output feedback stabilization of constrained systems with nonlinear predictive control. International Journal of Robust and Nonlinear Control, 2003, 13, 211-227.	3.7	63
131	State and Output Feedback Nonlinear Model Predictive Control: An Overview. European Journal of Control, 2003, 9, 190-206.	2.6	281
132	Efficient model predictive control with prediction dynamics. , 2003, , .		9
133	State feedback control of a class of positive systems: Application to gas-lift stabilization. , 2003, , .		11
134	OUTPUT FEEDBACK NONLINEAR PREDICTIVE CONTROL -A SEPARATION PRINCIPLE APPROACH. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 201-206.	0.4	16
135	Piecewise affine observer-based robust controllers for constrained nonlinear systems. Modeling, Identification and Control, 2001, 22, 211-225.	1.1	1
136	On output feedback nonlinear model predictive control using high gain observers for a class of systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 83-88.	0.4	5
137	Robust Observer-Based Output Feedback for Nonlinear Discrete-Time Systems with Constraints. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2001, 34, 1247-1252.	0.4	3
138	Piecewise affine observer-based robust controllers for constrained nonlinear systems. , 2001, , .		0
139	Uncertainty modelling and robust output feedback control of nonlinear discrete systems: a mathematical programming approach. International Journal of Robust and Nonlinear Control, 2000, 10, 1129-1152.	3.7	17
140	Output feedback stabilization with nonlinear predictive control: asymptotic properties. , 0, , .		1
141	Stability conditions for observer based output feedback stabilization with nonlinear model predictive control. , 0, , .		2
142	Towards a Sampled-Data Theory for Nonlinear Model Predictive Control. Lecture Notes in Control and Information Sciences, 0, , 295-311.	1.0	24
143	Vehicle Velocity Estimation using Modular Nonlinear Observers. , 0, , .		13
144	Nonlinear Observer for Vehicle Velocity Estimation. , 0, , .		11

#	ARTICLE	IF	CITATIONS
145	Nonlinear Observer for Vehicle Velocity with Friction and Road Bank Angle Adaptation - Validation and Comparison with an Extended Kalman Filter. , 0, , .		30