

Lars Imsland

List of Publications by Year in descending order

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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	Applying the unscented Kalman filter for nonlinear state estimation. <i>Journal of Process Control</i> , 2008, 18, 753-768.	3.3	396
2	State and Output Feedback Nonlinear Model Predictive Control: An Overview. <i>European Journal of Control</i> , 2003, 9, 190-206.	2.6	281
3	Model Predictive Load-Frequency Control. <i>IEEE Transactions on Power Systems</i> , 2016, 31, 777-785.	6.5	211
4	Control strategy for a solid oxide fuel cell and gas turbine hybrid system. <i>Journal of Power Sources</i> , 2006, 158, 303-315.	7.8	185
5	Vehicle velocity estimation using nonlinear observers. <i>Automatica</i> , 2006, 42, 2091-2103.	5.0	182
6	Modeling and control of a SOFC-GT-based autonomous power system. <i>Energy</i> , 2007, 32, 406-417.	8.8	139
7	Nonlinear vehicle side-slip estimation with friction adaptation. <i>Automatica</i> , 2008, 44, 611-622.	5.0	109
8	Vehicle sideslip estimation. <i>IEEE Control Systems</i> , 2009, 29, 36-52.	0.8	104
9	Stochastic data-driven model predictive control using gaussian processes. <i>Computers and Chemical Engineering</i> , 2020, 139, 106844.	3.8	66
10	Output feedback stabilization of constrained systems with nonlinear predictive control. <i>International Journal of Robust and Nonlinear Control</i> , 2003, 13, 211-227.	3.7	63
11	On non-linear unknown input observers“applied to lateral vehicle velocity estimation on banked roads. <i>International Journal of Control</i> , 2007, 80, 1741-1750.	1.9	60
12	More efficient predictive control. <i>Automatica</i> , 2005, 41, 1395-1403.	5.0	59
13	Fault diagnosis of downhole drilling incidents using adaptive observers and statistical change detection. <i>Journal of Process Control</i> , 2015, 30, 90-103.	3.3	55
14	A note on stability, robustness and performance of output feedback nonlinear model predictive control. <i>Journal of Process Control</i> , 2003, 13, 633-644.	3.3	51
15	Constrained state estimation using the Unscented Kalman Filter. , 2008, , .		48
16	Parameter estimation and compensation in systems with nonlinearly parameterized perturbations. <i>Automatica</i> , 2010, 46, 19-28.	5.0	47
17	Wind farm control “Part I: A review on control system concepts and structures. <i>IET Renewable Power Generation</i> , 2021, 15, 2085-2108.	3.1	40
18	Stabilization of Gas Lifted Wells Based on State Estimation. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2004, 37, 323-328.	0.4	38

#	ARTICLE	IF	CITATIONS
19	Robust triple mode MPC. International Journal of Control, 2008, 81, 679-689.	1.9	34
20	Embedded Model Predictive Control on a PLC using a primal-dual first-order method for a subsea separation process. , 2014, , .		34
21	Drillstring Washout Diagnosis Using Friction Estimation and Statistical Change Detection. IEEE Transactions on Control Systems Technology, 2015, 23, 1886-1900.	5.2	32
22	Model predictive loadâ€“frequency control taking into account imbalance uncertainty. Control Engineering Practice, 2016, 53, 139-150.	5.5	32
23	Incident detection and isolation in drilling using analytical redundancy relations. Control Engineering Practice, 2015, 41, 1-12.	5.5	31
24	Nonlinear Observer for Vehicle Velocity with Friction and Road Bank Angle Adaptation - Validation and Comparison with an Extended Kalman Filter. , 0, , .		30
25	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
26	Economic Stochastic Model Predictive Control Using the Unscented Kalman Filter. IFAC-PapersOnLine, 2018, 51, 417-422.	0.9	25
27	Towards a Sampled-Data Theory for Nonlinear Model Predictive Control. Lecture Notes in Control and Information Sciences, 0, , 295-311.	1.0	24
28	Efficient implementation of solvers for linear model predictive control on embedded devices. , 2014, , .		22
29	Stochastic Nonlinear Model Predictive Control Using Gaussian Processes. , 2018, , .		22
30	On Kalman filtering with linear state equality constraints. Automatica, 2019, 101, 467-470.	5.0	22
31	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
32	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
33	Combined economic and regulatory predictive control. Automatica, 2016, 69, 342-347.	5.0	19
34	Adaptive detection and prediction of performance degradation in off-shore turbomachinery. Applied Energy, 2020, 268, 114934.	10.1	19
35	On multi-objective economic predictive control for cyclic process operation. Journal of Process Control, 2014, 24, 1328-1336.	3.3	18
36	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

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37	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
38	Improved predictions from measured disturbances in linear model predictive control. Journal of Process Control, 2019, 75, 86-106.	3.3	17
39	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
40	Estimation of road inclination and bank angle in automotive vehicles. , 2009, , .		16
41	Nonlinear Vehicle Velocity Observer with Road-Tire Friction Adaptation. , 2006, , .		15
42	Monitoring Moving Objects Using Aerial Mobile Sensors. IEEE Transactions on Control Systems Technology, 2015, , 1-1.	5.2	15
43	UAV Path Planning using MILP with Experiments. Modeling, Identification and Control, 2017, 38, 21-32.	1.1	15
44	Moving horizon estimation in managed pressure drilling using distributed models. , 2014, , .		14
45	Vehicle Velocity Estimation using Modular Nonlinear Observers. , 0, , .		13
46	Monitoring an Advection-Diffusion Process Using Aerial Mobile Sensors. Unmanned Systems, 2015, 03, 221-238.	3.6	13
47	Automatic deployment of industrial embedded model predictive control using qpOASES. , 2015, , .		13
48	An estimation-forecast set-up for iceberg drift prediction. Cold Regions Science and Technology, 2016, 131, 88-107.	3.5	13
49	Output feedback stochastic nonlinear model predictive control for batch processes. Computers and Chemical Engineering, 2019, 126, 434-450.	3.8	13
50	Developing a Hybrid Data-Driven, Mechanistic Virtual Flow Meter - a Case Study. IFAC-PapersOnLine, 2020, 53, 11692-11697.	0.9	13
51	The Arctic DP Research Project: Effective Stationkeeping in Ice. Modeling, Identification and Control, 2014, 35, 191-210.	1.1	13
52	Dynamic modelling of an oxygen mixed conducting membrane and model reduction for control. Journal of Membrane Science, 2009, 336, 50-60.	8.2	12
53	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
54	Survey: mobile sensor networks for target searching and tracking. Cyber-Physical Systems, 2018, 4, 57-98.	2.0	12

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55	Nonlinear Observer for Vehicle Velocity Estimation. , 0, , .		11
56	State feedback control of a class of positive systems: Application to gas-lift stabilization. , 2003, , .		11
57	Using MPC for Managed Pressure Drilling. Modeling, Identification and Control, 2013, 34, 131-138.	1.1	11
58	Real-time optimization of wind farms using modifier adaptation and machine learning. Wind Energy Science, 2020, 5, 885-896.	3.3	11
59	Comparative Study of State Estimation of Fuel Cell Hybrid System Using UKF and EKF. , 2007, , .		10
60	On convergence of the unscented Kalman–Bucy filter using contraction theory. International Journal of Systems Science, 2016, 47, 1816-1827.	5.5	10
61	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
62	Sensor fusion based on Extended and Unscented Kalman Filter for bioprocess monitoring. Journal of Process Control, 2021, 106, 195-207.	3.3	10
63	odel-Based Optimizing Control and Estimation Using Modelica Model. Modeling, Identification and Control, 2010, 31, 107-121.	1.1	10
64	Integrated modeling and control of a load-connected SOFC-GT autonomous power system. , 2006, , .		9
65	Applying model predictive control to power system frequency control. , 2013, , .		9
66	Optimal production and maintenance scheduling for a multiproduct batch plant considering degradation. Computers and Chemical Engineering, 2020, 135, 106734.	3.8	9
67	Efficient model predictive control with prediction dynamics. , 2003, , .		9
68	TIME VARYING TERMINAL CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 447-452.	0.4	8
69	Efficient implementation of step response models for embedded Model Predictive Control. Computers and Chemical Engineering, 2016, 90, 121-135.	3.8	8
70	Nonlinear Model Predictive Control of Electrical Submersible Pumps based on Echo State Networks. Advanced Engineering Informatics, 2022, 52, 101553.	8.0	8
71	State estimation of ice thickness distribution using mobile sensors. , 2012, , .		7
72	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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73	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
74	Expectation constrained stochastic nonlinear model predictive control of a batch bioreactor. Computer Aided Chemical Engineering, 2017, 40, 1621-1626.	0.5	7
75	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
76	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
77	A new algorithm for efficient MPC and a comparison with competing schemes. , 2004, , .		6
78	Control Issues in the Design of a Gas Turbine Cycle for CO ₂ Capture. International Journal of Green Energy, 2005, 2, 217-231.	3.8	6
79	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
80	Data-driven degradation model for batch processes: a case study on heat exchanger fouling. Computer Aided Chemical Engineering, 2018, , 139-144.	0.5	6
81	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
82	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
83	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
84	Robust triple mode MPC. , 2006, , .		5
85	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
86	Fault diagnosis in managed pressure drilling using nonlinear adaptive observers. , 2013, , .		5
87	Early Pack-Off Diagnosis in Drilling Using an Adaptive Observer and Statistical Change Detection. IFAC-PapersOnLine, 2015, 48, 177-182.	0.9	5
88	Performance bounds for tracking multiple objects using a single UAV. , 2017, , .		5
89	Iterative algorithms for computing the feedback Nash equilibrium point for positive systems. International Journal of Systems Science, 2017, 48, 729-737.	5.5	5
90	Economic stochastic nonlinear model predictive control of a semi-batch polymerization reaction. IFAC-PapersOnLine, 2019, 52, 667-672.	0.9	5

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91	Nonlinear model predictive control with explicit back-offs for Gaussian process state space models. , 2019, , .		5
92	Control-relevant modeling and simulation of a SOFC-GT hybrid system. Modeling, Identification and Control, 2006, 27, 143-156.	1.1	5
93	Coordinated control of multiple HVDC links using backstepping. , 2012, , .		4
94	UAV Path Planning for Multitarget Tracking with Experiments*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 316-323.	0.4	4
95	Block factorization of step response model predictive control problems. Journal of Process Control, 2017, 53, 1-14.	3.3	4
96	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
97	Partially distributed optimization for mobile sensor path-planning. , 2017, , .		4
98	Forecasting using multivariate empirical mode decomposition " Applied to iceberg drift forecast. , 2017, , .		4
99	Short-term Scheduling of a Multipurpose Batch Plant Considering Degradation Effects. Computer Aided Chemical Engineering, 2019, , 1213-1218.	0.5	4
100	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
101	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
102	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
103	Nonlinear model predictive control of a benchmark nonlinear boiler. , 2011, , .		3
104	Optimization-based autonomous remote sensing of surface objects using an unmanned aerial vehicle. , 2013, , .		3
105	Multi-objective Predictive Control for non steady-state operation. , 2013, , .		3
106	Optimal control strategies for oil production under gas coning conditions. , 2014, , .		3
107	Numerical Optimal Control Mixing Collocation with Single Shooting: A Case Study. IFAC-PapersOnLine, 2016, 49, 290-295.	0.9	3
108	Optimal boundary control of 2 - 2 linear hyperbolic PDEs. , 2016, , .		3

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109	Optimal Maintenance Scheduling for Washing of Compressors to Increase Operational Efficiency. Computer Aided Chemical Engineering, 2019, 46, 1321-1326.	0.5	3
110	Distributed learning for wind farm optimization with Gaussian processes. , 2020, , .		3
111	Integration of maintenance scheduling and planning for large-scale asset fleets. Optimization and Engineering, 2022, 23, 1255-1287.	2.4	3
112	Stability conditions for observer based output feedback stabilization with nonlinear model predictive control. , 0, , .		2
113	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
114	Adaptive approximation-based estimation of downhole pressure in managed pressure drilling. , 2012, , .		2
115	On asymptotic closed-loop performance for linear MPC with terminal constraints. , 2013, , .		2
116	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
117	Reliability improvement of compressors based on asset fleet reliability data. IFAC-PapersOnLine, 2018, 51, 217-224.	0.9	2
118	Comparison of statistical iceberg forecast models. Cold Regions Science and Technology, 2018, 155, 69-89.	3.5	2
119	Autonomous Aerial Ice Observation for Ice Defense. Modeling, Identification and Control, 2014, 35, 279-291.	1.1	2
120	Piecewise affine observer-based robust controllers for constrained nonlinear systems. Modeling, Identification and Control, 2001, 22, 211-225.	1.1	1
121	Output feedback stabilization with nonlinear predictive control: asymptotic properties. , 0, , .		1
122	A convergence result for the unscented Kalman-Bucy filter using contraction theory. , 2013, , .		1
123	Optimal and robust production of high pressure steam. , 2014, , .		1
124	Estimation of systems with oscillating inputs - applied to iceberg drift forecast. , 2016, , .		1
125	The moving horizon estimator used in iceberg drift estimation and Forecast. , 2016, , .		1
126	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 OrgBT /Overlock 10 T		

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127	Asset fleet management in the process industry - a conceptual model. IFAC-PapersOnLine, 2018, 51, 281-286.	0.9	1
128	Stochastic NMPC of Batch Processes Using Parameterized Control Policies. Computer Aided Chemical Engineering, 2018, 44, 625-630.	0.5	1
129	Robust State Estimation for Fouling Evolution in Batch Processes using the EM Algorithm. IFAC-PapersOnLine, 2019, 52, 685-690.	0.9	1
130	Dynamic Real-Time Optimisation of a CO2 Capture Facility. IFAC-PapersOnLine, 2019, 52, 856-861.	0.9	1
131	An iceberg forecast approach based on a statistical ocean current model. Cold Regions Science and Technology, 2019, 158, 128-142.	3.5	1
132	Optimization-based motion planning for trawling. Journal of Marine Science and Technology, 2019, 24, 984-995.	2.9	1
133	Adaptive sampling for UAV sensor network in oil spill management. , 2021, , .		1
134	Mobile Sensor Path Planning for Iceberg Monitoring using a MILP Framework. , 2015, , .		1
135	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
136	Full algorithmic differentiation of a Rosenbrock-type method for direct single shooting. , 2014, , .		0
137	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
138	LQR problem of linear discrete time systems with nonnegative state constraints. AIP Conference Proceedings, 2015, , .	0.4	0
139	Efficient quadratic programming frameworks for industrial embedded model predictive control. , 2016, , .		0
140	An Iceberg Drift Prediction Study Offshore Newfoundland. , 2016, , .		0
141	A Study on an Iceberg Drift Trajectory. , 2017, , .		0
142	Structure exploitation of practical MPC formulations for speeding up first-order methods. , 2017, , .		0
143	Stochastic nonlinear model predictive control of a batch fermentation process. Computer Aided Chemical Engineering, 2019, 46, 1237-1242.	0.5	0
144	Piecewise affine observer-based robust controllers for constrained nonlinear systems. , 2001, , .		0

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145	Managed Pressure Drilling System State Estimation Using The Multiple Model Adaptive Estimation Approach. , 2020, , .		0