Thomas Meurer

List of Publications by Year
in descending order

142 papers	1,523 citations	394421 19 h-index	361022 35 g-index
149 all docs	149 docs citations	149 times ranked	696 citing authors

#	Article	IF	Citations
1	Tracking control for boundary controlled parabolic PDEs with varying parameters: Combining backstepping and differential flatness. Automatica, 2009, 45, 1182-1194.	5.0	152
2	On the Extended Luenberger-Type Observer for Semilinear Distributed-Parameter Systems. IEEE Transactions on Automatic Control, 2013, 58, 1732-1743.	5.7	86
3	Finite-time multi-agent deployment: A nonlinear PDE motion planning approach. Automatica, 2011, 47, 2534-2542.	5.0	74
4	Feedforward and Feedback Tracking Control of Nonlinear Diffusionâˆ'Convectionâˆ'Reaction Systems Using Summability Methodsâ€. Industrial & Engineering Chemistry Research, 2005, 44, 2532-2548.	3.7	70
5	Control of Higherâ€"Dimensional PDEs. Communications and Control Engineering, 2013, , .	1.6	67
6	PDE-based multi-agent formation control using flatness and backstepping: Analysis, design and robot experiments. Automatica, 2020, 115, 108897.	5.0	60
7	Flatness-based trajectory planning for diffusionâ€"reaction systems in a parallelepipedonâ€"A spectral approach. Automatica, 2011, 47, 935-949.	5.0	51
8	Flatness-based tracking control of a piezoactuated Eulerâ€"Bernoulli beam with non-collocated output feedback: theory and experimentsâ€. International Journal of Control, 2008, 81, 475-493.	1.9	49
9	Trajectory Planning for Boundary Controlled Parabolic PDEs With Varying Parameters on Higher-Dimensional Spatial Domains. IEEE Transactions on Automatic Control, 2009, 54, 1854-1868.	5.7	46
10	Wave propagation in nonlinear and hysteretic mediaâ€"â€"a numerical study. International Journal of Solids and Structures, 2002, 39, 5585-5614.	2.7	39
11	Tracking control design for a wave equation with dynamic boundary conditions modeling a piezoelectric stack actuator. International Journal of Robust and Nonlinear Control, 2011, 21, 542-562.	3.7	38
12	Infinite-dimensional decentralized damping control of large-scale manipulators with hydraulic actuation. Automatica, 2016, 63, 101-115.	5.0	34
13	Backstepping observers for linear PDEs on higher-dimensional spatial domains. Automatica, 2015, 51, 85-97.	5.0	33
14	Mittag-Leffler convergent backstepping observers for coupled semilinear subdiffusion systems with spatially varying parameters. Systems and Control Letters, 2018, 122, 86-92.	2.3	32
15	Real-time freeform surface and path tracking for force controlled robotic tooling applications. Robotics and Computer-Integrated Manufacturing, 2020, 65, 101955.	9.9	32
16	Control of a flexible beam actuated by macro-fiber composite patches: II. Hysteresis and creep compensation, experimental results. Smart Materials and Structures, 2011, 20, 015016.	3.5	28
17	Towards ontology-based automated disassembly systems. , 2010, , .		26
18	Motion Planning for Piezo-Actuated Flexible Structures: Modeling, Design, and Experiment. IEEE Transactions on Control Systems Technology, 2013, 21, 807-819.	5.2	26

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19	Modelling and experimental model validation for a pusher-type reheating furnace. Mathematical and Computer Modelling of Dynamical Systems, 2009, 15, 209-232.	2.2	25
20	Synchronization and Multicluster Capabilities of Oscillatory Networks With Adaptive Coupling. IEEE Transactions on Automatic Control, 2021, 66, 3084-3096.	5.7	25
21	An Efficient Implementation of Backstepping Observers for Time-Varying Parabolic PDEs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 798-803.	0.4	19
22	Motion planning and tracking control for coupled flexible beam structures. Control Engineering Practice, 2019, 84, 389-398.	5.5	19
23	A modal approach to flatness-based control of flexible structures. Proceedings in Applied Mathematics and Mechanics, 2004, 4, 133-134.	0.2	17
24	Flatness of Semilinear Parabolic PDEs—A Generalized Cauchy–Kowalevski Approach. IEEE Transactions on Automatic Control, 2013, 58, 2277-2291.	5.7	16
25	Dissipative observers for coupled diffusion–convection–reaction systems. Automatica, 2018, 94, 307-314.	5.0	16
26	A simple observer scheme for a class of 1-D semi-linear parabolic distributed parameter systems. , 2015, , .		15
27	State-estimation for a class of tubular reactors using a pointwise innovation scheme. Journal of Process Control, 2017, 60, 104-114.	3.3	15
28	Model predictive control of piezo-actuated structures using reduced order models. Control Engineering Practice, 2018, 80, 83-93.	5.5	15
29	Two-dimensional wave propagation in an elastic half-space with quadratic nonlinearity: A numerical study. Journal of the Acoustical Society of America, 2009, 125, 1293-1301.	1.1	14
30	Trajectory planning for quasilinear parabolic distributed parameter systems based on finite-difference semi-discretisations. International Journal of Control, 2010, 83, 1093-1106.	1.9	14
31	Model inversion of boundary controlled parabolic partial differential equations using summability methods. Mathematical and Computer Modelling of Dynamical Systems, 2008, 14, 213-230.	2.2	13
32	Control of a flexible beam actuated by macro-fiber composite patches: I. Modeling and feedforward trajectory control. Smart Materials and Structures, 2011, 20, 015015.	3.5	13
33	Dissipativity-based observer design for a class of coupled 1-D semi-linear parabolic PDE systems. IFAC-PapersOnLine, 2016, 49, 98-103.	0.9	13
34	Further Results on Stabilization of Shock-Like Equilibria of the Viscous Burgers PDE. IEEE Transactions on Automatic Control, 2010, 55, 1942-1946.	5.7	12
35	Trajectory planning and tracking control for the temperature distribution in a deep drawing tool. Control Engineering Practice, 2017, 64, 127-139.	5.5	12
36	Optimal Trajectory Planning and Model Predictive Control of Underactuated Marine Surface Vessels using a Flatness-Based Approach. , 2021, , .		12

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37	A Dynamic Optimization Approach for Sloshing Free Transport of Liquid Filled Containers using an Industrial Robot. , 2019, , .		11
38	Stabilization of an unstable tubular reactor by nonlinear passive output feedback control. Journal of Process Control, 2020, 93, 83-96.	3.3	11
39	On the Dual Implementation of Collision-Avoidance Constraints in Path-Following MPC for Underactuated Surface Vessels. , 2021, , .		11
40	Flachheitsbasierte Steuerung und Regelung eines WÃ¤rmeleitungssystems (Flatness-based Feedforward) Tj ETQq0 0 0 rgBT /Overlock 10	0.8	10
41	Feedforward control design for a semilinear wave equation. Proceedings in Applied Mathematics and Mechanics, 2009, 9, 7-10.	0.2	10
42	Flatness-based MPC for underactuated surface vessels in confined areas. IFAC-PapersOnLine, 2020, 53, 14686-14691.	0.9	10
43	Synchronization of nonlinearly coupled networks of Chua oscillators. IFAC-PapersOnLine, 2019, 52, 628-633.	0.9	9
44	Estimating the wheel lateral position of a mechatronic railway running gear with nonlinear wheelâ€"rail geometry. Mechatronics, 2021, 73, 102457.	3.3	9
45	Nonlinear PDEâ€"based motion planning for the formation control of mobile agents. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 599-604.	0.4	8
46	Motion planning for a damped euler-bernoulli beam. , 2010, , .		8
47	Passivity-Based Observer Design for State Affine Systems Using Interconnection and Damping Assignment. , 2018, , .		8
48	Dissipativity-based backstepping boundary control for a class of semilinear partial integro-differential equations. IFAC-PapersOnLine, 2019, 52, 1-6.	0.9	7
49	Dissipativity-based output-feedback control for a class of semilinear unstable heat equations. IFAC-PapersOnLine, 2019, 52, 316-321.	0.9	7
50	Observer design for a class of nonlinear systems combining dissipativity with interconnection and damping assignment. International Journal of Robust and Nonlinear Control, 2021, 31, 4064-4080.	3.7	7
51	Equidistant Tool Path and Cartesian Trajectory Planning for Robotic Machining of Curved Freeform Surfaces. IEEE Transactions on Automation Science and Engineering, 2022, 19, 3311-3323.	5.2	7
52	A Culling Procedure for Collision Avoidance Model Predictive Control with Application to Ship Autopilot Models. IFAC-PapersOnLine, 2021, 54, 43-50.	0.9	7
53	Trajectory planning for a two-dimensional quasi-linear parabolic PDE based on finite difference semi-discretizations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 12632-12637.	0.4	6
54	Backstepping-based extended Luenberger observer design for a Burgers-type PDE for multi-agent deployment * *Financial support by the German Research Council (DFG) in the project ME 3231/2-1 is gratefully acknowledged.. IFAC-PapersOnLine, 2017, 50, 6780-6785.	0.9	6

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55	Observer Design for the Droop Model with Biased Measurement: Application to Haematococcus Pluvialis. , 2018, , .		6
56	Observability analysis and robust observer design for a continuous yeast culture. Journal of Process Control, 2021, 104, 62-73.	3.3	6
57	Efficient Formulation of Collision Avoidance Constraints in optimization Based Trajectory Planning and Control. , 2021, , .		6
58	Flatness-based constrained optimal control of reaction-diffusion systems. , 2018, , .		5
59	Stability of cluster formations in adaptive Kuramoto networks. IFAC-PapersOnLine, 2021, 54, 14-19.	0.9	5
60	Reduced order modelling for spatial-temporal temperature and property estimation in a multi-stage hot sheet metal forming process. Advances in Industrial and Manufacturing Engineering, 2021, 3, 100055.	2.1	5
61	Distributed Parameter State Estimation for the Grayâ€"Scott Reaction-Diffusion Model. Systems, 2021, 9, 71.	2.3	5
62	K-Summable power series as a design tool for feedforward control of diffusionâ€"convectionâ€"reaction systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 147-152.	0.4	4
63	Trajectory Planning For a Deep Drawing Tool. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 665-670.	0.4	4
64	Flatness-based model predictive control of linear diffusion-convection-reaction processes. , 2018, , .		4
65	Modeling and Motion Planning for an Artificial Fishtail. IFAC-PapersOnLine, 2018, 51, 319-324.	0.9	4
66	Impulsive observer design for a class of continuous biological reactors. , 2019, , .		4
67	SVD Square-root Iterated Extended Kalman Filter for Modeling of Epileptic Seizure Count Time Series with External Inputs. , 2019, 2019, 616-619.		4
68	Synthesis, Design, and Synchronization Analysis of Coupled Linear Electrical Networks. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 4521-4532.	5.4	4
69	Parameter identification of a yeast batch cell population balance model. IFAC-PapersOnLine, 2021, 54, 144-149.	0.9	4
70	One-dimensional pulse propagation in a nonlinear elastic media. , 2001, , .		3
71	Infinit-dimensionaler Reglerentwurf fÃ¼r Euler-Bernoulli Balken mit Macro-Fibre Composite Aktoren. Automatisierungstechnik, 2012, 60, 10-19.	0.8	3
72	Safety Verification for Impulsive Systems. IFAC-PapersOnLine, 2020, 53, 1949-1954.	0.9	3

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73	Flachheitsbasierte Bewegungsplanung für gekoppelte elastische Balken. Automatisierungstechnik, 2015, 63, 684-699.	0.8	3
74	Optimal Sensor Placement for Temperature Control in a Deep Drawing Tool. IFAC-PapersOnLine, 2021, 54, 91-96.	0.9	3
75	Flatness-based feedforward control design for flexible structures. , 2006, , .		2
76	Regelung adaptronischer Systeme, Teil I: Piezoelektrische Strukturen (Control of Adaptronic Systems,) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.8	2
77	Feedforward and Feedback Tracking Control of Diffusion-Convection-Reaction Systems using Summability Methods. Automatisierungstechnik, 2006, 54, 47-48.	0.8	2
78	Flatness-Based Tracking Control for Parabolic Distributed-Parameter Systems with Boundary Input (Flachheitsbasierte Folgeregelung für parabolische verteilt-parametrische Systeme mit Randeingriff). Automatisierungstechnik, 2006, 54, 372-384.	0.8	2
79	TRACKING CONTROL FOR A DIFFUSION–CONVECTION–REACTION SYSTEM: COMBINING FLATNESS AND BACKSTEPPING. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 140-145.	0.4	2
80	Trajektorienfolgeregelung für parabolische partielle Differenzialgleichungen mit variablen ParameternTracking Control for Parabolic PDEs with Varying Parameters. Automatisierungstechnik, 2010, 58, 128-138.	0.8	2
81	Motion planning for the 2D Stokes equations. , 2012, , .		2
82	Inversion-based feedforward control design for the Droop model. Computer Aided Chemical Engineering, 2015, , 1601-1606.	0.5	2
83	Modelling and flatness-based motion planning for an interconnected flexible beam structure. , 2016, , .		2
84	Pointwise innovation–based state observation of exothermic tubular reactors. IFAC-PapersOnLine, 2016, 49, 955-960.	0.9	2
85	Robust adaptive feedforward output-feedback tracking control for microalgae cultures. IFAC-PapersOnLine, 2017, 50, 12667-12672.	0.9	2
86	Analysis of the effects of medication for the treatment of epilepsy by ensemble Iterative Extended Kalman filtering. , 2018, 2018, 187-190.		2
87	Observer design for a railway running gear with independently rotating wheels. IFAC-PapersOnLine, 2019, 52, 325-330.	0.9	2
88	A nonlinear quasi-unknown input observer for the chemostat Droop model. Computer Aided Chemical Engineering, 2015, 37, 1565-1570.	0.5	2
89	Flatness-Based Feedforward Control Design for Flexible Structures. , 2006, , .		2
90	Dissipativer Backstepping-basierter Beobachterentwurf für semilineare Diffusions-Reaktionssysteme. Automatisierungstechnik, 2020, 68, 571-581.	0.8	2

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91	Marine boundary layer tracking using an AUV with UKF based extremum seeking. IFAC-PapersOnLine, 2021, 54, 320-326.	0.9	2
92	Dissipative PI control for a class of semilinear heat equations with actuator disturbance. IFAC-PapersOnLine, 2020, 53, 7503-7508.	0.9	2
93	Input–to–state stability of dissipative PI control for a class of semilinear heat equations. IFAC-PapersOnLine, 2021, 54, 281-286.	0.9	2
94	Image-Based Online Command Adaptation and Guidance to Arbitrarily Shaped Objects for Robot-Assisted Medical Procedures. , 2021, , .		2
95	Feedforward control design for the wave equation with nonlinear boundary conditions modelling a torsional rod. , 2008, , .		1
96	Trajectory planning for semilinear PDEs modeling a countercurrent heat exchanger. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 593-598.	0.4	1
97	Quasi-unknown input based 2-DOF control for a class of flat nonlinear SISO systems. , 2015, , .		1
98	Design and Evaluation of Software Sensors for Bioreactors with Unknown Time-Varying Parameters. Chemie-Ingenieur-Technik, 2016, 88, 1307-1307.	0.8	1
99	Ein verteilt-parametrischer Zugang zur Regelung von Multi-Agentensystemen. Automatisierungstechnik, 2017, 65, 574-585.	0.8	1
100	Flatness-based feedforward control design and two-degrees-of-freedom tracking control for semilinear plug flow reactors. Journal of Process Control, 2018, 64, 132-140.	3.3	1
101	Nonlinear feedback control of a class of semilinear parabolic PDEs. , 2019, , .		1
102	UKF-based Constrained Extremum-Seeking Control with Application to a Large-Bore Gas Engine. , 2019, , .		1
103	Exponential Stability of Invariant Manifold for a Nonlinear Impulsive Multifrequency System. Journal of Mathematical Sciences, 2020, 249, 694-703.	0.4	1
104	Moment-based dissipative observer design for cell population balance models. IFAC-PapersOnLine, 2021, 54, 433-438.	0.9	1
105	Control-Oriented Characterization of Product Properties during Hot Hole-Flanging of X46Cr13 Sheet Material in a Progressive-Die. Metals, 2021, 11, 349.	2.3	1
106	Parallelized POD-based suboptimal economic model predictive control of a state-constrained Boussinesq approximation. Computers and Mathematics With Applications, 2021, , .	2.7	1
107	Robust nonlinear observer design based on impulsive dissipativity. IFAC-PapersOnLine, 2021, 54, 279-284.	0.9	1
108	Motion planning for a class of boundary controlled 1D port-Hamiltonian systems. IFAC-PapersOnLine, 2020, 53, 7710-7715.	0.9	1

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109	Demand Tracking Control in Manufacturing Systems. IFAC-PapersOnLine, 2020, 53, 11219-11224.	0.9	1
110	6. IFAC-Symposium "Nonlinear Control Systems" in Stuttgart (NOLCOS 2004). Automatisierungstechnik, 2005, 53, 44-44.	0.8	0
111	SYNCOD â€" Symposium on Nonlinear Control and Observer Design. Automatisierungstechnik, 2006, 54, 100-100.	0.8	0
112	Experimental results on motion planning and tracking control for a piezoactuated flexible trimorph bender. , 2007, , .		0
113	State Reconstruction in Higher Dimensional PDEs with Spatially Varying Parameters. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 813-814.	0.2	0
114	Feedforward Control for a Non-Uniform Euler-Bernoulli Beam. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 829-830.	0.2	0
115	Model Equations for Multiâ€"Agent Networks. Communications and Control Engineering, 2013, , 37-49.	1.6	0
116	Motion Planning for PDEs. , 2013, , 1-10.		0
117	Motion planning for a piezo-actuated structure modeling a wingsail. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 895-896.	0.2	0
118	Modeling of biaxial gimbal-less MEMS scanning mirrors. , 2016, , .		0
119	Methoden und Anwendungen verteilt-parametrischer Systeme. Automatisierungstechnik, 2017, 65, 295-297.	0.8	0
120	Finite Element Modeling and Motion Planning of an Adaptive Elastic Wingsail. IFAC-PapersOnLine, 2017, 50, 6768-6773.	0.9	0
121	Ausgewählte Beiträge der GMA-Fachausschüsse 1.30 und 1.40. Automatisierungstechnik, 2018, 66, 503-505.	0.8	0
122	Passivity-based output-feedback control for a class of 1-D semilinear PDE models. , 2019, , .		0
123	Beobachterentwurf für ein Einzelradfahrwerk eines neuartigen Schienenfahrzeugs. Automatisierungstechnik, 2019, 67, 682-692.	0.8	0
124	Motion Planning for PDEs. , 2021, , 1338-1346.		0
125	Guest Editorial Focused Section on Mechatronics in Unmanned Systems. IEEE/ASME Transactions on Mechatronics, 2021, 26, 595-599.	5.8	0
126	Ausgewählte Beiträge des GMA-Fachausschusses 1.40, Teil 1. Automatisierungstechnik, 2021, 69, 563-564.	0.8	0

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127	Ausgewählte Beiträge des GMA-Fachausschuss 1.40, Teil 2. Automatisierungstechnik, 2021, 69, 737-738.	0.8	0
128	Iterative Surface Mapping Using Local Geometry Approximation with Sparse Measurements During Robotic Tooling Tasks. , 2021, , .		0
129	Backstepping for Linear Diffusion–Convection–Reaction Systems with Varying Parameters on 1–Dimensional Domains. Communications and Control Engineering, 2013, , 223-267.	1.6	0
130	Model Equations for Non–Convective and Convective Heat Transfer. Communications and Control Engineering, 2013, , 23-35.	1.6	0
131	Spectral Approach for Time–Invariant Systems with General Spatial Domain. Communications and Control Engineering, 2013, , 83-188.	1.6	0
132	Model Equations for Flexible Structures with Piezoelectric Actuation. Communications and Control Engineering, 2013, , 51-75.	1.6	0
133	Backstepping for Linear Diffusion–Convection–Reaction Systems with Varying Parameters on Parallelepiped Domains. Communications and Control Engineering, 2013, , 269-346.	1.6	0
134	Formal Integration Approach for Time Varying Systems with Parallelepiped Spatial Domain. Communications and Control Engineering, 2013, , 189-219.	1.6	0
135	Ausgewählte Beiträge der GMA-Fachausschüsse 1.30 und 1.40. Automatisierungstechnik, 2019, 67, 619-621.	0.8	0
136	Motion Planning for PDEs. , 2020, , 1-9.		0
137	Ausgewählte Beiträge der GMA-Fachausschüsse 1.30 und 1.40. Automatisierungstechnik, 2020, 68, 609-611.	0.8	0
138	Trajectory planning for semilinear time-fractional reaction-diffusion systems under Robin boundary conditions. IFAC-PapersOnLine, 2020, 53, 7722-7727.	0.9	0
139	Prof. Dr.-Ing. Dr. h.c. Michael Zeitz zum 80. Geburtstag. Automatisierungstechnik, 2020, 68, 509-511.	0.8	0
140	System Inversion and Feedforward Control via Formal Power Series and Summation Methods. , 0, , 253-270.		0
141	A combined guidance and control concept for autonomous ferries. Automatisierungstechnik, 2022, 70, 444-455.	0.8	0
142	Towards new shores or back to the roots?. Automatisierungstechnik, 2022, 70, 403-405.	0.8	0