Guido Herrmann

List of Publications by Year
in descending order

141 papers	2,664 citations

279487

23 h-index	46 g-index

223531

144 all docs	144 docs citations

144 times ranked	1922 citing authors

#	Article	IF	Citations
1	Real-Time Force Reconstruction in a Transverse Dynamic Force Microscope. IEEE Transactions on Industrial Electronics, 2022, 69, 11403-11413.	5.2	2
2	Air–Fuel Ratio Control of Spark Ignition Engines With Unknown System Dynamics Estimator: Theory and Experiments. IEEE Transactions on Control Systems Technology, 2021, 29, 786-793.	3.2	25
3	A Multimode Transverse Dynamic Force Microscope—Design, Identification, and Control. IEEE Transactions on Industrial Electronics, 2020, 67, 4729-4740.	5.2	2
4	A super-twisting observer for atomic-force reconstruction in a probe microscope. Control Engineering Practice, 2020, 94, 104191.	3.2	8
5	Radiation Tolerance Testing Methodology of Robotic Manipulator Prior to Nuclear Waste Handling. Frontiers in Robotics and AI, 2020, 7, 6.	2.0	12
6	Supervised Parameter Estimation for Road Vehicles, Mitigating Powertrain Induced Uncertainty. IEEE Transactions on Vehicular Technology, 2020, 69, 7000-7013.	3.9	2
7	An Adaptive Controller for Robotic Manipulators with Unknown Kinematics and Dynamics. IFAC-PapersOnLine, 2020, 53, 8796-8801.	0.5	4
8	Radiation Mapping and Laser Profiling Using a Robotic Manipulator. Frontiers in Robotics and AI, 2020, 7, 499056.	2.0	7
9	Robust Optimal Control of Wave Energy Converters Based on Adaptive Dynamic Programming. IEEE Transactions on Sustainable Energy, 2019, 10, 961-970.	5.9	36
10	Adaptive Optimal Control via Continuous-Time Q-Learning for Unknown Nonlinear Affine Systems. , 2019, , .		3
11	Modular, Underactuated Anthropomorphic Robot Hand with Flexible Fingers and Twisted String Actuators. Lecture Notes in Computer Science, 2019, , 489-492.	1.0	1
12	Vehicle Engine Torque Estimation via Unknown Input Observer and Adaptive Parameter Estimation. IEEE Transactions on Vehicular Technology, 2018, 67, 409-422.	3.9	101
13	Active Adaptive Estimation and Control for Vehicle Suspensions With Prescribed Performance. IEEE Transactions on Control Systems Technology, 2018, 26, 2063-2077.	3.2	165
14	Real–Time Sliding Mode Observer Scheme for Shear Force Estimation in a Transverse Dynamic Force Microscope. Asian Journal of Control, 2018, 20, 1317-1328.	1.9	10
15	Self-Organization of Weighted Networks for Optimal Synchronizability. IEEE Transactions on Control of Network Systems, 2018, 5, 1541-1550.	2.4	22
16	Nonlinear Observer-Based Air-Fuel Ratio Control for Port Fuel Injected Wankel Engines. , 2018, , .		8
17	Data-Driven Based Optimal Output-Feedback Control of Continuous-Time Systems. , 2018, , .		2
18	Comparing Model-Based and Data-Driven Controllers for an Autonomous Vehicle Task. Lecture Notes in Computer Science, 2018, , 170-182.	1.0	1

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19	Engine Torque Estimation with Integrated Unknown Input Observer and Adaptive Parameter Estimator. IFAC-PapersOnLine, 2017, 50, 11058-11063.	0.5	2
20	Adaptive optimal observer design via approximate dynamic programming. , 2017, , .		7
21	An alternative approach to anti-windup in anticipation of actuator saturation. International Journal of Robust and Nonlinear Control, 2017, 27, 963-980.	2.1	7
22	Improving transient performance of adaptive control via a modified reference model and novel adaptation. International Journal of Robust and Nonlinear Control, 2017, 27, 1351-1372.	2.1	80
23	Adaptive air-fuel ratio control for spark ignition engines with time-varying parameter estimation. , 2017, , .		11
24	Drivers' Manoeuvre Classification for Safe HRI. Lecture Notes in Computer Science, 2017, , 475-483.	1.0	5
25	Performance evaluation using Markov model for a novel approach in Ethernet based embedded networked control communication. , 2016, , .		2
26	Air-fuel-ratio control of engine system with unknown input observer. , 2016, , .		5
27	Robotic hand posture and compliant grasping control using operational space and integral sliding mode control. Robotica, 2016, 34, 2163-2185.	1.3	14
28	Distributed adaptive optimization and control of network structures. , 2016, , .		4
29	Sliding Mode Optimal Controller. , 2016, , 131-159.		0
30	Biologically Inspired Control of Humanoid Robot Arms. , 2016, , .		10
31	Humanoid Robots and Control. , 2016, , 15-47.		0
32	Human Motion. , 2016, , 49-74.		1
33	Adaptive Compliance Control with Anti-windup Compensation and Posture Control. , 2016, , 161-191.		0
34	Adaptive optimal tracking control of unknown nonlinear systems using system augmentation. , 2016, , .		5
35	Sliding Mode Task Controller Modification. , 2016, , 101-115.		0
36	Amplitude control of the cantilever of the transverse dynamic force microscope. , 2015, , .		1

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37	Leader-following distributed control of multiple nonholonomic wheeled mobile robots. , 2015, , .		1
38	Adaptive input and parameter estimation with application to engine torque estimation. , 2015, , .		18
39	Estimation of the shear force in transverse dynamic force microscopy using a sliding mode observer. AIP Advances, 2015, 5, .	0.6	13
40	Adaptive optimal tracking control applied for a humanoid robot arm. , 2015, , .		3
41	An adaptive non-raster scanning method in atomic force microscopy for simple sample shapes. Measurement Science and Technology, 2015, 26, 035401.	1.4	14
42	Adaptive neural network Dynamic Surface Control: An evaluation on the musculoskeletal robot Anthrob. , 2015, , .		9
43	Dynamic gain-scheduled control and extended linearisation: extensions, explicit formulae and stability. International Journal of Control, 2015, 88, 163-179.	1.2	16
44	Robust adaptive finite‐time parameter estimation and control for robotic systems. International Journal of Robust and Nonlinear Control, 2015, 25, 3045-3071.	2.1	285
45	Compliance Control and Human–Robot Interaction: Part 1 — Survey. International Journal of Humanoid Robotics, 2014, 11, 1430001.	0.6	27
46	Compliance Control and Human–Robot Interaction: Part II — Experimental Examples. International Journal of Humanoid Robotics, 2014, 11, 1430002.	0.6	8
47	Adaptive estimation of the shear force in the cantilever dynamics of the Transverse Dynamic Force Microscope. , 2014, , .		2
48	Anticipatory anti-windup: An alternative construction. , 2014, , .		2
49	Adaptive neural network dynamic surface control for musculoskeletal robots. , 2014, , .		3
50	Cantilever dynamics modelling for the Transverse Dynamic Force Microscope. , 2014, , .		3
51	Information fusion for vehicular systems parameter estimation using an extended regressor in a finite time estimation algorithm. , 2014, , .		5
52	Underactuated fingers controlled by robust and adaptive trajectory following methods. International Journal of Systems Science, 2014, 45, 120-132.	3.7	7
53	Current hybrid-electric powertrain architectures: Applying empirical design data to life cycle assessment and whole-life cost analysis. Applied Energy, 2014, 119, 314-329.	5.1	94
54	A non-square sector condition and its application in deferred-action anti-windup compensator design. Automatica, 2014, 50, 268-276.	3.0	14

#	ARTICLE	IF	CITATIONS
55	Adaptive Observer-Based Parameter Estimation With Application to Road Gradient and Vehicle Mass Estimation. IEEE Transactions on Industrial Electronics, 2014, 61, 2851-2863.	5.2	100
56	A novel robust adaptive control algorithm with finite-time online parameter estimation of a humanoid robot arm. Robotics and Autonomous Systems, 2014, 62, 294-305.	3.0	39
57	Adaptive weight selection for optimal consensus performance. , 2014, , .		8
58	Experimental Implementation of a Nonlinear Dynamic Inversion Controller with Antiwindup. Journal of Guidance, Control, and Dynamics, 2013, 36, 1035-1046.	1.6	10
59	Active robot hand compliance using operational space and Integral Sliding Mode Control. , 2013, , .		6
60	Application of Robust Antiwindup Techniques to Dynamically Substructured Systems. IEEE/ASME Transactions on Mechatronics, 2013, 18, 263-272.	3.7	6
61	Distributed adaptive leader-following control for multi-agent multi-degree manipulators with finite-time guarantees. , 2013, , .		6
62	Estimation of the shear force in Transverse Dynamic Force Microscopy using a sliding mode observer. , 2013, , .		4
63	Shear force reconstruction in a vertically oriented probe microscope using a super-twisting observer. , 2013, , .		3
64	Cooperative Robot Manipulator Control with Human 'pinning' for Robot Assistive Task Execution. Lecture Notes in Computer Science, 2013, , 521-530.	1.0	8
65	Distributed Motion Synchronisation Control of Humanoid Arms. Communications in Computer and Information Science, 2013, , 21-35.	0.4	4
66	Finite-time adaptive distributed control for double integrator leader-agent synchronisation. , 2012, , .		10
67	FPGA Implementation of a Simple Approach for Jitter Minimisation in Ethernet for Real-time Control Communication. , 2012, , .		2
68	Concept for hybrid optimization for schedule design in nonlinear networked control. , 2012, , .		1
69	Robust Scheduling of Sampled-Data Networked Control Systems. IEEE Transactions on Control Systems Technology, 2012, 20, 1613-1621.	3.2	26
70	Two-state dynamic gain scheduling control applied to an F16 aircraft model. International Journal of Non-Linear Mechanics, 2012, 47, 1116-1123.	1.4	13
71	An adaptive observer-based parameter estimation algorithm with application to road gradient and vehicle's mass estimation. , 2012, , .		12
72	Robustness-verification in networked control systems via sum-of-square approach. , 2012, , .		0

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73	Reinforcement learning and optimal adaptive control: An overview and implementation examples. Annual Reviews in Control, 2012, 36, 42-59.	4.4	156
74	Computation of an optimal communication schedule in a nonlinear networked control system using sum-of-squares. Systems and Control Letters, 2012, 61, 387-396.	1.3	4
75	A Novel Adaptive Control Algorithm in Application to a Humanoid Robot Arm. Lecture Notes in Computer Science, 2012, , 25-36.	1.0	13
76	Minimizing Jitter in Ethernet Using a Linear Backoff for Real-Time Robot Control Communication and Its Implementation on FPGA. Lecture Notes in Computer Science, 2012, , 232-243.	1.0	0
77	Adaptive control of robotic servo system with friction compensation. , 2011, , .		4
78	A novel robust disturbance rejection anti-windup framework. International Journal of Control, 2011, 84, 123-137.	1.2	26
79	Robust adaptive finite-time parameter estimation and control of nonlinear systems. , 2011, , .		54
80	A Q-learning based Cartesian model reference compliance controller implementation for a humanoid robot arm. , 2011, , .		2
81	Robust active compliance control for practical grasping of a cylindrical object via a multifingered robot hand. , 2011, , .		4
82	Scheduling of the FlexRay static segment for robust controller integration. , 2011, , .		5
83	An anti-windup framework for systems with non-standard actuator characteristics. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 13444-13449.	0.4	0
84	A Novel Q-Learning Based Adaptive Optimal Controller Implementation for a Humanoid Robotic Arm*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 13528-13533.	0.4	9
85	Adaptive neural dynamic surface control for servo systems with unknown dead-zone. Control Engineering Practice, 2011, 19, 1328-1343.	3.2	128
86	Adaptive discrete neural observer design for nonlinear systems with unknown time–delay. International Journal of Robust and Nonlinear Control, 2011, 21, 625-647.	2.1	18
87	VORTEX. , 2011, , .		3
88	A Novel Approach of Robust Active Compliance for Robot Fingers. Communications in Computer and Information Science, 2011, , 50-57.	0.4	3
89	Task Space Integral Sliding Mode Controller Implementation for 4DOF of a Humanoid BERT II Arm with Posture Control. Lecture Notes in Computer Science, 2011, , 299-310.	1.0	2
90	Toward Safe Human Robot Interaction: Integration of Compliance Control, an Anthropomorphic Hand and Verbal Communication. Communications in Computer and Information Science, 2011, , 17-24.	0.4	4

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91	Safe Adaptive Compliance Control of a Humanoid Robotic Arm with Anti-Windup Compensation and Posture Control. International Journal of Social Robotics, 2010, 2, 305-319.	3.1	44
92	Towards Safety in Human Robot Interaction. International Journal of Social Robotics, 2010, 2, 217-219.	3.1	23
93	Antiâ€windup synthesis for nonlinear dynamic inversion control schemes. International Journal of Robust and Nonlinear Control, 2010, 20, 1465-1482.	2.1	72
94	Adaptive multi-dimensional compliance control of a humanoid robotic arm with anti-windup compensation. , 2010, , .		16
95	Application of a novel robust anti-windup technique to dynamically substructured systems. , 2010, , .		1
96	Dynamic gain scheduled control in a multi-variable control framework. , 2010, , .		6
97	Neural Network Control of Nonlinear Time-Delay System with Unknown Dead-Zone and Its Application to a Robotic Servo System. Communications in Computer and Information Science, 2010, , 338-345.	0.4	11
98	Dynamic gain scheduled control of a satellite with a robot manipulator. , 2010, , .		0
99	An optimal sliding mode controller applied to human motion synthesis with robotic implementation. , 2010, , .		8
100	A neural network method of learning human motion by observation in operational space. , 2010, , .		0
101	Nonlinear observer design for discrete MIMO systems with unknown time delay. , 2009, , .		7
102	Improving sector-based results for systems with dead-zone nonlinearities and constrained control applications. Automatica, 2009, 45, 155-160.	3.0	5
103	Adaptive memoryless observer design for nonlinear time-delay systems. , 2009, , .		2
104	Discrete adaptive neural network disturbance feedforward compensation for non-linear disturbances in servo-control applications. International Journal of Control, 2009, 82, 721-740.	1.2	11
105	Optimization Approaches for Controller and Schedule Codesign in Networked Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 301-306.	0.4	12
106	Robotic Implementation of Realistic Reaching Motion Using a Sliding Mode/Operational Space Controller. Lecture Notes in Computer Science, 2009, , 230-238.	1.0	10
107	A novel discreteâ€time sliding mode technique and its application to a HDD dualâ€stage trackâ€seek and trackâ€following servo system. International Journal of Adaptive Control and Signal Processing, 2008, 22, 344-358.	2.3	6
108	A robust override scheme enforcing strict output constraints for a class of strictly proper systems. Automatica, 2008, 44, 753-760.	3.0	13

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109	Stability and performance recovery within discretized non-linear control systems. Automatica, 2008, 44, 1045-1054.	3.0	1
110	Discrete linear control enhanced by adaptive neural networks in application to a HDD-servo-system. Control Engineering Practice, 2008, 16, 930-945.	3.2	15
111	Discretization Of A Non-Linear, Continuous-Time Control Law With Small Control Delays. Asian Journal of Control, 2008, 5, 65-77.	1.9	3
112	Dynamic Wind Tunnel Rig Implementation of Nonlinear Dynamic Inversion-Based Anti-Windup Scheme. , 2008, , .		0
113	Discrete Robust Anti-Windup to Improve a Novel Dual-Stage Large-Span Track-Seek/Following Method. IEEE Transactions on Control Systems Technology, 2008, 16, 1342-1351.	3.2	17
114	Augmentation of Short-Span Seeking Performance Using Dynamic Saturation. IEEE Transactions on Magnetics, 2008, 44, 81-83.	1.2	1
115	A disturbance rejection anti-windup framework and its application to a substructured system. , 2008, , .		2
116	Nonlinear Dynamic Inversion Based Anti-windup - An Aerospace Application. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 14156-14161.	0.4	3
117	Improving sector-based results for systems with deadzone nonlinearities. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 7729-7734.	0.4	0
118	Linear Matrix Inequalities in Control. , 2007, , 123-142.		32
119	Performance-Oriented Antiwindup for a Class of Linear Control Systems With Augmented Neural Network Controller. IEEE Transactions on Neural Networks, 2007, 18, 449-465.	4.8	18
120	Incorporating Robustness Requirements Into Antiwindup Design. IEEE Transactions on Automatic Control, 2007, 52, 1842-1855.	3.6	145
121	Robust control applications. Annual Reviews in Control, 2007, 31, 27-39.	4.4	36
122	Anti-windup Compensation using a Decoupling Architecture. , 2007, , 121-171.		8
123	Case Study on Anti-windup Compensation - Micro-actuator Control in a Hard-Disk Drive. , 2007, , 413-430.		1
124	Enhancement of Short-Span Seeking in a Dual-Stage Seek-Track Following Control Using Variable Saturation. , 2006, , .		0
125	Discrete-time and sampled-data anti-windup synthesis: stability and performance. International Journal of Systems Science, 2006, 37, 91-113.	3.7	55
126	On Robust, Multi-Input Sliding-Mode Based Control with a State-Dependent Boundary Layer. Journal of Optimization Theory and Applications, 2006, 129, 89-107.	0.8	13

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127	General Anti-windup synthesis for input constrained nonlinear systems controlled using nonlinear dynamic inversion. , 2006, , .		13
128	IMPROVING LOCAL ANTI-WINDUP PERFORMANCE: PRELIMINARY RESULTS ON A TWO-STAGE APPROACH. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 210-215.	0.4	9
129	Practical implementation of a neural network controller in a hard disk drive. IEEE Transactions on Control Systems Technology, 2005, 13, 146-154.	3.2	38
130	Analysis of a multirate sampled-data implementation of a continuous-time, sliding-mode observer/controller pair. International Journal of Systems Science, 2004, 35, 109-121.	3.7	0
131	HDD dual-stage servo-controller design using a μ-analysis tool. Control Engineering Practice, 2004, 12, 241-251.	3.2	27
132	Practical Implementation of a Novel Anti-Windup Scheme in a HDD-Dual-Stage Servo-System. IEEE/ASME Transactions on Mechatronics, 2004, 9, 580-592.	3.7	88
133	A model-based sliding mode control methodology applied to the HDA-plant. Journal of Process Control, 2003, 13, 129-138.	1.7	27
134	Discrete-time anti-windup: Part 2 â€" Extension to the sampled-data case. , 2003, , .		7
135	Discrete-time anti-windup: Part 1 â€" Stability and performance. , 2003, , .		17
136	DELAY ADAPTATION FOR A CHAOS CONTROL WITH HALF-PERIOD DELAYED FEEDBACK. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 209-214.	0.4	0
137	A robust sliding-mode output tracking control for a class of relative degree zero and non-minimum phase plants: A chemical process application. International Journal of Control, 2001, 74, 1194-1209.	1.2	25
138	A new approach to discretization applied to a continuous, nonlinear, sliding-mode-like control using nonsmooth analysis. IMA Journal of Mathematical Control and Information, 2001, 18, 161-187.	1.1	7
139	A robust delay adaptation scheme for Pyragas' chaos controlÂmethod. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 287, 245-256.	0.9	19
140	Gradient and Mass Estimation from CAN Based Data for a Light Passenger Car. SAE International Journal of Passenger Cars - Electronic and Electrical Systems, 0, 8, 137-145.	0.3	6
141	Modelling and Simulation of Rapidly Changing Road Gradients. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 9, 392-401.	0.4	0