

# Sandra Hirche

## List of Publications by Year in descending order

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154  
papers

3,603  
citations

236925

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154  
all docs

154  
docs citations

154  
times ranked

2751  
citing authors

#	ARTICLE	IF	CITATIONS
1	Actuator Scheduling for Linear Systems: A Convex Relaxation Approach. , 2023, 7, 7-12.		1
2	Value of Information in Feedback Control: Quantification. IEEE Transactions on Automatic Control, 2022, 67, 3730-3737.	5.7	13
3	Decentralized LQ-Consistent Event-Triggered Control Over a Shared Contention-Based Network. IEEE Transactions on Automatic Control, 2022, 67, 1430-1437.	5.7	7
4	Optimal LQG Control of Networked Systems Under Traffic-Correlated Delay and Dropout. , 2022, 6, 1280-1285.		13
5	Feedback Control Over Noisy Channels: Characterization of a General Equilibrium. IEEE Transactions on Automatic Control, 2022, 67, 3396-3409.	5.7	4
6	Any-Time Feasible Coordination for Multivehicle Systems. IEEE Transactions on Control Systems Technology, 2022, 30, 1807-1820.	5.2	0
7	Online Learning-Based Trajectory Tracking for Underactuated Vehicles With Uncertain Dynamics. , 2022, 6, 2090-2095.		4
8	Backstepping Tracking Control Using Gaussian Processes With Event-Triggered Online Learning. , 2022, 6, 3176-3181.		3
9	Diffeomorphically Learning Stable Koopman Operators. , 2022, 6, 3427-3432.		4
10	A Multi-Vehicle Control Framework With Application to Automated Valet Parking. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 5697-5707.	8.0	20
11	How Training Data Impacts Performance in Learning-Based Control. , 2021, 5, 905-910.		8
12	Data Selection for Multi-Task Learning Under Dynamic Constraints. , 2021, 5, 959-964.		4
13	Inverse optimal control from incomplete trajectory observations. International Journal of Robotics Research, 2021, 40, 848-865.	8.5	24
14	Delay-Sensitive Joint Optimal Control and Resource Management in Multiloop Networked Control Systems. IEEE Transactions on Control of Network Systems, 2021, 8, 1093-1106.	3.7	11
15	Gaussian process-based visual pursuit control with unknown target motion learning in three dimensions. SICE Journal of Control Measurement and System Integration, 2021, 14, 116-127.	0.7	7
16	Online Learning-based Formation Control of Multi-Agent Systems with Gaussian Processes. , 2021, , .		1
17	Distributed Bayesian Online Learning for Cooperative Manipulation. , 2021, , .		3
18	Data-driven output synchronization of heterogeneous leader-follower multi-agent systems. , 2021, , .		12

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19	Opinion Behavior Analysis in Social Networks Under the Influence of Coopetitive Media. IEEE Transactions on Network Science and Engineering, 2020, 7, 961-974.	6.4	31
20	Fully Distributed Consensus Control for Linear Multiagent Systems: A Reduced-Order Adaptive Feedback Approach. IEEE Transactions on Control of Network Systems, 2020, 7, 967-976.	3.7	27
21	Feedback Linearization Based on Gaussian Processes With Event-Triggered Online Learning. IEEE Transactions on Automatic Control, 2020, 65, 4154-4169.	5.7	57
22	Joint Cross-Layer Optimization in Real-Time Networked Control Systems. IEEE Transactions on Control of Network Systems, 2020, 7, 1903-1915.	3.7	26
23	Anticipating the long-term effect of online learning in control. , 2020, , .		2
24	Effect of External Force on Agency in Physical Human-Machine Interaction. Frontiers in Human Neuroscience, 2020, 14, 114.	2.0	12
25	Estimation of Involuntary Components of Human Arm Impedance in Multi-Joint Movements via Feedback Jerk Isolation. Frontiers in Neuroscience, 2020, 14, 459.	2.8	3
26	Learning stochastically stable Gaussian process state-space models. IFAC Journal of Systems and Control, 2020, 12, 100079.	1.7	9
27	Evolution of social power over influence networks containing antagonistic interactions. Information Sciences, 2020, 540, 449-468.	6.9	5
28	Fully Distributed Cooperation for Networked Uncertain Mobile Manipulators. IEEE Transactions on Robotics, 2020, 36, 984-1003.	10.3	44
29	Distributed Control for Cooperative Manipulation With Event-Triggered Communication. IEEE Transactions on Robotics, 2020, 36, 1038-1052.	10.3	46
30	High-Resolution Motor State Detection in Parkinson's Disease Using Convolutional Neural Networks. Scientific Reports, 2020, 10, 5860.	3.3	39
31	Learning Stable Nonparametric Dynamical Systems with Gaussian Process Regression. IFAC-PapersOnLine, 2020, 53, 1194-1199.	0.9	2
32	Confidence Regions for Predictions of Online Learning-Based Control. IFAC-PapersOnLine, 2020, 53, 1007-1012.	0.9	1
33	Day-ahead Scheduling of Thermal Storage Systems Using Bayesian Neural Networks. IFAC-PapersOnLine, 2020, 53, 13281-13286.	0.9	1
34	Optimal LQG Control Under Delay-Dependent Costly Information. , 2019, 3, 102-107.		26
35	Inverse Optimal Control for Multiphase Cost Functions. IEEE Transactions on Robotics, 2019, 35, 1387-1398.	10.3	29
36	Correction to "An Uncertainty-Based Control Lyapunov Approach for Control-Affine Systems Modeled by Gaussian Processes" [Jul 18 483-488]. , 2019, 3, 493-493.		1

#	ARTICLE	IF	CITATIONS
37	Interval Observers for a Class of Nonlinear Systems Using Gaussian Process Models. , 2019, , .		1
38	Uncertainty-based Human Motion Tracking with Stable Gaussian Process State Space Models. IFAC-PapersOnLine, 2019, 51, 8-14.	0.9	10
39	Backstepping for Partially Unknown Nonlinear Systems Using Gaussian Processes. , 2019, 3, 416-421.		14
40	Human-Robot Team Interaction Through Wearable Haptics for Cooperative Manipulation. IEEE Transactions on Haptics, 2019, 12, 350-362.	2.7	16
41	Stable Gaussian process based tracking control of Euler-Lagrange systems. Automatica, 2019, 103, 390-397.	5.0	75
42	A Multi-Layer Gaussian Process for Motor Symptom Estimation in People With Parkinson's Disease. IEEE Transactions on Biomedical Engineering, 2019, 66, 3038-3049.	4.2	5
43	Local Asymptotic Stability Analysis and Region of Attraction Estimation with Gaussian Processes*. , 2019, , .		7
44	Closed-loop Model Selection for Kernel-based Models using Bayesian Optimization. , 2019, , .		2
45	Human-Robot Interaction Through Fingertip Haptic Devices for Cooperative Manipulation Tasks. , 2019, , .		1
46	Impedance-Based Gaussian Processes for Modeling Human Motor Behavior in Physical and Non-Physical Interaction. IEEE Transactions on Biomedical Engineering, 2019, 66, 2499-2511.	4.2	17
47	Polarizability, Consensusability, and Neutralizability of Opinion Dynamics on Cooperative Networks. IEEE Transactions on Automatic Control, 2019, 64, 3339-3346.	5.7	23
48	Distributed Topology Manipulation to Control Epidemic Spreading Over Networks. IEEE Transactions on Signal Processing, 2019, 67, 1163-1174.	5.3	15
49	Human-Guided Multirobot Cooperative Manipulation. IEEE Transactions on Control Systems Technology, 2019, 27, 1492-1509.	5.2	28
50	Try-once-discard scheduling for stochastic networked control systems. International Journal of Control, 2019, 92, 2532-2546.	1.9	18
51	Distributed Link Removal Using Local Estimation of Network Topology. IEEE Transactions on Network Science and Engineering, 2019, 6, 280-292.	6.4	17
52	Finite-time distributed topology design for optimal network resilience. IET Control Theory and Applications, 2019, 13, 2792-2799.	2.1	7
53	Dynamically Consistent Online Adaptation of Fast Motions for Robotic Manipulators. IEEE Transactions on Robotics, 2018, 34, 166-182.	10.3	14
54	Gaussian process for 6-DoF rigid motions. Autonomous Robots, 2018, 42, 1151-1167.	4.8	8

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55	On 3-D Formation Control With Mismatched Coordinates. IEEE Transactions on Control of Network Systems, 2018, 5, 1492-1502.	3.7	5
56	Mean Square Prediction Error of Misspecified Gaussian Process Models. , 2018, , .		11
57	Scenario-based Optimal Control for Gaussian Process State Space Models. , 2018, , .		12
58	An Optimal LQG Controller for Stochastic Event-triggered Scheduling over a Lossy Communication Network. IFAC-PapersOnLine, 2018, 51, 58-63.	0.9	6
59	An Uncertainty-Based Control Lyapunov Approach for Control-Affine Systems Modeled by Gaussian Process. , 2018, 2, 483-488.		47
60	Considering Uncertainty in Optimal Robot Control Through High-Order Cost Statistics. IEEE Transactions on Robotics, 2018, 34, 1068-1081.	10.3	7
61	Stability of Positive Switched Linear Systems: Weak Excitation and Robustness to Time-Varying Delay. IEEE Transactions on Automatic Control, 2017, 62, 399-405.	5.7	54
62	Error-dependent data scheduling in resource-aware multi-loop networked control systems. Automatica, 2017, 81, 209-216.	5.0	41
63	Event-Triggered State Estimation: An Iterative Algorithm and Optimality Properties. IEEE Transactions on Automatic Control, 2017, 62, 5939-5946.	5.7	28
64	Control sharing in human-robot team interaction. Annual Reviews in Control, 2017, 44, 342-354.	7.9	98
65	Data augmentation of wearable sensor data for parkinsonâ€™s disease monitoring using convolutional neural networks. , 2017, , .		321
66	Invariance Control for Safe Humanâ€™Robot Interaction in Dynamic Environments. IEEE Transactions on Robotics, 2017, 33, 1327-1342.	10.3	38
67	Stable Model-based Control with Gaussian Process Regression for Robot Manipulators. IFAC-PapersOnLine, 2017, 50, 3877-3884.	0.9	12
68	Bayesian uncertainty modeling for programming by demonstration. , 2017, , .		10
69	Learning stable Gaussian process state space models. , 2017, , .		22
70	Stable Gaussian process based tracking control of Lagrangian systems. , 2017, , .		18
71	Feedback linearization using Gaussian processes. , 2017, , .		35
72	Decentralized event-triggered medium access control for networked control systems. , 2016, , .		9

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73	Gaussian processes for dynamic movement primitives with application in knowledge-based cooperation. , 2016, , .		10
74	Invariance control with time-varying constraints. , 2016, , .		4
75	Stability of Gaussian process state space models. , 2016, , .		18
76	Model and Analysis of the Interaction Dynamics in Cooperative Manipulation Tasks. IEEE Transactions on Robotics, 2016, 32, 672-683.	10.3	59
77	Impedance-based Gaussian Processes for predicting human behavior during physical interaction. , 2016, , .		11
78	Formation control with mismatched compasses. Automatica, 2016, 69, 232-241.	5.0	54
79	Adaptive Decentralized MAC for Event-Triggered Networked Control Systems. , 2016, , .		11
80	Multi-robot manipulation controlled by a human with haptic feedback. , 2015, , .		14
81	Spline deformation of locally optimal trajectories: Feasibility and upper bound on control inputs. , 2015, , .		1
82	Online deformation of optimal trajectories for constrained nonprehensile manipulation. , 2015, , .		8
83	Uncertainty-dependent optimal control for robot control considering high-order cost statistics. , 2015, , .		5
84	Synthesizing Anticipatory Haptic Assistance Considering Human Behavior Uncertainty. IEEE Transactions on Robotics, 2015, 31, 180-190.	10.3	42
85	Internal Force Analysis and Load Distribution for Cooperative Multi-Robot Manipulation. IEEE Transactions on Robotics, 2015, 31, 1238-1243.	10.3	82
86	Gaussian process kernels for rotations and 6D rigid body motions. , 2014, , .		12
87	Event-triggered scheduling for stochastic multi-loop networked control systems with packet dropouts. , 2014, , .		40
88	Sampling-based trajectory imitation in constrained environments using Laplacian-RRT. , 2014, , .		2
89	Full body motion adaption based on task-space distance meshes. , 2014, , .		3
90	Dynamic Movement Primitives for cooperative manipulation and synchronized motions. , 2014, , .		19

#	ARTICLE	IF	CITATIONS
91	Price-Based Adaptive Scheduling in Multi-Loop Control Systems With Resource Constraints. IEEE Transactions on Automatic Control, 2014, 59, 3282-3295.	5.7	46
92	A bi-level approach for the design of event-triggered control systems over a shared network. Discrete Event Dynamic Systems: Theory and Applications, 2014, 24, 153-171.	1.5	26
93	An impedance-based control architecture for multi-robot cooperative dual-arm mobile manipulation. , 2013, , .		61
94	Risk-sensitive interaction control in uncertain manipulation tasks. , 2013, , .		11
95	On the Optimality of Certainty Equivalence for Event-Triggered Control Systems. IEEE Transactions on Automatic Control, 2013, 58, 470-474.	5.7	136
96	Adaptive force/velocity control for multi-robot cooperative manipulation under uncertain kinematic parameters. , 2013, , .		21
97	Dynamic strategy selection for physical robotic assistance in partially known tasks. , 2013, , .		18
98	Iterative optimal feedback control design under relaxed rigidity constraints for multi-robot cooperative manipulation. , 2013, , .		4
99	Formation-based approach for multi-robot cooperative manipulation based on optimal control design. , 2013, , .		21
100	Adaptive event-triggered control over a shared network. , 2012, , .		7
101	Stationary Consensus of Asynchronous Discrete-Time Second-Order Multi-Agent Systems Under Switching Topology. IEEE Transactions on Industrial Informatics, 2012, 8, 986-994.	11.3	100
102	Feedback motion planning and learning from demonstration in physical robotic assistance: differences and synergies. , 2012, , .		16
103	Adaptive attitude design with risk-sensitive optimal feedback control in physical human-robot interaction. , 2012, , .		3
104	Towards interactive physical robotic assistance: Parameterizing motion primitives through natural language. , 2012, , .		13
105	Topology design for distributed formation control towards optimal convergence rate. , 2012, , .		2
106	Trajectory Classification in n Dimensions using Subspace Projection. , 2012, , .		0
107	Human-preference-based control design: Adaptive robot admittance control for physical human-robot interaction. , 2012, , .		25
108	Disagreement-aware physical assistance through risk-sensitive optimal feedback control. , 2012, , .		9

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109	6D workspace constraints for physical human-robot interaction using invariance control with chattering reduction. , 2012, , .		10
110	Fast trajectory replanning using Laplacian mesh optimization. , 2012, , .		8
111	Learning and generalizing force control policies for sculpting. , 2012, , .		8
112	Accelerated iterative distributed controller synthesis with a Barzilai-Borwein step size. , 2012, , .		11
113	Analyzing human and virtual agent interaction under irrational decision making. , 2012, , .		0
114	Strategic play for a pool-playing robot. , 2012, , .		3
115	The role of roles: Physical cooperation between humans and robots. International Journal of Robotics Research, 2012, 31, 1656-1674.	8.5	216
116	Risk-Sensitive Optimal Feedback Control for Haptic Assistance. , 2012, , .		26
117	Autonomous manipulation of deformable objects based on teleoperated demonstrations. , 2012, , .		25
118	Haptic Communications. Proceedings of the IEEE, 2012, 100, 937-956.	21.3	161
119	Real-time human body motion estimation based on multi-layer laser scans. , 2011, , .		2
120	Towards an objective quality evaluation framework for haptic data reduction. , 2011, , .		22
121	Information-driven distributed coverage algorithms for mobile sensor networks. , 2011, , .		4
122	Synchronization in a goal-directed task: Human movement coordination with each other and robotic partners. , 2011, , .		20
123	State Estimation and Branch Current Learning Using Independent Local Kalman Filter With Virtual Disturbance Model. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 3026-3034.	4.7	27
124	Learning interaction control policies by demonstration. , 2011, , .		16
125	Communication topology design for large-scale interconnected systems with time delay. , 2011, , .		3
126	Optimal design of decentralized event-triggered controllers for large-scale systems with contention-based communication. , 2011, , .		26



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127	Order reduction in optimal event-triggered control design for linear stochastic systems. , 2011, , .		4
128	Playing pool with a dual-armed robot. , 2011, , .		8
129	An experience-driven robotic assistant acquiring human knowledge to improve haptic cooperation. , 2011, , .		60
130	Performance-oriented networked visual servo control with sending rate scheduling. , 2011, , .		4
131	An experience-driven robotic assistant acquiring human knowledge to improve haptic cooperation. , 2011, , .		1
132	Learning force control policies for compliant manipulation. , 2011, , .		6
133	Plan-Based Control of Joint Human-Robot Activities. KI - Kunstliche Intelligenz, 2010, 24, 223-231.	3.2	17
134	Effects of Packet Loss and Latency on the Temporal Discrimination of Visual-Haptic Events. IEEE Transactions on Haptics, 2010, 3, 28-36.	2.7	32
135	Stable teleoperation with communication unreliabilities and approximate human/environment dynamics knowledge. , 2010, , .		7
136	A switching control law for a networked visual servo control system. , 2010, , .		8
137	Biomimetic lateral-line system for underwater vehicles. , 2010, , .		9
138	Structural characterization of optimal event-based controllers for linear stochastic systems. , 2010, , .		38
139	The effect of the non-target object position on wrist motion. , 2010, , .		1
140	Interconnected performance optimization in complex robotic systems. , 2010, , .		2
141	Performance-oriented communication topology design for large-scale interconnected systems. , 2010, , .		18
142	Load sharing in human-robot cooperative manipulation. , 2010, , .		57
143	State estimation and learning of unknown branch current flows using decentralized Kalman filter with virtual disturbance model. , 2010, , .		6
144	Application of sliding mode techniques to the delay identification of nonlinear systems. , 2010, , .		0

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145	Control of Networked Systems Using the Scattering Transformation. IEEE Transactions on Control Systems Technology, 2009, 17, 60-67.	5.2	38
146	On LQG joint optimal scheduling and control under communication constraints. , 2009, , .		61
147	Performance related energy exchange in haptic human-human interaction in a shared virtual object manipulation task. , 2009, , .		41
148	Perceptual coding of haptic data in time-delayed teleoperation. , 2009, , .		28
149	Delay-independent stability of (Q, S, R)-dissipative networked systems with a distributed controller. , 2009, , .		0
150	Voronoi based coverage control with anisotropic sensors. , 2008, , .		50
151	Influence of visuomotor action on visual-haptic simultaneous perception: A psychophysical study. , 2008, , .		26
152	Stability, stabilization and experiments for networked control systems with random time delay. , 2008, , .		9
153	Intercontinental cooperative telemanipulation between Germany and Japan. , 2008, , .		5
154	Intercontinental multimodal tele-cooperation using a humanoid robot. , 2008, , .		13