Tomohisa Hayakawa

List of Publications by Year in descending order

152 papers	2,429 citations	279798 23 h-index	233421 45 g-index
155 all docs	155 docs citations	155 times ranked	1752 citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive quantized control for nonlinear uncertain systems. Systems and Control Letters, 2009, 58, 625-632.	2.3	221
2	Adaptive quantized control for linear uncertain discrete-time systems. Automatica, 2009, 45, 692-700.	5.0	188
3	A Vehicle-Intersection Coordination Scheme for Smooth Flows of Traffic Without Using Traffic Lights. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 1136-1147.	8.0	182
4	Networked Control Under Random and Malicious Packet Losses. IEEE Transactions on Automatic Control, 2017, 62, 2434-2449.	5.7	153
5	Neural Network Adaptive Control for a Class of Nonlinear Uncertain Dynamical Systems With Asymptotic Stability Guarantees. IEEE Transactions on Neural Networks, 2008, 19, 80-89.	4.2	103
6	Smart Driving of a Vehicle Using Model Predictive Control for Improving Traffic Flow. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 878-888.	8.0	98
7	An Overview on Denial-of-Service Attacks in Control Systems: Attack Models and Security Analyses. Entropy, 2019, 21, 210.	2.2	88
8	Adaptive control for non-negative and compartmental dynamical systems with applications to general anesthesia. International Journal of Adaptive Control and Signal Processing, 2003, 17, 209-235.	4.1	81
9	Adaptive control for nonlinear uncertain systems with actuator amplitude and rate saturation constraints. International Journal of Adaptive Control and Signal Processing, 2009, 23, 73-96.	4.1	70
10	Neural Network Adaptive Output Feedback Control for Intensive Care Unit Sedation and Intraoperative Anesthesia. IEEE Transactions on Neural Networks, 2007, 18, 1049-1066.	4.2	69
11	Robust adaptive control for nonlinear uncertain systems. Automatica, 2003, 39, 551-556.	5.0	62
12	LTI Systems with Generalized Frequency Variables: A Unified Framework for Homogeneous Multi-agent Dynamical Systems. SICE Journal of Control Measurement and System Integration, 2009, 2, 299-306.	0.7	52
13	Passivity-Based Neural Network Adaptive Output Feedback Control for Nonlinear Nonnegative Dynamical Systems. IEEE Transactions on Neural Networks, 2005, 16, 387-398.	4.2	49
14	Analysis of Stochastic Switched Systems With Application to Networked Control Under Jamming Attacks. IEEE Transactions on Automatic Control, 2019, 64, 2013-2028.	5.7	48
15	Development and Evaluation of an Adaptive Traffic Signal Control Scheme Under a Mixed-Automated Traffic Scenario. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 590-602.	8.0	48
16	A Lyapunov-based adaptive control framework for discrete-time non-linear systems with exogenous disturbances. International Journal of Control, 2004, 77, 250-263.	1.9	46
17	Adaptive control for nonlinear compartmental dynamical systems with applications to clinical pharmacology. Systems and Control Letters, 2006, 55, 62-70.	2.3	40
18	State-feedback control of Markov jump linear systems with hidden-Markov mode observation. Automatica, 2018, 89, 65-72.	5.0	38

#	Article	IF	Citations
19	Stability Analysis of Linear Systems with Generalized Frequency Variables and Its Applications to Formation Control. , 2007, , .		34
20	Road-Speed Profile for Enhanced Perception of Traffic Conditions in a Partially Connected Vehicle Environment. IEEE Transactions on Vehicular Technology, 2018, 67, 6824-6837.	6.3	33
21	Neural Network Adaptive Control for Nonlinear Nonnegative Dynamical Systems. IEEE Transactions on Neural Networks, 2005, 16, 399-413.	4.2	31
22	Event-Driven Stochastic Eco-Driving Strategy at Signalized Intersections From Self-Driving Data. IEEE Transactions on Vehicular Technology, 2019, 68, 8557-8569.	6.3	29
23	Randomized Transmission Protocols for Protection against Jamming Attacks in Multi-Agent Consensus. Automatica, 2020, 117, 108960.	5.0	29
24	Direct adaptive control for non-linear uncertain systems with exogenous disturbances. International Journal of Adaptive Control and Signal Processing, 2002, 16, 151-172.	4.1	25
25	Coordination of automated vehicles at a traffic-lightless intersection. , 2013, , .		25
26	Traffic Signal Control of a Road Network Using MILP in the MPC Framework. International Journal of Intelligent Transportation Systems Research, 2015, 13, 107-118.	1.1	24
27	Event-triggered control over unreliable networks subject to jamming attacks. , 2015, , .		23
28	Neural network hybrid adaptive control for nonlinear uncertain impulsive dynamical systems. Nonlinear Analysis: Hybrid Systems, 2008, 2, 862-874.	3.5	21
29	Adaptive Control of Mammillary Drug Delivery Systems with Actuator Amplitude Constraints and System Time Delays. European Journal of Control, 2005, 11, 586-600.	2.6	20
30	Event-Triggered Output Feedback Control Resilient Against Jamming Attacks and Random Packet Lossesâ—â—This work was supported in part by Japan Science and TechnologyAgency under the CREST program.. IFAC-PapersOnLine, 2015, 48, 270-275.	0.9	19
31	Formation stability of multi-agent systems with limited information. , 2008, , .		18
32	Stochastic communication protocols for multi-agent consensus under jamming attacks. , 2017, , .		18
33	Adaptive tracking for nonlinear systems with control constraints. , 2001, , .		17
34	A Stochastic Mean Field Model for an Excitatory and Inhibitory Synaptic Drive Cortical Neuronal Network. IEEE Transactions on Neural Networks and Learning Systems, 2014, 25, 751-763.	11.3	15
35	Synchronization of biological neural network systems with stochastic perturbations and time delays. Journal of the Franklin Institute, 2014, 351, 1205-1225.	3.4	14
36	Feedback control of switched stochastic systems using randomly available active mode information. Automatica, 2015, 52, 55-62.	5.0	13

#	Article	IF	Citations
37	Dynamic Resilient Network Games With Applications to Multiagent Consensus. IEEE Transactions on Control of Network Systems, 2021, 8, 246-259.	3.7	13
38	Distributed cyber attack detection for power network systems. , 2011, , .		12
39	Fuzzy-tuned model predictive control for dynamic eco-driving on hilly roads. Applied Soft Computing Journal, 2021, 99, 106875.	7.2	12
40	An adaptive control architecture for cyber-physical system security in the face of sensor and actuator attacks and exogenous stochastic disturbances. Cyber-Physical Systems, 2018, 4, 39-56.	2.0	12
41	Nash Equilibrium Seeking with Second-Order Dynamic Agents. , 2018, , .		11
42	The Effect of Time-Varying Jamming Interference on Networked Stabilization. SIAM Journal on Control and Optimization, 2018, 56, 2398-2435.	2.1	11
43	Hybrid adaptive control for non-linear uncertain impulsive dynamical systems. International Journal of Adaptive Control and Signal Processing, 2005, 19, 445-469.	4.1	10
44	Stability of stochastic systems with probabilistic mode switchings and state jumps. , 2010, , .		10
45	Stability Analysis of Nash Equilibrium for Two-Agent Loss-Aversion-Based Noncooperative Switched Systems. IEEE Transactions on Automatic Control, 2022, 67, 2505-2513.	5.7	10
46	Bi-Level Coordinated Merging of Connected and Automated Vehicles at Roundabouts. Sensors, 2021, 21, 6533.	3.8	10
47	Subgame Perfect Equilibrium Analysis for Jamming Attacks on Resilient Graphs. , 2019, , .		10
48	Adaptive Cruise Control with Look-Ahead Anticipation for Driving on Freeways. Applied Sciences (Switzerland), 2022, 12, 929.	2.5	10
49	Direct adaptive control for nonlinear uncertain systems with exogenous disturbances. , 2000, , .		9
50	Possible associations of personality traits representing harm avoidance and self-directedness with medication adherence in Japanese patients with type 2 diabetes. Journal of Pharmaceutical Health Care and Sciences, 2018, 4, 16.	1.0	9
51	Bifurcation Analysis and Tax/subsidy Approach in Noncooperative Dynamical Systems. , 2019, , .		9
52	Control of Vehicular Traffic at an Intersection Using a Cyber-Physical Multiagent Framework. IEEE Transactions on Industrial Informatics, 2021, 17, 6230-6240.	11.3	9
53	Stabilization of switched linear stochastic dynamical systems under limited mode information. , 2011, , .		8
54	A Sampled-Data Approach to Pyragas-Type Delayed Feedback Stabilization of Periodic Orbits. IEEE Transactions on Automatic Control, 2019, 64, 3748-3755.	5.7	8

#	Article	IF	Citations
55	Stable Neural Hybrid Adaptive Control for Nonlinear Uncertain Impulsive Dynamical Systems. , 0, , .		7
56	Optimal stable state-space partitioning for piecewise linear planar systems. , 2008, , .		7
57	Nash Equilibrium Seeking with Linear Time-Invariant Dynamic Agents. , 2019, , .		7
58	Direct adaptive control for nonlinear matrix second-order dynamical systems with state-dependent uncertainty. Systems and Control Letters, 2003, 48, 53-67.	2.3	6
59	Stability and stabilization of switching stochastic differential equations subject to probabilistic state jumps. , 2010, , .		6
60	Adaptive quantized control for linear uncertain systems over channels subject to packet loss. , 2010, , .		6
61	Feedback control of switched stochastic systems using uniformly sampled mode information. , 2012, , .		6
62	Stabilizing discrete-time switched linear stochastic systems using periodically available imprecise mode information. , 2013, , .		6
63	A Probabilistic Characterization of Random and Malicious Communication Failures in Multi-Hop Networked Control. SIAM Journal on Control and Optimization, 2018, 56, 3320-3350.	2.1	6
64	Stabilizing unstable periodic orbits with delayed feedback control in act-and-wait fashion. Systems and Control Letters, 2018, 113, 71-77.	2.3	6
65	Social Welfare Improvement for Noncooperative Dynamical Systems with Tax/Subsidy Approach. , 2019, , .		6
66	Adaptive control for nonlinear nonnegative dynamical systems. Automatica, 2004, 40, 1637-1642.	5.0	5
67	An adaptive control architecture for cyber-physical system security in the face of sensor and actuator attacks and exogenous stochastic disturbances. , 2017, , .		5
68	Eco-driving on Hilly Roads Using Model Predictive Control. , 2018, , .		5
69	Stability Analysis of Nash Equilibrium in Loss-Aversion-Based Noncooperative Dynamical Systems. , 2019, , .		5
70	Randomized Transmissions for Networked Control Under High-Frequency Jamming. IFAC-PapersOnLine, 2019, 52, 375-380.	0.9	5
71	Influence of Stochastic Communication Losson the Stability of a Formation of Multiple Agents. Proceedings of the American Control Conference, 2007, , .	0.0	4
72	Attitude consensus with fixed rotational axis via energy dissipation. , 2008, , .		4

#	Article	IF	Citations
73	Configuration consensus of two underactuated planar rigid bodies. , 2008, , .		4
74	Discrete-time switched stochastic control systems with randomly observed operation mode. , 2013, , .		4
75	Sampled-mode-dependent time-varying control strategy for stabilizing discrete-time switched stochastic systems. , 2014, , .		4
76	Realization of highly anticipative driving in a partially connected vehicle environment. , 2017, , .		4
77	Dynamic Resilient Network Games Considering Connectivity. , 2020, , .		4
78	Look-Ahead Driving Schemes for Efficient Control of Automated Vehicles on Urban Roads. IEEE Transactions on Vehicular Technology, 2022, 71, 1280-1292.	6.3	4
79	Delayed Feedback Control for Linear Time-Varying Periodic Systems in Act-and-Wait Fashion. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 11-16.	0.4	3
80	Incentive Based Multi-Objective Optimization in Electric Vehicle Navigation including Battery Charging. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6332-6337.	0.4	3
81	State-Dependent Jamming Interference in Networked Stabilization. , 2018, , .		3
82	Network-Wide Optimization of Traffic Signals Using Mixed Integer Programming. Journal of Robotics and Mechatronics, 2014, 26, 607-615.	1.0	3
83	Dynamic Resilient Graph Games for State-Dependent Jamming Attacks Analysis on Multi-Agent Systems. IFAC-PapersOnLine, 2020, 53, 3421-3426.	0.9	3
84	Effects of Jamming Attacks on Wireless Networked Control Systems Under Disturbance. IEEE Transactions on Automatic Control, 2023, 68, 1223-1230.	5.7	3
85	DIRECT ADAPTIVE CONTROL FOR NONLINEAR MATRIX SECONDâ€ORDER SYSTEMS WITH TIMEâ€VARYING AND SIGNâ€INDEFINITE DAMPING AND STIFFNESS OPERATORS. Asian Journal of Control, 2007, 9, 11-19.	3.0	2
86	Using congestion graphs to analyze the stability of network congestion control. , 2009, , .		2
87	Orbital formation control of multiple spacecraft. , 2010, , .		2
88	On Equivalence between Critical Probabilities of Dynamic Gossip Protocol and Static Site Percolation. SICE Journal of Control Measurement and System Integration, 2011, 4, 254-259.	0.7	2
89	Consensus Control for Underactuated Vehicles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6721-6726.	0.4	2
90	One-dimensional heat diffusion modelling and random walks on non-uniform grids. , 2012, , .		2

#	Article	IF	Citations
91	Efficient control of vehicles in congested traffic using model predictive control. , 2012, , .		2
92	Chaotic Behavior of the Folding Map on the Equilateral Triangle. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 767-772.	0.4	2
93	Stochastic heat diffusion modelling with random walks on the non-uniformly gridded circle. , 2014, , .		2
94	Sampled-data delayed feedback control for stabilizing unstable periodic orbits. , 2015, , .		2
95	Enhanced stability analysis for networked control systems under random and malicious packet losses. , 2016, , .		2
96	Efficient Criteria for Stability of Large-Scale Networked Control Systems**This work was supported in part by the NSF under grants CNS- 1302222 and IIS-1447470.. IFAC-PapersOnLine, 2016, 49, 13-18.	0.9	2
97	Traffic optimization via road pricing for queuing and flow congestion. , 2017, , .		2
98	Early Detection of a Traffic Flow Breakdown in the Freeway Based on Dynamical Network Markers. International Journal of Intelligent Transportation Systems Research, 2020, 18, 422-435.	1.1	2
99	Compartmental Modeling and Adaptive Control of Stochastic Nonnegative Systems. , 0, , 351-358.		2
100	Study of Pharmacokinetic Properties of Cyclosporine A after Subcutaneous Injection in Cynomolgus Monkey. International Journal of Pharmacology, 2014, 10, 487-493.	0.3	2
101	Hierarchical Noncooperative Systems With Dynamic Agents Under Intra-group and Inter-group Incentives. , 2021, , .		2
102	Rolling horizon games of resilient networks with non-uniform horizons. European Journal of Control, 2022, 68, 100693.	2.6	2
103	A NEW CHARACTERIZATION OF STABLE NEURAL NETWORK CONTROL FOR DISCRETE-TIME UNCERTAIN SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 324-329.	0.4	1
104	A New Characterization on the Approximation of Nonlinear Functions via Neural Networks: An Adaptive Control Perspective. , 0, , .		1
105	Formation stability of multi-agent systems with state-dependent stochastic communication loss. , 2007, , .		1
106	Stability analysis for interconnected piecewise linear planar systems. , 2010, , .		1
107	A stochastic mean field model for an excitatory and inhibitory synaptic drive cortical neuronal network. , 2012, , .		1
108	Heat diffusion modelling with random walks on triangular lattices. , 2013, , .		1

#	Article	IF	Citations
109	Chaotic dynamics of orthogonally projective triangle folding map. , 2014, , .		1
110	Random and Malicious Packet Transmission Failures on Multi-Hop Channels in Networked Control Systems**This work was supported in part by Japan Science and Technology Agency under the CREST program.. IFAC-PapersOnLine, 2016, 49, 49-54.	0.9	1
111	Adaptive Control for Linear Uncertain Discrete-Time Systems with Event-Triggered Mechanisms. IFAC-PapersOnLine, 2017, 50, 10108-10113.	0.9	1
112	Analysis of Dynamic Traffic Demand on a Paradoxical Phenomenon and Reachability With Input Constraints. , 2019, , .		1
113	Positive Invariance of Subset of Positive Externalities. , 2020, , .		1
114	A Search-Based Approach to Identifying Jamming Attacks and Defense Policies in Wireless Networked Control. , 2020, , .		1
115	Cluster Formation in Multiagent Consensus via Dynamic Resilient Graph Games. , 2021, , .		1
116	Loss-Averse Behavior May Destabilize Nash Equilibrium: Generalized Stability Results for Noncooperative Agents. , 2021, , .		1
117	DIRECT ADAPTIVE CONTROL FOR NONLINEAR UNCERTAIN SYSTEMS WITH TIME DELAY. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 31-36.	0.4	0
118	Adaptive Control for Linear Uncertain Discrete-Time Systems with Quantization and Deadzone. Proceedings of the American Control Conference, 2007, , .	0.0	0
119	Compartmental Modeling and Neural Network Control of Stochastic Nonnegative Systems. Proceedings of the American Control Conference, 2007, , .	0.0	0
120	Adaptive Dynamic Control of Nonlinear Systems With Actuator Amplitude and Rate Saturation Constraints. , 2007, , 1431.		0
121	Formation control of multi-agent systems for urban earthquake disasters: Model predictive control approach. , 2008, , .		0
122	Attitude Consensus of two underactuated spacecraft. , 2008, , .		0
123	Local-asymptotic stability of a network congestion control system using Lyapunov-Krasovskii methods. , 2008, , .		0
124	Partial asymptotic stabilization of the synchronization of two underactuated spacecraft. , 2009, , .		0
125	Stability analysis for 2-dimensional switched linear systems. , 2009, , .		0
126	Vibration analysis and motion control of stand-up robot consisting of body link, arm link and leg link. International Journal of Applied Electromagnetics and Mechanics, 2010, 33, 1431-1439.	0.6	0

#	Article	IF	Citations
127	Adaptive reduced-order dynamic compensation for nonlinear uncertain dynamical systems. , 2010, , .		0
128	Gossip protocol on the ad hoc networks and its approximated saturation. , 2010, , .		0
129	A new variable time-gap policy for circular highways. , 2010, , .		0
130	Forest fire modeling using cellular automata and percolation threshold analysis. , 2011, , .		0
131	Stability analysis for piecewise homogeneous planar systems. , 2011, , .		0
132	Configuration Consensus of Two Underactuated Planar Rigid Bodies. SICE Journal of Control Measurement and System Integration, 2011, 4, 430-438.	0.7	0
133	Stability of switched stochastic dynamical systems driven by brownian motion and Markov modulated compound Poisson process. , 2011, , .		0
134	Extended gossip protocol for diffusion of multiple messages and its percolation probability. , 2011, , .		0
135	Probability-based feedback gain scheduling for stabilizing switched linear stochastic systems under delayed sampled mode information. , 2012, , .		0
136	Synchronization of biological neural network systems with stochastic perturbations and time delays. , 2012, , .		0
137	Analysis of Critical Phenomenon on Gossip Protocol using Back-Ultradiscretization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 418-423.	0.4	0
138	Adaptive symbolic feedback for one-dimensional discrete-time uncertain systems. , 2013, , .		0
139	Extremum seeking for maximizing wind energy generation. , 2014, , .		0
140	Stability and Bifurcation Analysis of Planar Piecewise Affine Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6406-6411.	0.4	0
141	Sampled-Parameter Feedback Control of Discrete-time Linear Stochastic Parameter-Varying Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 8146-8151.	0.4	0
142	Bifurcation and Fractal of Triangle Folding Map. IFAC-PapersOnLine, 2015, 48, 99-104.	0.9	0
143	Incentive-Based Multi-objective Fractional Optimization for EV Navigation System with Successive Update. , 2015, , .		0
144	Possible involvement of distinct phylogenetic clusters of HIV-1 variants in the discrepancies between coreceptor tropism predictions based on viral RNA and proviral DNA. Journal of Pharmaceutical Health Care and Sciences, 2016, 2, 31.	1.0	0

#	Article	IF	Citations
145	Wireless Control Under Jamming Attacks with Bounded Average Interference Power * *This work was supported in part by the JST CREST Grant No. JPMJCR15K3 and by JSPS under Grant-in-Aid for Scientific Research Grant No. 15H04020.. IFAC-PapersOnLine, 2017, 50, 8405-8410.	0.9	0
146	An error-correcting code in delay linear network coding. , 2017, , .		0
147	Stabilization of Matching via Negotiation for Sharing Systems and Its Application to a Ride-Share Problem. , 2019, , .		0
148	2124 Formation Stability of Multi-Agent Systems with State-Dependent Stochastic Communication Loss. The Proceedings of the Symposium on the Motion and Vibration Control, 2007, 2007.10, 210-215.	0.0	0
149	Cooperative Adaptive Control of Heterogeneous Multi-agent Systems for Leader Tracking. Transactions of the Society of Instrument and Control Engineers, 2012, 48, 536-544.	0.2	0
150	Stochastic Heat Diffusion Modelling and the Discrete Laplace-Beltrami Operator on Non-Uniformly Gridded Closed Curves. SICE Journal of Control Measurement and System Integration, 2015, 8, 171-180.	0.7	0
151	Existence of Feasible Provisional Transfer-Based Tax/Subsidy Approach for Stabilizing Noncooperative Dynamical Systems: Graph Analysis. , 2020, , .		0
152	Rolling Horizon Games for Cluster Formation of Resilient Multiagent Systems. , 2021, , .		0