

# Hyungbo Shim

## List of Publications by Year in descending order

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157  
papers

4,358  
citations

147801

31  
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123424

61  
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157  
all docs

157  
docs citations

157  
times ranked

2613  
citing authors

#	ARTICLE	IF	CITATIONS
1	Output Consensus of Heterogeneous Uncertain Linear Multi-Agent Systems. IEEE Transactions on Automatic Control, 2011, 56, 200-206.	5.7	600
2	Consensus of high-order linear systems using dynamic output feedback compensator: Low gain approach. Automatica, 2009, 45, 2659-2664.	5.0	543
3	Adding robustness to nominal output-feedback controllers for uncertain nonlinear systems: A nonlinear version of disturbance observer. Automatica, 2008, 44, 2528-2537.	5.0	207
4	An almost necessary and sufficient condition for robust stability of closed-loop systems with disturbance observer. Automatica, 2009, 45, 296-299.	5.0	186
5	Observability for Switched Linear Systems: Characterization and Observer Design. IEEE Transactions on Automatic Control, 2013, 58, 891-904.	5.7	154
6	Semi-global observer for multi-output nonlinear systems. Systems and Control Letters, 2001, 42, 233-244.	2.3	150
7	Robust Tracking and Vibration Suppression for a Two-Inertia System by Combining Backstepping Approach With Disturbance Observer. IEEE Transactions on Industrial Electronics, 2010, 57, 3197-3206.	7.9	106
8	Consensus of output-coupled linear multi-agent systems under fast switching network: Averaging approach. Automatica, 2013, 49, 267-272.	5.0	96
9	Toward a Secure Drone System: Flying With Real-Time Homomorphic Authenticated Encryption. IEEE Access, 2018, 6, 24325-24339.	4.2	88
10	Distributed Luenberger observer design. , 2016, , .		78
11	Robust Cascade Control of Electric Motor Drives using Dual Reduced-Order PI Observer. IEEE Transactions on Industrial Electronics, 2014, , 1-1.	7.9	72
12	Yet another tutorial of disturbance observer: robust stabilization and recovery of nominal performance. Control Theory and Technology, 2016, 14, 237-249.	1.6	72
13	Nonlinear observer design via passivation of error dynamics. Automatica, 2003, 39, 885-892.	5.0	68
14	An Inner-Loop Controller Guaranteeing Robust Transient Performance for Uncertain MIMO Nonlinear Systems. IEEE Transactions on Automatic Control, 2009, 54, 1601-1607.	5.7	68
15	Stealthy Adversaries Against Uncertain Cyber-Physical Systems: Threat of Robust Zero-Dynamics Attack. IEEE Transactions on Automatic Control, 2019, 64, 4907-4919.	5.7	65
16	Asymptotic controllability and observability imply semiglobal practical asymptotic stabilizability by sampled-data output feedback. Automatica, 2003, 39, 441-454.	5.0	64
17	Robust Control of an Equipment-Added Multirotor Using Disturbance Observer. IEEE Transactions on Control Systems Technology, 2018, 26, 1524-1531.	5.2	63
18	Output feedback consensus for high-order linear systems having uniform ranks under switching topology. IET Control Theory and Applications, 2012, 6, 1118-1124.	2.1	58

#	ARTICLE	IF	CITATIONS
19	Completely Decentralized Design of Distributed Observer for Linear Systems. IEEE Transactions on Automatic Control, 2020, 65, 4664-4678.	5.7	55
20	Disturbance observer for non-minimum phase linear systems. International Journal of Control, Automation and Systems, 2010, 8, 994-1002.	2.7	52
21	Detection of Sensor Attack and Resilient State Estimation for Uniformly Observable Nonlinear Systems having Redundant Sensors. IEEE Transactions on Automatic Control, 2019, 64, 1162-1169.	5.7	51
22	Robustness of Synchronization of Heterogeneous Agents by Strong Coupling and a Large Number of Agents. IEEE Transactions on Automatic Control, 2016, 61, 3096-3102.	5.7	50
23	Embedding Internal Model in Disturbance Observer With Robust Stability. IEEE Transactions on Automatic Control, 2016, 61, 3128-3133.	5.7	46
24	On Redundant Observability: From Security Index to Attack Detection and Resilient State Estimation. IEEE Transactions on Automatic Control, 2019, 64, 775-782.	5.7	42
25	Noise Reduction Disturbance Observer for Disturbance Attenuation and Noise Suppression. IEEE Transactions on Industrial Electronics, 2017, 64, 1381-1391.	7.9	41
26	Nonlinear Observers Robust to Measurement Disturbances in an ISS Sense. IEEE Transactions on Automatic Control, 2016, 61, 48-61.	5.7	40
27	Initialization-free privacy-guaranteed distributed algorithm for economic dispatch problem. Automatica, 2019, 102, 86-93.	5.0	38
28	When adversary encounters uncertain cyber-physical systems: Robust zero-dynamics attack with disclosure resources. , 2016, , .		36
29	Model-based adaptive control system for autonomous underwater vehicles. Ocean Engineering, 2016, 127, 58-69.	4.3	35
30	Fully Distributed Resilient State Estimation Based on Distributed Median Solver. IEEE Transactions on Automatic Control, 2020, 65, 3935-3942.	5.7	35
31	Secure and robust state estimation under sensor attacks, measurement noises, and process disturbances: Observer-based combinatorial approach. , 2015, , .		34
32	Output feedback based event-triggered sliding mode control for delta operator systems. Automatica, 2019, 103, 1-10.	5.0	34
33	Further Results on Robustness of (Possibly Discontinuous) Sample and Hold Feedback. IEEE Transactions on Automatic Control, 2004, 49, 1081-1089.	5.7	33
34	Nonsmooth feedback stabilizer for strict-feedback nonlinear systems that may not be linearizable at the origin. Systems and Control Letters, 2007, 56, 742-752.	2.3	33
35	Need for Controllers Having Integer Coefficients in Homomorphically Encrypted Dynamic System. , 2018, , .		32
36	State space analysis of disturbance observer and a robust stability condition. , 2007, , .		31

#	ARTICLE	IF	CITATIONS
37	Non-linear output feedback stabilization on a bounded region of attraction. International Journal of Control, 2000, 73, 416-426.	1.9	29
38	Observability implies observer design for switched linear systems. , 2011, , .		29
39	A constrained consensus problem using MPC. International Journal of Control, Automation and Systems, 2011, 9, 952-957.	2.7	29
40	Disc margins of the discrete-time LQR and its application to consensus problem. International Journal of Systems Science, 2012, 43, 1891-1900.	5.5	29
41	A tool for analysis and synthesis of heterogeneous multi-agent systems under rank-deficient coupling. Automatica, 2020, 117, 108952.	5.0	28
42	Hybrid-type observer design based on a sufficient condition for observability in switched nonlinear systems. International Journal of Robust and Nonlinear Control, 2014, 24, 1064-1089.	3.7	24
43	Consensus of output-coupled high-order linear multi-agent systems under deterministic and Markovian switching networks. International Journal of Systems Science, 2015, 46, 1790-1799.	5.5	24
44	A system theoretic study on a treatment of AIDS patient by achieving long-term non-progressor. Automatica, 2009, 45, 611-622.	5.0	23
45	A study of disturbance observers with unknown relative degree of the plant. Automatica, 2014, 50, 1730-1734.	5.0	23
46	Recursive nonlinear observer design: beyond the uniform observability. IEEE Transactions on Automatic Control, 2003, 48, 294-298.	5.7	22
47	Reduced-order implementation of disturbance observers for robust tracking of nonlinear systems. IET Control Theory and Applications, 2014, 8, 1940-1948.	2.1	22
48	Design of stable parallel feedforward compensator and its application to synchronization problem. Automatica, 2016, 64, 208-216.	5.0	22
49	Switching adaptive output feedback model predictive control for a class of input-constrained linear plants. IET Control Theory and Applications, 2008, 2, 573-582.	2.1	20
50	A new disturbance observer for non-minimum phase linear systems. , 2008, , .		20
51	Resilient State Estimation for Control Systems Using Multiple Observers and Median Operation. Mathematical Problems in Engineering, 2016, 2016, 1-9.	1.1	20
52	Consensus of output-coupled linear multi-agent systems under frequently connected network. , 2010, , .		17
53	Adaptive Add-On Output Regulator for Rejection of Sinusoidal Disturbances and Application to Optical Disc Drives. IEEE Transactions on Industrial Electronics, 2014, 61, 5490-5499.	7.9	17
54	On distributed optimal Kalman-Bucy filtering by averaging dynamics of heterogeneous agents. , 2016, , .		16

#	ARTICLE	IF	CITATIONS
55	Detection of sensor attack and resilient state estimation for uniformly observable nonlinear systems. , 2016, , .		16
56	Neutralizing zero dynamics attack on sampled-data systems via generalized holds. Automatica, 2020, 113, 108778.	5.0	16
57	Dynamic Controller That Operates Over Homomorphically Encrypted Data for Infinite Time Horizon. IEEE Transactions on Automatic Control, 2023, 68, 660-672.	5.7	16
58	Disturbance observer approach for fuel-efficient heavy-duty vehicle platooning. Vehicle System Dynamics, 2020, 58, 748-767.	3.7	15
59	Reduced-order consensus controllers for output-coupled SISO linear systems. International Journal of Control, Automation and Systems, 2010, 8, 1356-1363.	2.7	13
60	Enhancement of security against zero dynamics attack via generalized hold. , 2017, , .		12
61	Robust feedback stabilization using high-gain observer via event triggering. International Journal of Robust and Nonlinear Control, 2020, 30, 2097-2112.	3.7	12
62	Determination of Stability With Respect to Positive Orthant for a Class of Positive Nonlinear Systems. IEEE Transactions on Automatic Control, 2008, 53, 1329-1334.	5.7	11
63	A control theoretic approach to malaria immunotherapy with state jumps. Automatica, 2011, 47, 1271-1277.	5.0	11
64	Synchronization with prescribed transient behavior: Heterogeneous multi-agent systems under funnel coupling. Automatica, 2022, 141, 110276.	5.0	11
65	An Asymptotic Ratio Characterization of Input-to-State Stability. IEEE Transactions on Automatic Control, 2015, 60, 3401-3404.	5.7	10
66	Zero-stealthy attack for sampled-data control systems: The case of faster actuation than sensing. , 2016, , .		10
67	Local Identification of Sensor Attack and Distributed Resilient State Estimation for Linear Systems. , 2018, , .		10
68	Feedback passivity approach to output feedback disturbance attenuation for uncertain nonlinear systems. International Journal of Systems Science, 2004, 35, 467-477.	5.5	9
69	Output Regulation Problem and Solution for LTV Minimum Phase Systems with Time-varying Exosystem. , 2006, , .		9
70	Back-and-forth operation of state observers and norm estimation of estimation error. , 2012, , .		9
71	A preliminary result on synchronization of heterogeneous agents via funnel control. , 2015, , .		9
72	Low-Pass Filter Property of Dynamic Output Feedback Passivation Controller. , 2006, , .		8

#	ARTICLE	IF	CITATIONS
73	A note on the differential regulator equation for non-minimum phase linear systems with time-varying exosystems. <i>Automatica</i> , 2010, 46, 605-609.	5.0	8
74	On-line switching signal estimation of switched linear systems with measurement noise. , 2013, , .		8
75	Comments on "Observability of Switched Linear Systems: Characterization and Observer Design" IEEE Transactions on Automatic Control, 2015, 60, 3396-3400.	5.7	8
76	Distributed Algorithm for the Network Size Estimation: Blended Dynamics Approach. , 2018, , .		8
77	On Improving the Robustness of Reinforcement Learning-based Controllers using Disturbance Observer. , 2019, , .		8
78	Encrypted State Estimation in Networked Control Systems. , 2019, , .		8
79	Output feedback passification for nonlinear systems. , 2000, , .		7
80	Robustness of discontinuous feedback via sample and hold control. , 2002, , .		7
81	Design of disturbance observer for non-minimum phase systems using PID controllers. , 2007, , .		7
82	Reduced-order Dynamic Observer Error Linearization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 915-920.	0.4	7
83	Linear systems with hyperbolic zero dynamics admit output regulator rejecting unknown number of unknown sinusoids. <i>IET Control Theory and Applications</i> , 2015, 9, 1472-1480.	2.1	7
84	Robust estimation algorithm for both switching signal and state of switched linear systems. <i>International Journal of Control, Automation and Systems</i> , 2017, 15, 95-103.	2.7	7
85	Formation Control Algorithm for Coupled Unicycle-Type Mobile Robots Through Switching Interconnection Topology. <i>Journal of Institute of Control, Robotics and Systems</i> , 2012, 18, 439-444.	0.2	7
86	Quasi-ISS reduced-order observers and quantized output feedback. , 2009, , .		6
87	Consensus of Multi-Agent Systems Under Periodic Time-Varying Network *. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 155-160.	0.4	6
88	Stabilizability of a group of single integrators and its application to decentralized formation problem. , 2011, , .		6
89	Rejection of polynomial-in-time disturbances via disturbance observer with guaranteed robust stability. , 2012, , .		6
90	State estimation strategy without jump detection for hybrid systems using gluing function. , 2014, , .		6

#	ARTICLE	IF	CITATIONS
91	Asymptotic rejection of sinusoidal disturbances with recovered nominal transient performance for uncertain linear systems. , 2014, , .		6
92	Observer Design for Switched Linear Systems with State Jumps. Lecture Notes in Control and Information Sciences, 2015, , 179-203.	1.0	6
93	Passification of nonlinear systems via dynamic output feedback. , 0, , .		5
94	On robust stability of disturbance observer for sampled-data systems under fast sampling: An almost necessary and sufficient condition. , 2015, , .		5
95	Distributed Algorithm for Economic Dispatch Problem With Separable Losses. , 2019, 3, 685-690.		5
96	Asymptotic stabilization of a class of nonlinear systems with long input delay in the presence of disturbance. ISA Transactions, 2019, 91, 125-134.	5.7	5
97	A Distributed Algorithm That Finds Almost Best Possible Estimate Under Non-Vanishing and Time-Varying Measurement Noise. , 2020, 4, 229-234.		5
98	Disturbance Observer based Boundary Tracking for Environment Monitoring. Journal of Electrical Engineering and Technology, 2017, 12, 1299-1306.	2.0	5
99	Passivity framework for nonlinear state observer. , 2000, , .		4
100	A dynamic output feedback control law for elastic joint robots via feedback-passivity approach. Journal of the Franklin Institute, 2004, 341, 477-490.	3.4	4
101	Robust tracking by reduced-order disturbance observer: Linear case. , 2011, , .		4
102	Finite-time stabilizing dynamic control of uncertain multi-input linear systems. IMA Journal of Mathematical Control and Information, 2011, 28, 525-537.	1.7	4
103	Tracking control for hybrid systems with state jumps using gluing function. , 2016, , .		4
104	DO-DAT: A MATLAB toolbox for design & analysis of disturbance observer. IFAC-PapersOnLine, 2018, 51, 340-345.	0.9	4
105	State Estimation and Tracking Control for Hybrid Systems by Gluing the Domains. IEEE Transactions on Automatic Control, 2019, 64, 3026-3033.	5.7	4
106	Order Reduction Paradigm for Consensus of Neutrally Stable Multi-Agent Systems. Journal of Institute of Control, Robotics and Systems, 2010, 16, 222-226.	0.2	4
107	Design of Nonlinear Disturbance Observer Guaranteeing Global Stability and Robust Stability Condition. Journal of Institute of Control, Robotics and Systems, 2011, 17, 1188-1193.	0.2	4
108	Zero-Dynamics Attack, Variations, and Countermeasures. Lecture Notes in Control and Information Sciences, 2022, , 31-61.	1.0	4

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109	Saturation technique for constructing observer of multi-output nonlinear systems. , 1999, , .		3
110	Recursive observer design beyond the uniform observability. , 0, , .		3
111	An adaptive algorithm applied to a design of robust observer. Journal of Mechanical Science and Technology, 2003, 17, 1443-1449.	0.4	3
112	Remarks on equivalence between full order and reduced order nonlinear observers. , 0, , .		3
113	ANALYSIS AND SYNTHESIS OF DISTURBANCE OBSERVER AS A TOOL FOR NONLINEAR ROBUST CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 387-394.	0.4	3
114	Global finite-time stabilization of a nonlinear system using dynamic exponent scaling. , 2008, , .		3
115	A generalized framework for robust stability analysis of discrete-time disturbance observer for sampled-data systems: A fast sampling approach. , 2015, , .		3
116	Auto-generating fuzzy system modelling of physical systems. , 2015, , .		3
117	State-space analysis of discrete-time disturbance observer for sampled-data control systems. , 2016, , .		3
118	Consensus of linear time-invariant multi-agent system over multilayer network. , 2017, , .		3
119	Practical Synchronization of Heterogeneous Multi-agent System Using Adaptive Law for Coupling Gains. , 2018, , .		3
120	Guaranteeing almost fault-free tracking performance from transient to steady-state: a disturbance observer approach. Science China Information Sciences, 2018, 61, 1.	4.3	3
121	Masking attack for sampled-data systems via input redundancy. IET Control Theory and Applications, 2019, 13, 2300-2308.	2.1	3
122	Design of Heterogeneous Multi-agent System for Distributed Computation. Lecture Notes in Control and Information Sciences, 2022, , 83-108.	1.0	3
123	Robust stabilization of nonminimum phase nonlinear systems. , 1998, , .		2
124	Locally optimal and robust backstepping design for $C^1$ vector fields. , 2007, , .		2
125	Locally optimal and globally inverse optimal controller for multi-input nonlinear systems. , 2008, , .		2
126	A note on disturbance observer with unknown relative degree of the plant. , 2012, , .		2

#	ARTICLE	IF	CITATIONS
127	Arbitrarily large gain/phase margin can be achieved by DOB-based controller. , 2016, , . Singular Perturbation for Sampled-Data Systems With Fast Subsystems * *This work was partially supported by Korea Electric Power Corporation through Korea Electrical Engineering & Science Research Institute [grant number:R15XA03-47], Global Research Laboratory Program through the NRF funded by the MSIP (2013K1A1A2A02078326), DGIST Research and Development Program (CPS Global) Tj ETQq0 0 0 rgBT /Overlock 10		2
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145	A new approach to design of a dynamic output feedback stabilizing control law for LTI systems. Journal of Mechanical Science and Technology, 2005, 19, 618-624.	1.5	0
146	Switching Adaptive Output Feedback MPC for Input-constrained Neutrally Stable Linear Plants. , 0, , .		0
147	Discussion on: "An Adaptive Gradient Law with Projection for Non-smooth Convex Boundaries" European Journal of Control, 2006, 12, 620-621.	2.6	0
148	An Inner-loop Controller Guaranteeing Robust Transient Performance for Uncertain MIMO Linear Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 3793-3798.	0.4	0
149	Consensus under time-delayed information on states and network. , 2014, , .		0
150	A preliminary result on frequency-shaped model predictive control. , 2015, , .		0
151	Recovering Nominal Tracking Performance in an Asymptotic Sense for Uncertain Linear Systems. SIAM Journal on Control and Optimization, 2018, 56, 700-722.	2.1	0
152	Disturbance Observers. , 2021, , 622-629.		0
153	Low-Pass Filter Property of an Input-Dimensional Output Feedback Passification Controller for Rotary Inverted Pendulum. IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, 2009, E92-A, 2133-2136.	0.3	0
154	Graph Connectivity-free Consensus Algorithm for State-coupled Linear Multi-agent Systems: Adaptive Approach. Journal of Institute of Control, Robotics and Systems, 2012, 18, 617-621.	0.2	0
155	On the Stability of Critical Point for Positive Systems and Its Applications to Biological Systems. Journal of Electrical Engineering and Technology, 2013, 8, 1530-1541.	2.0	0
156	Robust Stabilization of Uncertain LTI Systems via Observer Model Selection. Journal of Institute of Control, Robotics and Systems, 2014, 20, 822-827.	0.2	0
157	Biomimetic Gyroscope Integrated with Actuation Parts of a Robot Inspired by Insect Halteres. Journal of Institute of Control, Robotics and Systems, 2016, 22, 705-709.	0.2	0