Xiaoming Hu

List of Publications by Year
in descending order

193 papers	4,087 citations	236612 25 h-index	143772 57 g-index
193 all docs	193 docs citations	193 times ranked	2630 citing authors

#	Article	IF	Citations
1	Formation constrained multi-agent control. IEEE Transactions on Automation Science and Engineering, 2001, 17, 947-951.	2.4	651
2	A control Lyapunov function approach to multiagent coordination. IEEE Transactions on Automation Science and Engineering, 2002, 18, 847-851.	2.4	305
3	Consensus of multiâ€agent linear dynamic systems. Asian Journal of Control, 2008, 10, 144-155.	1.9	223
4	Control of mobile platforms using a virtual vehicle approach. IEEE Transactions on Automatic Control, 2001, 46, 1777-1782.	3.6	207
5	Drift-free attitude estimation for accelerated rigid bodies. Automatica, 2004, 40, 653-659.	3.0	189
6	An Extension of LaSalle's Invariance Principle and Its Application to Multi-Agent Consensus. IEEE Transactions on Automatic Control, 2008, 53, 1765-1770.	3.6	122
7	Distributed attitude synchronization control of multi-agent systems with switching topologies. Automatica, 2014, 50, 832-840.	3.0	117
8	Guided crowd dynamics via modified social force model. Physica A: Statistical Mechanics and Its Applications, 2014, 411, 63-73.	1.2	116
9	Modeling and simulating for congestion pedestrian evacuation with panic. Physica A: Statistical Mechanics and Its Applications, 2015, 428, 396-409.	1.2	115
10	An optimization approach to adaptive Kalman filtering. Automatica, 2011, 47, 1785-1793.	3.0	102
11	A hybrid control approach to action coordination for mobile robots. Automatica, 2002, 38, 125-130.	3.0	92
12	Sufficient conditions for connectivity maintenance and rendezvous in leaderâ€"follower networks. Automatica, 2010, 46, 133-139.	3.0	81
13	Observer-Based Leader-Following Formation Control Using Onboard Sensor Information. IEEE Transactions on Robotics, 2008, 24, 1457-1462.	7.3	71
14	Consensus and formation control on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si3.gif" display="inline" overflow="scroll"><mml:mi>S</mml:mi><mml:mi>E</mml:mi><mml:mrow><mml:mo>(</mml:mo><mml:mn>3</mml:mn><mml:mo>)</mml:mo> for switching topologies. Automatica, 2016, 66, 109-121.	3.0	59
15	Opinion consensus of modified Hegselmannâ€"Krause models. Automatica, 2014, 50, 622-627.	3.0	50
16	Nonlinear filtering in target tracking using cooperative mobile sensors. Automatica, 2010, 46, 2041-2046.	3.0	49
17	Non-regular feedback linearization of nonlinear systems via a normal form algorithm. Automatica, 2004, 40, 439-447.	3.0	47
18	Distributed sampled-data control of nonholonomic multi-robot systems with proximity networks. Automatica, 2017, 77, 170-179.	3.0	46

#	Article	IF	Citations
19	Multi-robot tracking of a moving object using directional sensors. , 2004, , .		42
20	Formation constrained multi-agent control. , 0, , .		41
21	Path planning and navigation of mobile robots in unknown environments. , 0, , .		40
22	Nonlinear state estimation for rigid-body motion with low-pass sensors. Systems and Control Letters, 2000, 40, 183-190.	1.3	39
23	Observers for systems with implicit output. IEEE Transactions on Automatic Control, 2000, 45, 168-173.	3.6	36
24	Drift-free attitude estimation for accelerated rigid bodies. , 0, , .		35
25	Consensus of high order linear multi-agent systems using output error feedback. , 2009, , .		30
26	Cooperative Minimum Time Surveillance With Multiple Ground Vehicles. IEEE Transactions on Automatic Control, 2010, 55, 2679-2691.	3.6	30
27	Stabilization of random Boolean networks. , 2010, , .		29
28	On state observers for nonlinear systems. Systems and Control Letters, 1991, 17, 465-473.	1.3	27
29	Nonlinear Observers for Unicycle Robots With Range Sensors. IEEE Transactions on Automatic Control, 2007, 52, 1325-1329.	3.6	27
30	Problems on time-varying port-controlled Hamiltonian systems: geometric structure and dissipative realization. Automatica, 2005, 41, 717-723.	3.0	25
31	OPTIMAL TARGET TRAJECTORY ESTIMATION AND FILTERING USING NETWORKED SENSORS. Journal of Systems Science and Complexity, 2008, 21, 325-336.	1.6	25
32	Epipolar Visual Servoing for Multirobot Distributed Consensus. IEEE Transactions on Robotics, 2013, 29, 1212-1225.	7.3	25
33	Design of Smart Unstaffed Retail Shop Based on IoT and Artificial Intelligence. IEEE Access, 2020, 8, 147728-147737.	2.6	25
34	Inverse optimal control for discrete-time finite-horizon Linear Quadratic Regulators. Automatica, 2019, 110, 108593.	3.0	24
35	Active state estimation of nonlinear systemsâˆ. Automatica, 2004, 40, 2075-2082.	3.0	23
36	Interval Consensus for Multiagent Networks. IEEE Transactions on Automatic Control, 2020, 65, 1855-1869.	3.6	23

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37	Distributed attitude synchronization control. , 2011, , .		22
38	Coordinated trajectory following for mobile manipulation. , 0, , .		21
39	An extension of LaSalle's Invariance Principle for a class of switched linear systems. Systems and Control Letters, 2009, 58, 754-758.	1.3	21
40	Consensus control for linear systems with optimal energy cost. Automatica, 2018, 93, 83-91.	3.0	21
41	Coordinated control with multiple dynamic leaders for uncertain Lagrangian systems via self-tuning adaptive distributed observer. International Journal of Robust and Nonlinear Control, 2017, 27, 2708-2721.	2.1	20
42	Constructive stabilization for quadratic input nonlinear systems. Automatica, 2008, 44, 1996-2005.	3.0	19
43	Consensus of linear multi-agent systems subject to actuator saturation. International Journal of Control, Automation and Systems, 2013, 11, 649-656.	1.6	19
44	Intrinsic reduced attitude formation with ring inter-agent graph. Automatica, 2017, 85, 193-201.	3.0	19
45	Credit scoring by incorporating dynamic networked information. European Journal of Operational Research, 2020, 286, 1103-1112.	3.5	19
46	Optimal output consensus for linear systems: a topology free approach. Automatica, 2016, 68, 352-356.	3.0	18
47	Finite-Time Attitude Synchronization With Distributed Discontinuous Protocols. IEEE Transactions on Automatic Control, 2018, 63, 3608-3615.	3.6	18
48	Distributed cooperative object attitude manipulation. , 2012, , .		17
49	On the Smallest Enclosing Balls. Communications in Information and Systems, 2006, 6, 137-160.	0.3	16
50	Connectivity Preserving Flocking without Velocity Measurement. Asian Journal of Control, 2013, 15, 521-532.	1.9	15
51	Connectivity maintenance and distributed tracking for double-integrator agents with bounded potential functions. International Journal of Robust and Nonlinear Control, 2015, 25, 542-558.	2.1	14
52	Exact solutions to a class of feedback systems on $\mathsf{SO}(n)$. Automatica, 2016, 63, 138-147.	3.0	14
53	Local Lyapunov Functions for Consensus in Switching Nonlinear Systems. IEEE Transactions on Automatic Control, 2017, 62, 6466-6472.	3.6	14
54	Active state estimation of nonlinear systems. Automatica, 2004, 40, 2075-2082.	3.0	13

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55	Formation Control for Mobile Robots with Limited Sensor Information. , 0, , .		13
56	Tracking control of leader-follower multi-agent systems subject to actuator saturation. IEEE/CAA Journal of Automatica Sinica, 2014, 1, 84-91.	8.5	13
57	Cooperative shift estimation of target trajectory using clustered sensors. Journal of Systems Science and Complexity, 2014, 27, 413-429.	1.6	13
58	A geodesic feedback law to decouple the full and reduced attitude. Systems and Control Letters, 2017, 102, 32-41.	1.3	13
59	Modeling and Simulation of Crowd Evacuation With Signs at Subway Platform: A Case Study of Beijing Subway Stations. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 1492-1504.	4.7	13
60	Design of evacuation strategies with crowd density feedback. Science China Information Sciences, 2016, 59, 1-11.	2.7	12
61	Relative attitude formation control of multi–agent systems. International Journal of Robust and Nonlinear Control, 2017, 27, 4457-4477.	2.1	12
62	Intrinsic tetrahedron formation of reduced attitude. Automatica, 2018, 87, 375-382.	3.0	12
63	The proportion of leaders needed for the expected consensus. Automatica, 2011, 47, 2697-2703.	3.0	11
64	Linear reachability versus global stabilization. IEEE Transactions on Automatic Control, 1999, 44, 1303-1305.	3.6	10
65	Sensor-based navigation coordination for mobile robots. , 0, , .		10
66	Synchronization of a class of networked passive systems with switching topology. , 2007, , .		10
67	New results on non-regular linearization of non-linear systems. International Journal of Control, 2007, 80, 1651-1664.	1.2	10
68	Distributed high-gain attitude synchronization using rotation vectors. Journal of Systems Science and Complexity, 2015, 28, 289-304.	1.6	10
69	A Design of Smart Unmanned Vending Machine for New Retail Based on Binocular Camera and Machine Vision. IEEE Consumer Electronics Magazine, 2022, 11, 21-31.	2.3	10
70	Contour Reconstruction and Matching Using Recursive Smoothing Splines. Lecture Notes in Control and Information Sciences, 2007, , 193-206.	0.6	10
71	Multi-robot distributed visual consensus using epipoles. , 2011, , .		9
72	Bipartite consensus strategies for coopetition networks. , 2014, , .		9

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73	Spherical cyclic formation control. , 2016, , .		9
74	Projected primalâ€"dual gradient flow of augmented Lagrangian with application to distributed maximization of the algebraic connectivity of a network. Automatica, 2018, 98, 34-41.	3.0	9
75	A differential game approach to intrinsic formation control. Automatica, 2022, 136, 110077.	3.0	9
76	Constructive Stabilization of Quadratic-Input Nonlinear Systems with Bounded Controls. Journal of Dynamical and Control Systems, 2008, 14, 571-593.	0.4	8
77	On the number of leaders needed to ensure network connectivity. , 2008, , .		8
78	The number of leaders needed for consensus. , 2009, , .		8
79	Opinion consensus of modified Hegselmann-Krause models. , 2012, , .		8
80	Distributed attitude synchronization control of multi-agent systems with directed topologies. , 2012, , .		8
81	Shaping up crowd of agents through controlling their statistical moments. , 2015, , .		8
82	Detecting community structure in networks via consensus dynamics and spatial transformation. Physica A: Statistical Mechanics and Its Applications, 2017, 483, 156-170.	1.2	8
83	Multiagent Opinion Dynamics of Bounded Confidence with Nonlocal Aggregative Interaction. SIAM Journal on Control and Optimization, 2017, 55, 2543-2573.	1.1	8
84	Hidden Markov Models: Inverse Filtering, Belief Estimation and Privacy Protection. Journal of Systems Science and Complexity, 2021, 34, 1801-1820.	1.6	8
85	MULTI-ROBOT FORMATION CONTROL AND TERRAIN SERVOING WITH LIMITED SENSOR INFORMATION. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 577-582.	0.4	7
86	A boolean control network approach to pursuit evasion problems in polygonal environments. , 2011, , .		7
87	Consensus control design for multi-agent systems using relative output feedback. Journal of Systems Science and Complexity, 2014, 27, 237-251.	1.6	7
88	An intrinsic approach to formation control of regular polyhedra for reduced attitudes. Automatica, 2020, 111, 108619.	3.0	7
89	Localization and mapping using recursive smoothing splines. , 2007, , .		6
90	Robust formation control and servoing using switching range sensors. Robotics and Autonomous Systems, 2010, 58, 1003-1016.	3.0	6

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91	Parallel simultaneous stabilization of a set of Port-Controlled Hamiltonian systems subject to actuator saturation. Journal of Systems Science and Complexity, 2011, 24, 120-139.	1.6	6
92	Cooperative Object Path Following Control by means of Mobile Manipulators: a Switched Systems Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 773-778.	0.4	6
93	Optimal pedestrian evacuation using Model Predictive Control. , 2013, , .		6
94	Distributed attitude synchronization using backstepping and sliding mode control. Control Theory and Technology, 2014, 12, 48-55.	1.0	6
95	Camera Control in Multi-Camera Systems for Video Quality Enhancement. IEEE Sensors Journal, 2014, 14, 2955-2966.	2.4	6
96	Distributed control for intrinsic reduced attitude formation with ring inter-agent graph. , 2015, , .		6
97	Distributed adaptive Kalman filter based on variational Bayesian technique. Control Theory and Technology, 2019, 17, 37-47.	1.0	6
98	Linearization of Nonlinear Systems. , 2010, , 279-313.		6
99	Estimation, Intervention and Interaction of Multi-agent Systems. Zidonghua Xuebao/Acta Automatica Sinica, 2013, 39, 1796.	0.3	6
100	Cooperative surveillance missions with multiple unmanned ground vehicles (UGVs). , 2008, , .		5
101	Minimum dwell time for stability and stabilization of switched linear systems. , 2008, , .		5
102	An optimization approach to adaptive Kalman filtering. , 2009, , .		5
103	Contour reconstruction using recursive smoothing splines - Algorithms and experimental validation. Robotics and Autonomous Systems, 2009, 57, 617-628.	3.0	5
104	Distributed Attitude Control of Multi-Agent Formations*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 4513-4518.	0.4	5
105	Estimate of Domain of Attraction for a Class of Portâ€Controlled Hamiltonian Systems Subject to Both Actuator Saturation and Disturbances. Asian Journal of Control, 2012, 14, 1108-1112.	1.9	5
106	Three-dimensional illumination procedure for photodynamic therapy of dermatology. Journal of Biomedical Optics, 2014, 19, 098003.	1.4	5
107	Leader-following formation control problem of unicycles. , 2016, , .		5
108	Exploring community structure in networks by consensus dynamics. Physica A: Statistical Mechanics and Its Applications, 2016, 450, 342-353.	1.2	5

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109	Distributed control of periodic formations for multiple under‑actuated autonomous vehicles. IET Control Theory and Applications, 2017, 11, 66-72.	1.2	5
110	Decentralized cooperative tracking subject to motion constraints. Automatica, 2018, 96, 121-126.	3.0	5
111	Seeking community structure in networks via biogeography-based optimization with consensus dynamics. Physica A: Statistical Mechanics and Its Applications, 2019, 527, 121188.	1.2	5
112	Fuzzy Hegselmann-Krause Opinion Dynamics with Opinion Leaders. , 2019, , .		5
113	On control of servo systems affected by friction forces. , 0, , .		4
114	Observer Based Leader-Following Formation Control Using On-board Sensor Information. , 2006, , .		4
115	Exact solutions to the closed loop kinematics of an almost globally stabilizing feedback law on SO(3). , 2012, , .		4
116	Distributed attitude synchronization control of multi-agent systems with time-varying topologies. , 2012, , .		4
117	Optimal leader-follower control for crowd evacuation. , 2013, , .		4
118	Interval consensus: A novel class of constrained consensus problems for multiagent networks. , 2017, , .		4
119	Pose Synchronization of Multiple Rigid Bodies Under Average Dwell Time Condition. Journal of Systems Science and Complexity, 2018, 31, 215-233.	1.6	4
120	Consistent Kalman filters for nonlinear uncertain systems over sensor networks. Control Theory and Technology, 2020, 18, 399-408.	1.0	4
121	Modeling Collective Behaviors: A Moment-Based Approach. IEEE Transactions on Automatic Control, 2021, 66, 33-48.	3.6	4
122	Stabilization of planar nonlinear systems by polynomial feedback control. Systems and Control Letters, 1994, 22, 177-185.	1.3	3
123	Stabilization of Switched Linear Systems via LaSalle's Invariance Principle. , 2007, , .		3
124	Adaptive simultaneous stabilization of two Port-Controlled Hamiltonian systems subject to actuator saturation. , 2012, , .		3
125	Analytical solutions to feedback systems on the special orthogonal group SO(n). , 2013, , .		3
126	A moment-based approach to modeling collective behaviors. , 2018, , .		3

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127	Coordination of multiple rigid bodies under distance‑induced interaction topologies. IET Control Theory and Applications, 2018, 12, 2067-2075.	1.2	3
128	Opinion consensus under external influences. Systems and Control Letters, 2018, 119, 23-30.	1.3	3
129	Optimizing Robustness of Core-Periphery Structure in Complex Networks. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 3572-3576.	2.2	3
130	Discrete-time inverse linear quadratic optimal control over finite time-horizon under noisy output measurements. Control Theory and Technology, 2021, 19, 563-572.	1.0	3
131	Extended prescribed performance control with input quantization for nonlinear systems. International Journal of Robust and Nonlinear Control, 2022, 32, 3801-3821.	2.1	3
132	Adaptive DPSD algorithm with automatic tracking of reference signal frequency. , 2003, , .		2
133	Multi-Robot Terrain Servoing with Proximity Sensors. , 0, , .		2
134	Robust Formation Adaptation for Mobile Platforms with Noisy Sensor Information. , 2006, , .		2
135	Special issue on "Collective Behavior and Control of Multi-Agent Systems" Asian Journal of Control, 2008, 10, 129-130.	1.9	2
136	Optimal target trajectory estimation and filtering using networked sensors. , 2008, , .		2
137	Synchronization of multi-agent systems with topological interaction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 14642-14647.	0.4	2
138	Analytical Solutions to a Class of Feedback Systems on SO(n). IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 445-450.	0.4	2
139	Generalized formation control for unicycles. , 2015, , .		2
140	Intrinsic formation control of regular polyhedra for reduced attitudes. , 2017, , .		2
141	A Convex Optimization Approach to Inverse Optimal Control. , 2018, , .		2
142	Identifiability and Solvability in Inverse Linear Quadratic Optimal Control Problems. Journal of Systems Science and Complexity, 2021, 34, 1840-1857.	1.6	2
143	Global Controllability of Affine Control Systems. , 2010, , 147-172.		2
144	Some results in nonlinear output regulation and feedback stabilization. International Journal of Control, 1994, 59, 1085-1093.	1.2	1

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145	Input–output behavior for stable linear systems. Journal of the Franklin Institute, 2001, 338, 497-507.	1.9	1
146	Implicit observers and active perception. , 0, , .		1
147	INPUT TRACKING FOR STABLE LINEAR SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 461-466.	0.4	1
148	Active nonlinear observers for mobile systems. , 2004, , .		1
149	Drift-free Attitude Estimation Using Quasi-linear Observers. , 0, , 321-336.		1
150	Set Stability and Controllability for Switched Non-homogeneous Linear Systems. , 2006, , .		1
151	Robust Formation Adaptation for Mobile Robots. , 2006, , .		1
152	Constructive camera pose control for optimizing multiview distributed video coding. , 2008, , .		1
153	Connectivity Constrained Multi-UGV Surveillance. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 581-586.	0.4	1
154	On the number of leaders needed to ensure network connectivity in arbitrary dimensions. , 2009, , .		1
155	Optimal Output Consensus Control for Systems of Agents with Continuous Linear Dynamics. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10050-10055.	0.4	1
156	A high level decentralized tracking algorithm for three manipulators subject to motion constraints. , 2012, , .		1
157	A transformation of the Position Based Visual Servoing Problem into a convex optimization problem. , 2012, , .		1
158	Distributed tracking and connectivity maintenance with a varying velocity leader. , 2012, , .		1
159	Attitude consensus using networks of uncalibrated cameras. , 2014, , .		1
160	A globally stabilizing hybrid control algorithm for mobile manipulation subject to joint-space constraints. , 2014, , .		1
161	Synchronization of Unicycle Robots with Proximity Communication Networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 9197-9202.	0.4	1
162	A hybrid control approach to task priority based mobile manipulation. , 2015, , .		1

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163	Observer-based leader-following tracking control under both fixed and switching topologies. Control Theory and Technology, 2016, 14, 28-38.	1.0	1
164	A singular perturbation-based design for the integrated guidance and control. , 2016, , .		1
165	Optimal control using microscopic models for a pollutant elimination problem. Journal of Systems Science and Complexity, 2017, 30, 86-100.	1.6	1
166	Autonomous control and target tracking algorithm design for a quadrotor. , 2017, , .		1
167	Finite-time attitude synchronization with a discontinuous protocol. , 2017, , .		1
168	Multi-agent Consensus by Binary-valued Communications of Relative State. , 2019, , .		1
169	Intrinsic Formation Control Under Finite-Time Differential Game Framework. , 2020, , .		1
170	Study on Attitude Measurement System for Virtual Surgery Navigation. Lecture Notes in Computer Science, 2006, , 1262-1267.	1.0	1
171	State observers of linear control systems with nonlinear outputs. , 0, , .		1
172	Credit rating analysis based on the network of trading information. Journal of Network Theory in Finance, 2019, , .	0.7	1
173	Periodic and Recursive Control Theoretic Smoothing Splines. Communications in Information and Systems, 2010, 10, 137-154.	0.3	1
174	Spherical formation of regular tetrahedra. , 2017, , .		1
175	A Note on Nonlinear State Observers. , 1991, , .		0
176	Global Nonlinear Feedback Stabilization and Nonpeaking Conditions. Automatica, 1998, 34, 1453-1454.	3.0	0
177	Navigation Coordination for Multi-agent Systems with Limited Sensor Information. , 0, , .		0
178	Nonlinear shift estimation and optimal sensor deployment for target tracking. , 2010, , .		0
179	A novel drift compensating method for orientation measurement system in VR applications. , 2012, , .		0
180	Modeling and simulating for congestion evacuation based on multi-agent approach. , 2014, , .		0

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181	Video quality improvement for multi-camera systems using camera control. , 2014, , .		0
182	The simulation of light distribution in photodynamic therapy for port wine stains. , 2014, , .		0
183	Adaptive bipartite tracking control for coopetition networks. , 2015, , .		0
184	Control algorithm design for tracking and interacting with a ground moving target using an aerial vehicle. , 2016, , .		0
185	Optimal energy consensus control for linear multi-agent systems. , 2017, , .		0
186	An Autonomous Error-Tolerant Architecture Featuring Self-reparation for Convolutional Neural Networks. , 2020, , .		0
187	Switched Systems. , 2010, , 431-508.		0
188	Design of Center Manifold. , 2010, , 315-354.		0
189	An Estimated General Cross Validation Function for Periodic Control Theoretic Smoothing Splines. Lecture Notes in Control and Information Sciences, 2010, , 95-104.	0.6	0
190	Algebra, Lie Group and Lie Algebra. , 2010, , 91-119.		0
191	Emergency management of urban rail transit systems using parallel control. WIT Transactions on the Built Environment, 2012, , .	0.0	0
192	Robust Dynamic State Feedback Regulators for Nonlinear Plants. , 1992, , .		0
193	Input Tracking and Output Fusion for Linear Systems. , 0, , 159-172.		0