

Xin Xin

List of Publications by Year in descending order

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100
papers

1,313
citations

430874

18
h-index

434195

31
g-index

102
all docs

102
docs citations

102
times ranked

877
citing authors

#	ARTICLE	IF	CITATIONS
1	Equivalent-Input-Disturbance Approach Analysis and Application to Disturbance Rejection in Dual-Stage Feed Drive Control System. IEEE/ASME Transactions on Mechatronics, 2011, 16, 330-340.	5.8	202
2	Reduced-order controllers for continuous and discrete-time singular H ∞ control problems based on LMI. Automatica, 1996, 32, 1581-1585.	5.0	74
3	Nonlinear Motion Control of Complicated Dual Rotary Crane Systems Without Velocity Feedback: Design, Analysis, and Hardware Experiments. IEEE Transactions on Automation Science and Engineering, 2020, 17, 1017-1029.	5.2	74
4	Swing-Up Control for a 3-DOF Gymnastic Robot With Passive First Joint: Design and Analysis. , 2007, 23, 1277-1285.		70
5	Control Design and Analysis for Underactuated Robotic Systems. , 2014, , .		61
6	Reduced-order stable controllers for two-link underactuated planar robots. Automatica, 2013, 49, 2176-2183.	5.0	59
7	Swing-up control based on virtual composite links for $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si22.gif" display="inline" overflow="scroll">\langle \text{mml:mi}>n\langle \text{mml:mi}>\langle \text{mml:math}>\text{-link underactuated robot with passive first joint. Automatica. 2009. 45. 1986-1994.} \rangle \rangle$	5.0	52
8	Energy-Based Swing-Up Control for a Remotely Driven Acrobot: Theoretical and Experimental Results. IEEE Transactions on Control Systems Technology, 2012, 20, 1048-1056.	5.2	51
9	New Adaptive Control Methods for n -Link Robot Manipulators With Online Gravity Compensation: Design and Experiments. IEEE Transactions on Industrial Electronics, 2022, 69, 539-548.	7.9	47
10	Analysis of the energy-based control for swinging up two pendulums. IEEE Transactions on Automatic Control, 2005, 50, 679-684.	5.7	41
11	New analytical results of energy-based swing-up control for the Pendubot. International Journal of Non-Linear Mechanics, 2013, 52, 110-118.	2.6	31
12	Estimation of Equivalent Input Disturbance Improves Vehicular Steering Control. IEEE Transactions on Vehicular Technology, 2007, 56, 3722-3731.	6.3	30
13	Controllability and Observability of an n -Link Planar Robot with a Single Actuator Having Different Actuator Sensor Configurations. IEEE Transactions on Automatic Control, 2016, 61, 1129-1134.	5.7	28
14	Nonlinear Sliding Mode Tracking Control of Underactuated Tower Cranes. International Journal of Control, Automation and Systems, 2021, 19, 1065-1077.	2.7	27
15	Reduced-order controllers for the H ∞ control problem with unstable invariant zeros. Automatica, 2004, 40, 319-326.	5.0	25
16	Linear strong structural controllability and observability of an $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="mml4" display="inline" overflow="scroll" altimg="si1.gif">\langle \text{mml:mi}>n\langle \text{mml:mi}>\langle \text{mml:math}>\text{-link underactuated revolute planar robot with active intermediate joint or joints. Automatica, 2018, 94, 436-442.} \rangle \rangle$	5.0	24
17	Trajectory tracking control of variable length pendulum by partial energy shaping. Communications in Nonlinear Science and Numerical Simulation, 2014, 19, 1544-1556.	3.3	22
18	New analytical results of the energy based swinging up control of the Acrobot. , 2004, , .		21

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19	A switched dynamical system approach towards the economic dispatch of renewable hybrid power systems. International Journal of Electrical Power and Energy Systems, 2018, 103, 440-457.	5.5	21
20	Estimation of regions of attraction of power systems by using sum of squares programming. Electrical Engineering, 2018, 100, 2205-2216.	2.0	20
21	Reduced-Order Proper H_∞ Controllers for Descriptor Systems: Existence Conditions and LMI-Based Design Algorithms. IEEE Transactions on Automatic Control, 2008, 53, 1253-1258.	5.7	18
22	A robust control approach to the swing up control problem for the Acrobot. , 0, , .		16
23	Robust consensus tracking of linear multiagent systems with input saturation and input additive uncertainties. International Journal of Robust and Nonlinear Control, 2017, 27, 2393-2409.	3.7	16
24	Disturbance estimation and rejection - an equivalent input disturbance estimator approach. , 2004, , .		15
25	Insulin Secretory Defect and Insulin Resistance in Isolated Impaired Fasting Glucose and Isolated Impaired Glucose Tolerance. Journal of Diabetes Research, 2016, 2016, 1-8.	2.3	15
26	Nonlinear Output Feedback Control of Flexible Rope Crane Systems With State Constraints. IEEE Access, 2019, 7, 136193-136202.	4.2	15
27	A Signal Compensation-Based Robust Swing-Up and Balance Control Method for the Pendubot. IEEE Transactions on Industrial Electronics, 2022, 69, 3007-3016.	7.9	15
28	A Set-Point Control for a Two-link Underactuated Robot With a Flexible Elbow Joint. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2013, 135, .	1.6	14
29	Global motion analysis of energy-based control for 3-link planar robot with a single actuator at the first joint. Nonlinear Dynamics, 2017, 88, 1749-1768.	5.2	14
30	Suboptimal model reduction for singular systems. International Journal of Control, 2004, 77, 992-1000.	1.9	13
31	Estimation of muscle activity using higher-order derivatives, static optimization, and forward-inverse dynamics. Journal of Biomechanics, 2016, 49, 2015-2022.	2.1	13
32	On simultaneous control of the energy and actuated variables of underactuated mechanical systems – example of the acrobot with counterweight. Advanced Robotics, 2013, 27, 959-969.	1.8	12
33	Event-Triggered Adaptive Fault Tolerant Control for a Class of Uncertain Nonlinear Systems. Entropy, 2020, 22, 598.	2.2	12
34	A unified solution to swing-up control for n-link planar robot with single passive joint based on virtual composite links and passivity. Nonlinear Dynamics, 2012, 67, 909-923.	5.2	9
35	Set-point control for folded configuration of 3-link underactuated gymnastic planar robot: new results beyond the swing-up control. Multibody System Dynamics, 2015, 34, 349-372.	2.7	7
36	Analysis of robust transient stability of power systems using sum of squares programming. International Journal of Electrical Power and Energy Systems, 2020, 115, 105401.	5.5	7

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37	New Results of Energy-Based Swing-up Control for a Rotational Pendulum. SICE Journal of Control Measurement and System Integration, 2011, 4, 394-400.	0.7	7
38	Event-triggered adaptive fixed-time output feedback fault tolerant control for perturbed planar nonlinear systems. International Journal of Robust and Nonlinear Control, 2021, 31, 6934-6952.	3.7	6
39	Two-Degree-of-Freedom Optimal Preview Tracking Control: A Mechatronic Design Example. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2002, 124, 704-709.	1.6	6
40	A rewinding approach to motion planning for acrobot based on virtual friction. , 2010, , .		5
41	Existence and design of reduced-order stable controllers for two-link underactuated planar robots. , 2012, , .		5
42	Analysis of synchronization phenomena of two metronomes on a cart using describing function approach. , 2015, , .		5
43	Anti-Swing control of the Pendubot using damper and spring with positive or negative stiffness. International Journal of Robust and Nonlinear Control, 2021, 31, 4227-4246.	3.7	5
44	Swing-up control for n-link planar robot with single passive joint using the notion of virtual composite links. , 2008, , .		4
45	Revisiting energy-based swing-up control for the Pendubot. , 2010, , .		4
46	Stability analysis of power systems with photovoltaic generators. , 2016, , .		4
47	Analysis of synchronization of n metronomes on a cart via describing function method: New results beyond two metronomes. , 2016, , .		4
48	New results for controllability and observability of an n-link underactuated planar robot with different actuator-sensor configurations. , 2016, , .		4
49	Necessary and sufficient conditions for linear strong structural controllability and observability of n -link underactuated planar robot with multiple active intermediate links. IET Control Theory and Applications, 2017, 11, 1873-1883.	2.1	4
50	Distributed Spatial Filtering Over Networked Systems. , 2021, 5, 617-622.		4
51	Reduced-order controllers for the discrete-time H_∞ control problem with unstable invariant zeros. , 0, , .		3
52	Can the energy and actuated variables of underactuated mechanical systems be controlled? -Example of the Acrobot with counterweight. , 2009, , .		3
53	Analytical solutions of equilibrium points of the standard Kuramoto model: 3 and 4 oscillators. , 2016, , .		3
54	New Characterization and Classification of Synchronization of Multiple Metronomes on a Cart via Describing Function Method. IFAC-PapersOnLine, 2017, 50, 9450-9455.	0.9	3

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55	Analysis of synchronization of n metronomes on a hanging plate via describing function method without assumption on amplitudes of metronomes. , 2017, , .		3
56	A Robust Control Approach for Double-Pendulum Overhead Cranes With Unknown Disturbances. , 2019, , .		3
57	Nonlinear Swing down Control of the Acrobot. IFAC-PapersOnLine, 2020, 53, 5813-5818.	0.9	3
58	The posture control of a 2-link free flying acrobot with initial angular momentum. , 0, , .		2
59	Analysis of the energy based control for swinging up two pendulums. , 0, , .		2
60	Strong solutions and maximal solutions of generalized algebraic Riccati equations. , 2008, , .		2
61	Swing-up control for a two-link underactuated robot with a flexible elbow joint: New results beyond the passive elbow joint. , 2011, , .		2
62	Optimal PD control design via dominant pole assignment for a class of TORA systems. , 2014, , .		2
63	Relationship and factors responsible for regulating fasting and postâ€challenge plasma glucose levels in the early stage development of type 2 diabetes mellitus. Journal of Diabetes Investigation, 2014, 5, 663-670.	2.4	2
64	PD control for global stabilization of an n-TORA system. , 2015, , .		2
65	Analysis of small-signal stability of power systems with photovoltaic generators. Electrical Engineering, 2019, 101, 321-331.	2.0	2
66	Characteristic Model-Based Control Approach for Complex Network Systems. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2021, 51, 3599-3607.	9.3	2
67	Mass Game Simulator: An Entertainment Application of Multiagent Control. IEEE Access, 2021, 9, 4129-4140.	4.2	2
68	Improvement of Disturbance Rejection Performance by Equivalent Input Disturbance Estimation. Transactions of the Society of Instrument and Control Engineers, 2005, 41, 797-802.	0.2	2
69	A new solution to the swing up control problem for the Acrobot. , 0, , .		1
70	A unified LMI approach to reduced-order controllers: a matrix pencil perspective. , 0, , .		1
71	Reduced-order proper H&inf>∞</inf> controllers for descriptor systems: Existence conditions and LMI-based design algorithms. , 2007, , .		1
72	Design of optimal PD control gains for a TORA: dominant pole assignment. , 2014, , .		1

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73	Simultaneous control of energy and actuated variable of 3-link planar robot with underactuation degree two and its application. , 2014, , .		1
74	Controllability and observability of n-link underactuated planar robot with multiple active intermediate links. , 2016, , .		1
75	New results of angular momentum based stabilizing control of the Acrobot. , 2017, , .		1
76	Angular Momentum based Stabilizing Control of Underactuated Multi-Link Planar Robots with Last Active Joint. , 2018, , .		1
77	Linear Controllability and Observability of n-Link Underactuated Planar Revolute Robot Moving in Constantly Rotating Frame in Horizontal Plane. , 2019, , .		1
78	Formation Control of Four-Legged Robots Using Discrete-Valued Inputs. , 2022, 6, 1088-1093.		1
79	Design of Scalable Controllers for Power Systems. IFAC-PapersOnLine, 2020, 53, 13466-13470.	0.9	1
80	Synchronization of Metronomes on a Hanging Plate. Transactions of the Institute of Systems Control and Information Engineers, 2018, 31, 400-402.	0.1	1
81	A new design of reduced-order controllers for singular H_{∞} control problems based on ARE approach. , 0, , .		0
82	H_{∞} controller order reduction due to stable invariant zeros and its application to a magnetic suspension system. , 0, , .		0
83	Equivalent-Input-Disturbance Method Improves Disturbance Rejection Performance: The MIMO Case. , 2006, , .		0
84	Teaching sampled-data H_{∞} control theory using arm robot experiment system. IEEJ Transactions on Electrical and Electronic Engineering, 2011, 6, 585-593.	1.4	0
85	Reduced-order stable stabilizing controllers for remotely driven acrobot: Existence and design method. , 2013, , .		0
86	On n-link planar revolute robot: Motion equations and new properties. , 2014, , .		0
87	On controllability and observability of an n-link planar robot with a single actuator and a single encoder having different configurations. , 2015, , .		0
88	New Results of Synchronization Condition of the Non-Uniform Kuramoto Oscillators. , 2018, , .		0
89	Analysis of Robust Transient Stability of Power Systems by using Sum of Squares programming. , 2018, , .		0
90	Characteristic Modeling and Control Approach of High-Order Nonlinear Systems. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
91	Scalable control of power systems. Electrical Engineering, 0, , 1.	2.0	0
92	Trajectory Planning for Acrobot Based on Virtual Friction. Transactions of the Society of Instrument and Control Engineers, 2008, 44, 729-734.	0.2	0
93	Swing-up Control for n-Link Planar Robot with Single Passive Joint: Design and Analysis. Transactions of the Society of Instrument and Control Engineers, 2009, 45, 251-260.	0.2	0
94	Exploration of Redundancy Underlying High Bar Movements. Biomechanisms, 2010, 20, 31-42.	0.1	0
95	B-25 Control of the Gymnastic Maneuvoir on the High Bar by Switching Inter-Joint Coordinations. The Proceedings of the Symposium on Sports and Human Dynamics, 2015, 2015, _B-25-1_-_B-25-8_.	0.0	0
96	C-17 Analysis of Bicycle Pedaling Motion Using a Two-Dimensional Closed-Link Model. The Proceedings of the Symposium on Sports and Human Dynamics, 2015, 2015, _C-17-1_-_C-17-7_.	0.0	0
97	Stable Stabilizing Controllers for Remotely Driven Acrobot: Existence and Design Methods. SICE Journal of Control Measurement and System Integration, 2015, 8, 396-403.	0.7	0
98	Parameter Identification of a Metronome Model. Transactions of the Institute of Systems Control and Information Engineers, 2017, 30, 191-196.	0.1	0
99	Analysis of synchronization of multiple identical metronomes on a cart via describing function approach. Asian Journal of Control, 0, , .	3.0	0
100	Linear controllability of two multi-link robotic systems with multiple unactuated joints. ISA Transactions, 2022, , .	5.7	0