

Ranjan Mukherjee

List of Publications by Year in descending order

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85
papers

1,389
citations

361413

20
h-index

434195

31
g-index

86
all docs

86
docs citations

86
times ranked

1054
citing authors

#	ARTICLE	IF	CITATIONS
1	Unified Impedance and Admittance Control. , 2010, , .		189
2	Motion Planning for a Spherical Mobile Robot: Revisiting the Classical Ball-Plate Problem. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2002, 124, 502-511.	1.6	94
3	Output feedback stabilization of inverted pendulum on a cart in the presence of uncertainties. Automatica, 2015, 54, 146-157.	5.0	93
4	A Hybrid System Framework for Unified Impedance and Admittance Control. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 78, 359-375.	3.4	84
5	Swing-Up Control of the Pendubot: An Impulse-Momentum Approach. IEEE Transactions on Robotics, 2009, 25, 975-982.	10.3	70
6	Optimally switched linear systems. Automatica, 2008, 44, 1437-1441.	5.0	52
7	Exponential stabilization of the rolling sphere. Automatica, 2004, 40, 1877-1889.	5.0	38
8	Design, Fabrication and Control of Spherobot: A Spherical Mobile Robot. Journal of Intelligent and Robotic Systems: Theory and Applications, 2012, 67, 117-131.	3.4	37
9	Adaptive Compensation of Sensor Runout for Magnetic Bearings With Uncertain Parameters: Theory and Experiments. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2001, 123, 211-218.	1.6	32
10	Dynamics of pipes conveying fluid with non-uniform turbulent and laminar velocity profiles. Journal of Fluids and Structures, 2010, 26, 804-813.	3.4	31
11	Flutter instability of a fluid-conveying fluid-immersed pipe affixed to a rigid body. Journal of Fluids and Structures, 2011, 27, 1086-1096.	3.4	30
12	Enlarging the Region of Attraction of Equilibria of Underactuated Systems Using Impulsive Inputs. IEEE Transactions on Control Systems Technology, 2016, 24, 334-340.	5.2	30
13	Under-Actuated Kinematic Structures for Miniature Climbing Robots. Journal of Mechanical Design, Transactions of the ASME, 2003, 125, 281-291.	2.9	29
14	Reconfiguration of a Rolling Sphere: A Problem in Evolute-Involute Geometry. Journal of Applied Mechanics, Transactions ASME, 2006, 73, 590-597.	2.2	29
15	Comparing the mathematical models of Lighthill to the performance of a biomimetic fish. Bioinspiration and Biomimetics, 2008, 3, 016002.	2.9	27
16	Impulsive Actuation in Robot Manipulators: Experimental Verification of Pendubot Swing-Up. IEEE/ASME Transactions on Mechatronics, 2014, 19, 1469-1474.	5.8	26
17	MEMS implementation of axial and follower end forces. Journal of Sound and Vibration, 2005, 286, 637-644.	3.9	25
18	Active Synthetic-Wheel Biped With Torso. IEEE Transactions on Robotics, 2010, 26, 816-826.	10.3	24

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19	Estimation of the Region of Attraction of Underactuated Systems and Its Enlargement Using Impulsive Inputs. IEEE Transactions on Robotics, 2019, 35, 618-632.	10.3	24
20	Active Vibration Control of a Flexible Beam Using a Buckling-Type End Force. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 278-286.	1.6	23
21	Vibration Suppression in Structures Using Cable Actuators. Journal of Vibration and Acoustics, Transactions of the ASME, 2010, 132, .	1.6	22
22	Modeling, Simulation, and Performance of a Synergistically Propelled Ichthyoid. IEEE/ASME Transactions on Mechatronics, 2012, 17, 36-45.	5.8	17
23	Steady-State and Transient Analysis of a Steam-Reformer Based Solid Oxide Fuel Cell System. Journal of Fuel Cell Science and Technology, 2010, 7, .	0.8	16
24	Shared-Sensing and Control Using Reversible Transducers. IEEE Transactions on Control Systems Technology, 2009, 17, 242-248.	5.2	15
25	Impulsive Dynamics and Control of the Inertia-Wheel Pendulum. IEEE Robotics and Automation Letters, 2018, 3, 3208-3215.	5.1	14
26	Vibration of a string wrapping and unwrapping around an obstacle. Journal of Sound and Vibration, 2010, 329, 2707-2715.	3.9	13
27	Modeling and simulation of the dynamics of a submersible propelled by a fluttering fluid-conveying tail. Journal of Fluids and Structures, 2013, 36, 83-110.	3.4	13
28	Sample-and-Hold Inputs for Minimum-Phase Behavior of Nonminimum-Phase Systems. IEEE Transactions on Control Systems Technology, 2016, 24, 2103-2111.	5.2	13
29	<title>Design considerations in the development of a spherical mobile robot</title>. , 2001, 4364, 61.		12
30	Apex height control of a two-mass hopping robot. , 2013, , .		12
31	Apex height control of a two-mass robot hopping on a rigid foundation. Mechanism and Machine Theory, 2016, 105, 44-57.	4.5	12
32	Orbital Stabilization of Underactuated Systems using Virtual Holonomic Constraints and Impulse Controlled Poincaré Maps. Systems and Control Letters, 2020, 146, 104813.	2.3	12
33	An algorithm for enlarging the region of attraction using trajectory reversing. , 2017, , .		11
34	Non-prehensile manipulation of a devil-stick: planar symmetric juggling using impulsive forces. Nonlinear Dynamics, 2021, 103, 2409-2420.	5.2	11
35	Enhancing Controllability and Observability in Underactuated and Undersensed Systems Through Switching: Application to Vibration Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 790-799.	1.6	10
36	Swing-up control of the acrobot: An impulse-momentum approach. , 2011, , .		10

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37	Age-dependent differences in learning to control a robot arm using a body-machine interface. Scientific Reports, 2019, 9, 1960.	3.3	10
38	Modal disparity and its experimental verification. Journal of Sound and Vibration, 2008, 311, 1465-1475.	3.9	9
39	Energy Dissipation in Dynamical Systems Through Sequential Application and Removal of Constraints. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2009, 131, .	1.6	9
40	Body-machine interface for control of a screen cursor for a child with congenital absence of upper and lower limbs: a case report. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 34.	4.6	9
41	Pushing and Steering Wheelchairs using a Holonomic Mobile Robot with a Single Arm. , 2006, , .		8
42	Vibration control of a string using a scabbard-like actuator. Journal of Sound and Vibration, 2011, 330, 2721-2732.	3.9	8
43	Asymmetric post-flutter oscillations of a cantilever due to a dynamic follower force. Journal of Sound and Vibration, 2015, 340, 253-266.	3.9	8
44	Underwater shear-based grooming of marine biofouling using a non-contact Bernoulli pad device. Biofouling, 2020, 36, 951-964.	2.2	8
45	A five degree-of-freedom body-machine interface for children with severe motor impairments. , 2017, , .		7
46	Divergence and flutter instabilities of a cantilever beam subjected to a terminal dynamic moment. Journal of Sound and Vibration, 2019, 455, 402-412.	3.9	7
47	Stabilization of Homoclinic Orbits of Two Degree-of-Freedom Underactuated Systems. , 2019, , .		7
48	Juggling a Devil-Stick: Hybrid Orbit Stabilization Using the Impulse Controlled Poincaré Map. , 2022, 6, 1304-1309.		7
49	Feedback control strategies for a nonholonomic mobile robot using a nonlinear oscillator. Journal of Field Robotics, 1999, 16, 237-248.	0.7	6
50	Power Scaling of Radial Outflow: Bernoulli Pads in Equilibrium. Journal of Fluids Engineering, Transactions of the ASME, 2019, 141, .	1.5	6
51	Control of Planar Space Robots Using Smooth and Time-Invariant Feedback.. Journal of the Robotics Society of Japan, 1998, 16, 399-406.	0.1	6
52	Class of Rotations Induced by Spherical Polygons. Journal of Guidance, Control, and Dynamics, 2000, 23, 746-749.	2.8	5
53	Efficient swing-up of the acrobot using continuous torque and impulsive braking. , 2011, , .		5
54	Performance recovery under output feedback for input nonaffine nonlinear systems. , 2012, , .		5

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55	Vibration suppression of a string through cyclic application and removal of constraints. Journal of Sound and Vibration, 2012, 331, 4395-4405.	3.9	5
56	Application of dynamic inversion with extended high-gain observers to inverted pendulum on a cart. , 2013, , .		5
57	Effect of intermediate support on critical stability of a cantilever with non-conservative loading: Some new results. Journal of Sound and Vibration, 2020, 485, 115564.	3.9	5
58	Stabilization of energy level sets of underactuated mechanical systems exploiting impulsive braking. Nonlinear Dynamics, 2021, 106, 279-293.	5.2	5
59	Enlarging the region of attraction for underactuated systems using impulsive inputs. , 2013, , .		4
60	Apex height control of a four-link hopping robot. , 2013, , .		4
61	Enlarging the Region of Attraction of equilibria of underactuated systems using Sum of Squares and Impulse Manifold Method. , 2017, , .		4
62	Swing-up of the inertia wheel pendulum using impulsive torques. , 2017, , .		4
63	Kinetic to Potential Energy Transformation Using a Spring as an Intermediary: Application to the Pole Vault Problem. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	2.2	4
64	Controlling a robotic arm for functional tasks using a wireless head-joystick: A case study of a child with congenital absence of upper and lower limbs. PLoS ONE, 2020, 15, e0226052.	2.5	4
65	Performance improvement demonstration of an NMP system using sample and hold inputs. International Journal of Dynamics and Control, 2021, 9, 109-120.	2.5	4
66	Vibration Suppression in a Simple Tension-Aligned Array Structure. AIAA Journal, 2014, 52, 504-515.	2.6	3
67	Balance maintenance of the Synthetic-Wheel Biped in the presence of impulsive disturbances. , 2011, , .		2
68	Energy-Based Orbital Stabilization of Underactuated Systems Using Impulse Controlled Poincaré Maps. , 2021, , .		2
69	An impulse-momentum approach to swing-up control of the pendubot. , 2008, , .		1
70	Two-mass robot hopping on an elastic foundation: Apex height control. , 2016, , .		1
71	Variable Structure Control of a Mass Spring Damper Subjected to a Unilateral Constraint: Application to Radio-Frequency MEMS Switches. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2018, 140, .	1.6	1
72	Force-displacement characteristics of circular-shaped massless elastica. Acta Mechanica, 2020, 231, 4585-4602.	2.1	1

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73	Ilene J. Busch-Vishniac, Electromechanical Sensors and Actuators, Springer, New York, ISBN: 0-387-98495-X (\$99.00; 341pp).. Automatica, 2005, 41, 1663-1665.	5.0	0
74	Design of Switching Laws for Shared-Sensing and Control by Reversible Transducers. Proceedings of the American Control Conference, 2007, , .	0.0	0
75	Authorsâ€™ reply to comments on “Optimally switched linear systems”. Automatica, 2009, 45, 1591.	5.0	0
76	Vibration Suppression in Space Structures Through Cyclic Application and Removal of Constraints. , 2009, , .		0
77	Design and control of an underactuated three-link rolling biped. , 2010, , .		0
78	Vibration Control of a String Using Zero-Displacement Constraint at a Point Near One Boundary: Theory and Experiment. , 2012, , .		0
79	A Simple Derivation of the Gauss-Bonet Theorem. Journal of the Astronautical Sciences, 2005, 53, 185-191.	1.5	0
80	Title is missing!. , 2020, 15, e0226052.		0
81	Title is missing!. , 2020, 15, e0226052.		0
82	Title is missing!. , 2020, 15, e0226052.		0
83	Title is missing!. , 2020, 15, e0226052.		0
84	Title is missing!. , 2020, 15, e0226052.		0
85	Title is missing!. , 2020, 15, e0226052.		0