Rajesh Rajamani

List of Publications by Year
in descending order

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		304368	161609
117	3,324	22	54
papers	citations	h-index	g-index

118	118	118	2415
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hysteresis Compensation and Nonlinear Observer Design for State-of-Charge Estimation Using a Nonlinear Double-Capacitor Li-Ion Battery Model. IEEE/ASME Transactions on Mechatronics, 2022, 27, 594-604.	3.7	17
2	Reference-free adaptive filtering of extracellular neural signals recording in ultra-high field magnetic resonance imaging scanners: Removal of periodic interferences. Biomedical Signal Processing and Control, 2022, 71, 102758.	3.5	1
3	A novel algorithm to track closely spaced road vehicles using a low density flash lidar. Signal Processing, 2022, 191, 108360.	2.1	4
4	Nonlinear observer for electromagnetic position estimation using active current control. Mechanical Systems and Signal Processing, 2022, 167, 108449.	4.4	2
5	Vehicle Counting and Maneuver Classification With Support Vector Machines Using Low-Density Flash Lidar. IEEE Transactions on Vehicular Technology, 2022, 71, 86-97.	3.9	4
6	3-D Electromagnetic Position Estimation System Using High-Magnetic-Permeability Metal for Continuum Medical Robots. IEEE Robotics and Automation Letters, 2022, 7, 2581-2588.	3.3	6
7	Toward Completely Sampled Extracellular Neural Recording During fMRI. IEEE Transactions on Medical Imaging, 2022, 41, 1735-1746.	5.4	2
8	Estimation of Three-Dimensional Thoracoabdominal Displacements During Respiration Using Inertial Measurement Units. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4224-4234.	3.7	6
9	LMI-Based Observer Design for Non-Globally Lipschitz Systems Using Kirszbraunâ€“Valentine Extension Theorem. , 2022, 6, 2617-2622.		6
10	Electromagnetic Angular Position Sensing Using High-Magnetic-Permeability Materials. IEEE Sensors Journal, 2022, 22, 11626-11636.	2.4	0
11	Observer Design for Non-Globally Lipschitz Nonlinear Systems Using Hilbert Projection Theorem. , 2022, 6, 2581-2586.		3
12	An LMI-based discrete time nonlinear observer for Light-Emitting Diode optical communication. Automatica, 2022, 141, 110309.	3.0	3
13	An Instrumented Urethral Catheter with a Distributed Array of Iontronic Force Sensors. Annals of Biomedical Engineering, 2021, 49, 149-161.	1.3	5
14	Low-Density Lidar Based Estimation System for Bicycle Protection. IEEE Transactions on Intelligent Vehicles, 2021, 6, 67-77.	9.4	10
15	Simultaneous Cyber-Attack Detection and Radar Sensor Health Monitoring in Connected ACC Vehicles. IEEE Sensors Journal, 2021, 21, 15741-15752.	2.4	19
16	Vibrotactile perception in Dupuytren disease. Journal of Plastic Surgery and Hand Surgery, 2021, 55, 32-40.	0.4	0
17	A Low-Profile Supercapacitor-Based Normal and Shear Force Sensor. IEEE Sensors Journal, 2021, 21, 239-249.	2.4	10
18	On Using a Low-Density Flash Lidar for Road Vehicle Tracking. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2021, 143, .	0.9	3

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19	Finite-time estimation algorithms for LPV discrete-time systems with application to output feedback stabilization. Automatica, 2021, 125, 109436.	3.0	5
20	Online state estimation for a physics-based Lithium-Sulfur battery model. Journal of Power Sources, 2021, 489, 229495.	4.0	20
21	Novel Composite Gold-Aluminum Electrode with Application to Neural Recording and Stimulation in Ultrahigh Field Magnetic Resonance Imaging Scanners. Annals of Biomedical Engineering, 2021, 49, 2337-2348.	1.3	1
22	Hysteresis Compensation in State-of-Charge Estimation with a Nonlinear Double-Capacitor Li-Ion Battery Model. , 2021, , .		1
23	Magnetic position estimation using optimal sensor placement and nonlinear observer for smart actuators. Control Engineering Practice, 2021, 112, 104817.	3.2	8
24	Step length estimation with wearable sensors using a switched-gain nonlinear observer. Biomedical Signal Processing and Control, 2021, 69, 102822.	3.5	9
25	Simultaneous State Estimation and Tire Model Learning for Autonomous Vehicle Applications. IEEE/ASME Transactions on Mechatronics, 2021, 26, 1941-1950.	3.7	7
26	A Smart Bicycle That Protects Itself: Active Sensing and Estimation for Car-Bicycle Collision Prevention. IEEE Control Systems, 2021, 41, 28-57.	1.0	4
27	Smartphone localization inside a moving car for prevention of distracted driving. Vehicle System Dynamics, 2020, 58, 290-306.	2.2	7
28	Electromagnetic Position Estimation Using Active Current Control and Nonlinear Observer. , 2020, , .		2
29	Hybrid nonlinear observer for battery state-of-charge estimation using nonmonotonic force measurements. Advanced Control for Applications, 2020, 2, e38.	0.8	4
30	On the need for switched-gain observers for non-monotonic nonlinear systems. Automatica, 2020, 114, 108814.	3.0	36
31	Observer-Based Deconvolution of Deterministic Input in Coprime Multichannel Systems With Its Application to Noninvasive Central Blood Pressure Monitoring. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2020, 142, 091006.	0.9	1
32	A Switched-Gain Nonlinear Observer for LED Optical Communication. IFAC-PapersOnLine, 2020, 53, 4941-4946.	0.5	2
33	Adaptive virtual referencing for the extraction of extracellularly recorded action potentials in noisy environments. Journal of Neural Engineering, 2020, 17, 056011.	1.8	2
34	Magnetic sensor-based simultaneous state and parameter estimation using a nonlinear observer. International Journal of Control, 2019, 92, 2639-2646.	1.2	1
35	Electromagnetic Position Measurement System Immune to Ferromagnetic Disturbances. IEEE Sensors Journal, 2019, 19, 9662-9671.	2.4	3
36	Robust $$mathcal{H}_infty$$ Observer-based Stabilization of Linear Discrete-time Systems with Parameter Uncertainties. International Journal of Control, Automation and Systems, 2019, 17, 2261-2273.	1.6	2

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37	Active Sensing on a Bicycle for Simultaneous Search and Tracking of Multiple Rear Vehicles. IEEE Transactions on Vehicular Technology, 2019, 68, 5295-5308.	3.9	6
38	A remote position sensing method based on passive high magnetic permeability thin films. Sensors and Actuators A: Physical, 2019, 295, 217-223.	2.0	4
39	Observer design of descriptor nonlinear system with nonlinear outputs by using <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:msup><mml:mrow><mml:mi mathvariant="bold-script">W</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mml:mo>,</mml:mo><mml:mn>2</mml:mn> criterion. Journal of the Franklin Institute, 2019, 356, 3531-3553.	1.9	1
40	Robust Data-Driven Neuro-Adaptive Observers With Lipschitz Activation Functions. , 2019, , .		10
41	Linear Position Estimation on Smart Actuators Using a Nonlinear Observer. , 2019, , .		3
42	On-Bicycle Vehicle Tracking at Traffic Intersections Using Inexpensive Low-Density Lidar. , 2019, , .		3
43	Vehicle Tracking for Heavy Road Vehicle Collision Avoidance with an Inexpensive Solid State Laser Sensor. , 2019, , .		4
44	High-Gain Nonlinear Observer With Lower Tuning Parameter. IEEE Transactions on Automatic Control, 2019, 64, 3194-3209.	3.6	46
45	Tracking of Vehicle Motion on Highways and Urban Roads Using a Nonlinear Observer. IEEE/ASME Transactions on Mechatronics, 2019, 24, 644-655.	3.7	36
46	Supercapacitive Strain Sensor With Ultrahigh Sensitivity and Range. , 2019, 3, 1-4.		4
47	Direction cosine matrix estimation with an inertial measurement unit. Mechanical Systems and Signal Processing, 2018, 109, 268-284.	4.4	22
48	Sequential LMI approach for the design of a BMIâ€based robust observer state feedback controller with nonlinear uncertainties. International Journal of Robust and Nonlinear Control, 2018, 28, 1246-1260.	2.1	30
49	Carbon nano-structured neural probes show promise for magnetic resonance imaging applications. Biomedical Physics and Engineering Express, 2018, 4, 015001.	0.6	6
50	Paper-Based Supercapacitive Mechanical Sensors. Scientific Reports, 2018, 8, 16284.	1.6	20
51	Computation of Magnetic Field Distortions and Impact on T ₂ *-weighted MRI, with Applications to Magnetic Susceptibility Parameter Estimation. Biomedical Physics and Engineering Express, 2018, 4, 045029.	0.6	3
52	A sequential LMI approach to design a BMI-based multi-objective nonlinear observer. European Journal of Control, 2018, 44, 50-57.	1.6	5
53	Magnetic Position Estimation in Ferromagnetic Systems Involving Significant Hysteresis. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1555-1563.	3.7	9
54	Wearable Water Content Sensor Based on Ultrasound and Magnetic Sensing. Annals of Biomedical Engineering, 2018, 46, 2079-2090.	1.3	1

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55	Multi-Objective Nonlinear Observer Design using BMIs. , 2018, , .		1
56	Rear Vehicle Tracking on a Bicycle Using Active Sensor Orientation Control. IEEE Transactions on Intelligent Transportation Systems, 2018, 19, 2638-2649.	4.7	20
57	On Addressing Hysteresis in Magnetic Position Estimation. , 2018, , .		0
58	Nonlinear Observer for Vehicle Motion Tracking. , 2018, , .		7
59	Adaptive Dipole Model Based Disturbance Compensation in Nonlinear Magnetic Position Systems. IEEE/ASME Transactions on Mechatronics, 2017, 22, 794-803.	3.7	10
60	Instrumented urethral catheter and itsex vivovalidation in a sheep urethra. Measurement Science and Technology, 2017, 28, 035702.	1.4	4
61	Circle criterion-based <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" id="mml22" display="inline" overflow="scroll" altimg="si22.gif"><mml:msub><mml:mrow><mml:mi>â„</mml:mi></mml:mrow><mml:mrow><mml:mi>âˆž</mml:mi></mml:mrow></mml:msub></mml:math> observer design for Lipschitz and monotonic nonlinear systems â€“ Enhanced LMI conditions and constructive discussions. Automatica, 2017, 85, 412-425.	3.0	58
62	Observers for Nonlinear Systems : Part 2: An Overview of the Special Issue. IEEE Control Systems, 2017, 37, 30-32.	1.0	3
63	Observer Design for Parameter Varying Differentiable Nonlinear Systems, With Application to Slip Angle Estimation. IEEE Transactions on Automatic Control, 2017, 62, 1940-1945.	3.6	32
64	Transparent Flexible Active Faraday Cage Enables In Vivo Capacitance Measurement in Assembled Microsensor. , 2017, 1, 1-4.		6
65	Novel Supercapacitor-Based Force Sensor Insensitive to Parasitic Noise. , 2017, 1, 1-4.		12
66	Two-dimensional active sensing system for bicyclist-motorist crash prediction. , 2017, , .		1
67	ON THE DIFFERENCE BETWEEN BOUNDED JACOBIAN AND LIPSCHITZ OBSERVERS FOR NONLINEAR ESTIMATION APPLICATIONS. Transactions of the Canadian Society for Mechanical Engineering, 2017, 41, 395-415.	0.3	3
68	Modeling and estimation for a wearable size sensor to monitor lower leg swelling. , 2016, , .		0
69	Note: Development of leg size sensors for fluid accumulation monitoring. Review of Scientific Instruments, 2016, 87, 056109.	0.6	2
70	Modeling of magnetic fields on a cylindrical surface and associated parameter estimation for development of a size sensor. Measurement Science and Technology, 2016, 27, 115006.	1.4	3
71	Feasibility analysis of the bilinear matrix inequalities with an application to multi-objective nonlinear observer design. , 2016, , .		8
72	A novel collision avoidance system for bicycles. , 2016, , .		6

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73	Improved auscultation with a stethoscope using model inversion for unknown input estimation. , 2016, , .		1
74	Wearable Coplanar Capacitive Sensor for Measurement of Water Contentâ€"A Preliminary Endeavor1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.4	3
75	High-voltage thin-film supercapacitor with nano-structured electrodes and novel architecture. Technology, 2016, 04, 55-59.	1.4	3
76	Piezoelectric active sensing system for crack detection in concrete structure. Journal of Civil Structural Health Monitoring, 2016, 6, 129-139.	2.0	24
77	Nonlinear observer design for a magnetic position estimation technique. , 2015, , .		6
78	Disturbance estimation in novel non-intrusive magnetic position measurement system. , 2015, , .		0
79	Magnetic Sensor-Based Large Distance Position Estimation With Disturbance Compensation. IEEE Sensors Journal, 2015, 15, 4249-4258.	2.4	12
80	Flexible Distributed Pressure Sensing Strip for a Urethral Catheter. Journal of Microelectromechanical Systems, 2015, 24, 1840-1847.	1.7	11
81	Bridge Life Extension Using Semiactive Vibration Control. IEEE/ASME Transactions on Mechatronics, 2015, 20, 207-216.	3.7	14
82	Dynamic model for automotive side impact crashes. Vehicle System Dynamics, 2014, 52, 875-890.	2.2	1
83	Nature-inspired position determination using inherent magnetic fields. Technology, 2014, 02, 161-170.	1.4	8
84	Observer design for differentiable Lipschitz nonlinear systems with time-varying parameters. , 2014, , .		17
85	Two-Dimensional Sensor System for Automotive Crash Prediction. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 178-190.	4.7	14
86	Portable Roadside Sensors for Vehicle Counting, Classification, and Speed Measurement. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 73-83.	4.7	131
87	Real-Time Estimation of Rollover Index for Tripped Rollovers With a Novel Unknown Input Nonlinear Observer. IEEE/ASME Transactions on Mechatronics, 2014, 19, 743-754.	3.7	51
88	Non-Intrusive Piston Position Measurement System Using Magnetic Field Measurements. IEEE Sensors Journal, 2013, 13, 3106-3114.	2.4	31
89	Zero-Energy Active Suspension System for Automobiles With Adaptive Sky-Hook Damping. Journal of Vibration and Acoustics, Transactions of the ASME, 2013, 135, .	1.0	32
90	Novel non-intrusive sensor for piston position measurement. , 2013, , .		1

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91	New Rollover Index for the Detection of Tripped and Untripped Rollovers. IEEE Transactions on Industrial Electronics, 2013, 60, 4726-4736.	5.2	70
92	Measurement of Tension in a String Using an Array of Capacitive Force Sensors. IEEE Sensors Journal, 2013, 13, 792-800.	2.4	10
93	Seatbelt and seatback control for occupant protection in frontal automotive collisions. Vehicle System Dynamics, 2013, 51, 1467-1488.	2.2	1
94	Flexible Microtactile Sensor for Normal and Shear Elasticity Measurements. IEEE Transactions on Industrial Electronics, 2012, 59, 4907-4913.	5.2	38
95	Invisible speakers in home windows for simultaneous auxiliary audio playback and active noise cancellation. Mechatronics, 2012, 22, 1031-1042.	2.0	8
96	Vehicle Dynamics and Control. Mechanical Engineering Series, 2012, , .	0.1	1,408
97	Nonlinear Observer for Bounded Jacobian Systems, With Applications to Automotive Slip Angle Estimation. IEEE Transactions on Automatic Control, 2011, 56, 1163-1170.	3.6	119
98	Handheld Microtactile Sensor for Elasticity Measurement. IEEE Sensors Journal, 2011, 11, 1935-1942.	2.4	26
99	Capacitance ratio estimation on a novel MEMS tactile sensor for elasticity measurement. , 2011, , .		3
100	Closed-loop snowplow applicator control using road condition measurements. Vehicle System Dynamics, 2011, 49, 625-638.	2.2	2
101	Estimation of Tire-Road Friction Coefficient Using a Novel Wireless Piezoelectric Tire Sensor. IEEE Sensors Journal, 2011, 11, 267-279.	2.4	106
102	Directional Sound for Long-Distance Auditory Warnings From a Highway Construction Work Zone. IEEE Transactions on Vehicular Technology, 2010, 59, 2266-2276.	3.9	3
103	Novel Batteryless Wireless Sensor for Traffic-Flow Measurement. IEEE Transactions on Vehicular Technology, 2010, 59, 3249-3260.	3.9	17
104	Tire-Road Friction-Coefficient Estimation. IEEE Control Systems, 2010, 30, 54-69.	1.0	131
105	A Novel Real-Time Capacitance Estimation Methodology for Battery-Less Wireless Sensor Systems. IEEE Sensors Journal, 2010, 10, 1647-1657.	2.4	12
106	Ultra-Low Power Control System for Maximal Energy Harvesting From Short Duration Vibrations. IEEE Transactions on Control Systems Technology, 2010, 18, 252-266.	3.2	12
107	Dynamic Model Inversion Techniques for Breath-by-Breath Measurement of Carbon Dioxide from Low Bandwidth Sensors. IEEE Sensors Journal, 2010, 10, 1637-1646.	2.4	11
108	Adaptive Vibration Cancellation for Tire-Road Friction Coefficient Estimation on Winter Maintenance Vehicles. IEEE Transactions on Control Systems Technology, 2010, 18, 1023-1032.	3.2	13

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109	Multi-objective coordinated control for advanced adaptive cruise control system. , 2009, , .		14
110	Friction coefficient measurement for autonomous winter road maintenance. Vehicle System Dynamics, 2009, 47, 497-512.	2.2	25
111	Flexible Tactile Sensor for Tissue Elasticity Measurements. Journal of Microelectromechanical Systems, 2009, 18, 1226-1233.	1.7	59
112	Discussion on: â€œHybrid Parameter-varying Model Predictive Control for Autonomous Vehicle Steeringâ€• European Journal of Control, 2008, 14, 434-436.	1.6	1
113	On the Use of Torque-Biasing Systems for Electronic Stability Control: Limitations and Possibilities. IEEE Transactions on Control Systems Technology, 2007, 15, 581-589.	3.2	50
114	Active Control of Sound Transmission Through Windows With Carbon Nanotube-Based Transparent Actuators. IEEE Transactions on Control Systems Technology, 2007, 15, 704-714.	3.2	14
115	Structural vibration control for broadband noise attenuation in enclosures. Journal of Mechanical Science and Technology, 2005, 19, 1414-1423.	0.7	4
116	Friction Estimation on Highway Vehicles Using Longitudinal Measurements. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 265-275.	0.9	149
117	Sensor fault diagnostics for a class of non-linear systems using linear matrix inequalities. International Journal of Control, 2004, 77, 920-930.	1.2	53