Roberto Oboe

List of Publications by Year
in descending order

151 papers	2,868 citations	279778 23 h-index	206102 48 g-index
161 all docs	161 docs citations	161 times ranked	2182 citing authors

#	Article	IF	Citations
1	Sensorless full-digital PMSM drive with EKF estimation of speed and rotor position. IEEE Transactions on Industrial Electronics, 1999, 46, 184-191.	7.9	505
2	Disturbance Observer-Based Robust Control and Its Applications: 35th Anniversary Overview. IEEE Transactions on Industrial Electronics, 2020, 67, 2042-2053.	7.9	284
3	A Design and Control Environment for Internet-Based Telerobotics. International Journal of Robotics Research, 1998, 17, 433-449.	8.5	179
4	Towards Tactile Sensing System on Chip for Robotic Applications. IEEE Sensors Journal, 2011, 11, 3216-3226.	4.7	126
5	Stability Analysis and Practical Design Procedure of Time Delayed Control Systems With Communication Disturbance Observer. IEEE Transactions on Industrial Informatics, 2008, 4, 185-197.	11.3	121
6	Energy-Efficient Autonomous Solar Water-Pumping System for Permanent-Magnet Synchronous Motors. IEEE Transactions on Industrial Electronics, 2017, 64, 43-51.	7.9	119
7	Maximum-Torque-Per-Ampere Operation of Anisotropic Synchronous Permanent-Magnet Motors Based on Extremum Seeking Control. IEEE Transactions on Industrial Electronics, 2014, 61, 5086-5093.	7.9	111
8	Automatic Mode Matching in MEMS Vibrating Gyroscopes Using Extremum-Seeking Control. IEEE Transactions on Industrial Electronics, 2009, 56, 3880-3891.	7.9	83
9	Experimental Analysis of an Internet-Based Bilateral Teleoperation System With Motion and Force Scaling Using a Model Predictive Controller. IEEE Transactions on Industrial Electronics, 2008, 55, 3290-3299.	7.9	80
10	Architectures for shared haptic virtual environments. Computers and Graphics, 1997, 21, 421-429.	2.5	69
11	Web-interfaced, force-reflecting teleoperation systems. IEEE Transactions on Industrial Electronics, 2001, 48, 1257-1265.	7.9	67
12	Control of a<tex>Z</tex>-Axis MEMS Vibrational Gyroscope. IEEE/ASME Transactions on Mechatronics, 2005, 10, 364-370.	5.8	63
13	A low-power 3-axis digital-output MEMS gyroscope with single drive and multiplexed angular rate readout. , 2011, , .		51
14	Acceleration Measurement Drift Rejection in Motion Control Systems by Augmented-State Kinematic Kalman Filter. IEEE Transactions on Industrial Electronics, 2016, 63, 1953-1961.	7.9	50
15	Enhanced Low-Speed Operations for Sensorless Anisotropic PM Synchronous Motor Drives by a Modified Back-EMF Observer. IEEE Transactions on Industrial Electronics, 2018, 65, 3069-3076.	7.9	43
16	Force-reflecting teleoperation over the internet: the JBIT project. Proceedings of the IEEE, 2003, 91, 449-462.	21.3	41
17	Disturbance Observer and Kalman Filter Based Motion Control Realization. IEEJ Journal of Industry Applications, 2018, 7, 1-14.	1.1	39
18	Benefits of Direct Phase Voltage Measurement in the Rotor Initial Position Detection for Permanent-Magnet Motor Drives. IEEE Transactions on Industrial Electronics, 2015, 62, 6719-6726.	7.9	36

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19	Haptic-Based Neurorehabilitation in Poststroke Patients: A Feasibility Prospective Multicentre Trial for Robotics Hand Rehabilitation. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-12.	1.3	34
20	Issues on Internet-Based Teleoperation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 591-597.	0.4	30
21	Hard disk drive with voltage-driven voice coil motor and model-based control. IEEE Transactions on Magnetics, 2005, 41, 784-790.	2.1	30
22	Hierarchical Scaled-States Direct Predictive Control of Synchronous Reluctance Motor Drives. IEEE Transactions on Industrial Electronics, 2016, , 1-1.	7.9	30
23	Open loop compensation of the quadrature error in MEMS vibrating gyroscopes. , 2009, , .		28
24	Exploring the Potential of MEMS Gyroscopes: Successfully Using Sensors in Typical Industrial Motion Control Applications. IEEE Industrial Electronics Magazine, 2012, 6, 14-24.	2.6	27
25	Track-Following Control With Active Vibration Damping of a PZT-Actuated Suspension Dual-Stage Servo System. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 568-576.	1.6	25
26	Advanced Motion Control for Next-Generation Industrial Applications. IEEE Transactions on Industrial Electronics, 2016, 63, 1886-1888.	7.9	23
27	Analysis and Design of Time Delayed Control Systems with Communication Disturbance Observer. , 2007, , .		22
28	A Multi-Instrument, Force-Feedback Keyboard. Computer Music Journal, 2006, 30, 38-52.	0.1	21
29	The SPES multi-foil direct target. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 4257-4260.	1.4	20
30	Advanced current control of synchronous reluctance motors. , 2017, , .		20
31	Online Stator Resistance Tracking for Reluctance and Interior Permanent Magnet Synchronous Motors. IEEE Transactions on Industry Applications, 2018, 54, 3405-3414.	4.9	19
32	Impedance Field Expression of Bilateral Control for Reducing Data Traffic in Haptic Transmission. IEEE Transactions on Industrial Electronics, 2019, 66, 1142-1150.	7.9	18
33	Robust Time Delayed Control Systems with Communication Disturbance Observer. , 2007, , .		17
34	A simulation and control design environment for single-stage and dual-stage hard disk drives. IEEE/ASME Transactions on Mechatronics, 2002, 7, 161-170.	5.8	15
35	Neuronal Avalanches Across the Rat Somatosensory Barrel Cortex and the Effect of Single Whisker Stimulation. Frontiers in Systems Neuroscience, 2021, 15, 709677.	2.5	15
36	Robust bilateral generalized predictive control for teleoperation systems. , 2007, , .		13

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37	Theory and implementation of a MTPA tracking controller for anisotropic PM motor drives. , 2012, , .		12
38	Development of a Human Assistive Robot to Support Hip Joint Movement During Sit-to-stand Using Non-linear Springs. IEEJ Journal of Industry Applications, 2016, 5, 261-266.	1.1	12
39	High-Precision Dual-Stage Pointing Mechanism for Miniature Satellite Laser Communication Terminals. IEEE Transactions on Industrial Electronics, 2021, 68, 776-785.	7.9	12
40	A LSTM Neural Network applied to Mobile Robots Path Planning. , 2018, , .		11
41	Cooperative Optimization of UAVs Formation Visual Tracking. Robotics, 2019, 8, 52.	3.5	11
42	External Force Estimation in Linear Series Elastic Actuator Without Load-Side Encoder. IEEE Transactions on Industrial Electronics, 2021, 68, 861-870.	7.9	11
43	Use of load-side MEMS accelerometers in servo positioning of two-mass-spring systems. , 2015, , .		10
44	Robustness on Model Error of Time Delayed Control Systems with Communication Disturbance Observer-Verification on an Example Constructed by Double Integration Controlled Object and PD Controller-. IEEJ Transactions on Industry Applications, 2008, 128, 709-717.	0.2	10
45	A General Framework for Designing SISO-Based Motion Controller With Multiple Sensor Feedback. IEEE Transactions on Industrial Electronics, 2016, 63, 7607-7620.	7.9	9
46	Fast Force Control without Force Sensor Using Combination of aaKF and RFOB for In-circuit Test with Probing System. IEEJ Journal of Industry Applications, 2019, 8, 152-159.	1.1	9
47	Disturbance rejection in hard disk drives with multi-rate estimated state feedback. Control Engineering Practice, 2004, 12, 1409-1421.	5.5	8
48	Development and characterization of touch sensing devices for robotic applications. , 2009, , .		8
49	Use of MEMS Inertial Sensors for Performance Improvement of Low-cost Motion Control Systems. IEEJ Journal of Industry Applications, 2016, 5, 78-89.	1.1	8
50	A 2.5-rad/s/sup 2/ resolution digital output MEMS-based rotational accelerometer for HDD applications. IEEE Transactions on Magnetics, 2003, 39, 915-919.	2.1	7
51	A novel structure of time delayed control systems with communication disturbance observer. , 2008, , .		7
52	Design of a haptic device for finger and hand rehabilitation. , 2010, , .		7
53	Development of a haptic teleoperation system for remote motor and functional evaluation of hand in patients with neurological impairments. , 2010, , .		7
54	Torque Ripple Minimization in Hybrid Stepper Motors Using Acceleration Measurements1. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10349-10354.	0.4	7

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55	How disturbance observer changed my life. , 2018, , .		7
56	Time-Critical Wireless Networked Embedded Systems: Feasibility and Experimental Assessment. IEEE Transactions on Industrial Informatics, 2020, 16, 7732-7742.	11.3	7
57	Stability experiments of a scaled bilateral teleoperation system over Internet using a model predictive controller. , 2007, , .		6
58	Modeling, identification and validation of an electric vehicle for model-based control design. , 2010, , .		6
59	Motion reconstruction with a low-cost MEMS IMU for the automation of human operated specimen manipulation. , 2011, , .		6
60	A reduction method of steady-state errors in time-delay systems with communication disturbance observer. , 2011, , .		6
61	Performance evaluation of a VR-based hand and finger rehabilitation program. , 2011, , .		6
62	Design and Construction of a Bilateral Haptic System for the Remote Assessment of the Stiffness and Range of Motion of the Hand. Sensors, 2016, 16, 1633.	3.8	6
63	Weight estimation system using surface EMG armband. , 2017, , .		6
64	Model-Based Policy Search Using Monte Carlo Gradient Estimation With Real Systems Application. IEEE Transactions on Robotics, 2022, 38, 3879-3898.	10.3	6
65	Realization of an adaptive voltage driver for voice coil motor. Microsystem Technologies, 2005, 11, 663-675.	2.0	5
66	Teleoperation systems over the Internet: Experimental validation of a bilateral Generalized Predictive Controller. , 2007, , .		5
67	Development of a reduced size unmanned car. , 2008, , .		5
68	A low-power interface for the readout and motion-control of a MEMS capacitive sensor. , 2008, , .		5
69	Performance improvement of haptic device in bilateral control using aaKF and RFOB. , 2016, , .		5
70	Robotic finger rehabilitation system for stroke patient using surface EMG armband. , 2016, , .		5
71	A new direct deformation sensor for active compensation of positioning errors in large milling machines. , 0, , .		4
72	Modelling and control of IRST MEMS microphone. , 0, , .		4

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73	Modelling, control and design of heavy duty suspension systems. , 2008, , .		4
74	Vehicle Simulation for the Development of an Active Suspension System for an Agricultural Tractor. SAE International Journal of Commercial Vehicles, 2009, 2, 12-25.	0.4	4
75	Identification and validation of a fractional order dynamic model for a piezoelectric tactile sensor. , 2010, , .		4
76	Performance improvement of motion control systems with low resolution position sensors using MEMS accelerometers. , 2013, , .		4
77	Enhanced low-speed operations of back EMF-based sensorless anisotropic PMSM drives. , 2016, , .		4
78	Drive-by-Wi-Fi: Model-Based Control Over Wireless at 1 kHz. IEEE Transactions on Control Systems Technology, 2022, 30, 1078-1089.	5.2	4
79	MEMS-based accelerometers use in Hard Disk Drives. Microsystem Technologies, 2002, 8, 174-181.	2.0	3
80	A general framework for a rehabilitative oriented haptic interface. , 2010, , .		3
81	A telerobotic manipulation system for an immerse ultrasonic examination using haptic constraints. , 2012, , .		3
82	IMU-aided image stabilization and tracking in a HSM-driven camera positioning unit. , 2013, , .		3
83	Use of MEMS accelerometers for performance improvement of motion control systems with low resolution position sensors. , 2013, , .		3
84	Use of antagonistic shape memory alloy wires in load positioning applications. , 2014, , .		3
85	Non-linear adaptive impedance controller for rehabilitation purposes. , 2014, , .		3
86	Force controller tuning for a master-slave system with proximity based haptic feedback. , 2014, , .		3
87	Estimation of load-side position of two mass resonant systems using MEMS accelerometers. , 2016, , .		3
88	Adaptive optimal control for rehabilitation systems. , 2017, , .		3
89	Fast force control using acceleration-aided Kalman filter and reaction force observer for probing systems. , 2017, , .		3
90	Drive-by-Wi-Fi: testing 1 kHz control experiments over wireless. , 2019, , .		3

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91	A Nonlinear Adaptive Compliance Controller for Rehabilitation. IEEJ Journal of Industry Applications, 2016, 5, 123-131.	1.1	3
92	On the Interaction Force Sensing Accuracy Of Franka Emika Panda Robot. , 2021, , .		3
93	Safe High Stiffness Impedance Control for Series Elastic Actuators using Collocated Position Feedback. , 2022, , .		3
94	Application of MEMS-based rotational accelerometers to vibration suppression in hard disk drives. , 0, , .		2
95	Voltage driven hard disk drive with voice coil model-based control. Microsystem Technologies, 2005, 11, 478-487.	2.0	2
96	Test-Mass Release Phase Ground Testing for the LISA Pathfinder Mission. AIP Conference Proceedings, 2006, , .	0.4	2
97	Mode-matching in vibrating microgyros using extremum seeking control. , 2007, , .		2
98	Stability analysis of an extremum seeking controller for mode-matching in vibrating microgyros. , 2008, , .		2
99	Experiments results on robustness effects of a new prefilter in generalized predictive control: Application to bilateral teleoperation systems. , 2008, , .		2
100	Semi-Active Suspension Systems for Heavy-Duty Vehicles: Multibody Model Development, Identification and Control Algorithm Evaluation. , 2009, , .		2
101	Active damping applied to HSM-driven mechanical loads with elasticity*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 10355-10360.	0.4	2
102	A PhysX-based framework to develop rehabilitation using haptic and virtual reality. , 2013, , .		2
103	IMU-based image stabilization in a HSM-driven camera positioning unit. , 2013, , .		2
104	Time delay compensation method based on reflected wave rejection. , 2013, , .		2
105	Development of a four-channel haptic system for remote assessment of patients with impaired hands. Robotica, 2017, 35, 1975-1991.	1.9	2
106	Robustness Analysis of Two-Mass System Control Using Acceleration-Aided Kalman Filter. , 2018, , .		2
107	Comparative Study of Soft Motion for Motion Copying System with Environmental Variations. , 2018, , .		2
108	A Dual Quaternion Feedback Linearized Approach for Maneuver Regulation of Rigid Bodies. , 2018, 2, 327-332.		2

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109	Selfâ€commissioning calculation of dynamic models for synchronous machines with magnetic saturation using flux as state variable. Journal of Engineering, 2019, 2019, 3609-3613.	1.1	2
110	Embedded systems for timeâ€"critical applications over Wi-Fi: design and experimental assessment. , 2019, , .		2
111	MC-13 REALIZATION OF AN ADAPTIVE VOLTAGE DRIVER FOR VOICE COIL MOTOR. Proceedings of JSME-IIP/ASME-ISPS Joint Conference on Micromechatronics for Information and Precision Equipment IIP/ISPS Joint MIPE, 2003, 2003, 107-108.	0.0	2
112	Novel Force Observer for Precise Force Estimation Using Force Sensor. , 2020, , .		2
113	Guest Editorial Introduction to the Focused Section on Adaptive Learning and Control for Advanced Mechatronics Systems. IEEE/ASME Transactions on Mechatronics, 2022, 27, 607-610.	5.8	2
114	LQG/LTR control of a dual stage actuator hard disk drive with piezoelectric secondary actuator. , 2001, , .		1
115	Hard disk drive with voltage driven voice coil motor and model-based control. , 0, , .		1
116	An Identification Experiment for Simultaneous Estimation of Low-Order Actuator and Windage Models in a Hard Disk Drive. , 2007, , .		1
117	Identification and validation of a lumped parameters model for the dielectric relaxation of a piezoelectric tactile sensor. , 2010, , .		1
118	Use of MEMS gyroscopes in active vibration damping for HSM-driven positioning systems. , 2011, , .		1
119	Stability of a telerobotic manipulation system with proximity&#x2014;Based haptic feedback. , 2012, , .		1
120	Parametric identification of PM synchronous motors: A Hammerstein-model approach. , 2013, , .		1
121	Vibration suppression of integrated resonant and time delay system by reflected wave rejection. , 2014, , .		1
122	Development of a water ski simulator for indoor training with proprioceptive and visual feedback. , 2014, , .		1
123	Feasible trajectory generation for a dual stage positioning system using a simplified model predictive control approach. , 2015, , .		1
124	Development of meal assistance device for patients with spinal cord injury. , 2016, , .		1
125	Communication Delay Compensation for Precise Force Matching in Teleoperation. , 2019, , .		1
126	Reverse-Engineer the Brain: Perspectives and Challenges. Biosystems and Biorobotics, 2014, , 173-188.	0.3	1

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127	Selection of Required Controller for Position- and Force-Based Task in Motion Copying System. Journal of Robotics and Mechatronics, 2020, 32, 113-127.	1.0	1
128	Twofold Observer-Based Precise Force Control. IEEE Transactions on Control Systems Technology, 2022, 30, 2251-2260.	5.2	1
129	Haptic Feedback Rover Navigation Based on Positional Gain Adjusting Bilateral Control. , 2022, , .		1
130	Modeling product variations in hard disk drive micro-actuator suspensions. Microsystem Technologies, 2006, 12, 803-813.	2.0	0
131	Nonlinear predictive control for bilateral scaled teleoperation systems using a πflat output: Theory and experiments. , 2007, , .		0
132	Analysis of an electromechanical ΣΔ modulator for MEMS sensors based on sliding mode control. , 2007, , .		0
133	Mode-matching in vibrating microgyros using an extremum seeking controller with switching logic. , 2008, , .		0
134	Welcome to AMCâ€™08 â€" Trento, Italy. , 2008, , .		0
135	Welcome to AMC2010-Nagaoka. , 2010, , .		0
136	Integration of optimal maneuver prediction in active safety control systems: considerations on driving safety improvements. , 2010, , .		0
137	The SPES target chamber remote handling system. , 2013, , .		0
138	Suppression of resonant vibration due to angular transmission errors of reduction gearing in industrial robots. , 2013, , .		0
139	Suppression of performance degradation of reconfigurable robot by quantization error based on quantization error observer. , 2014, , .		0
140	Use of MEMS accelerometers for load position estimation of ball-screw driven table systems. , 2015, , .		0
141	Stability analysis of a non-linear adaptive impedance controller for rehabilitation purposes. , 2015, , .		0
142	IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society [Front matter]. , 2016, , .		0
143	Reset solutions for performance limitations induced by Coulomb friction in a motion control system with a disturbance observer. , 2019, , .		0
144	Motion Copying Systems: Adaptation to Environment using Dynamic Movement Primitives. , 2019, , .		0

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145	Guest Editorial: Advanced Motion Control for Mechatronic Applications With Precision and Force Requirements. IEEE Transactions on Industrial Electronics, 2021, 68, 721-723.	7.9	0
146	A Reduced-Order Multisensor-Based Force Observer. IEEE Transactions on Industrial Electronics, 2022, 69, 4946-4956.	7.9	0
147	A Demodulation Technique for the Sensing Circuit of a MEMS Gyroscope. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2006, , .	0.0	0
148	A PhysX-Based Framework to Develop Rehabilitation Systems Using Haptics and Virtual Reality. Advances in Medical Technologies and Clinical Practice Book Series, 2016, , 28-47.	0.3	0
149	A PhysX-Based Framework to Develop Rehabilitation Systems Using Haptics and Virtual Reality. , 2020, , 969-988.		0
150	E-Teaching High Accuracy Motion Control Techniques in Covidâ€"19 time. , 2021, , .		0
151	E-Teaching High Accuracy Motion Control Techniques in Covid-19 time. , 2021, , .		0