Roberto Oboe

List of Publications by Year in Descending Order

116 papers	1,853 citations	20 h-index	41 g-index
160 ext. papers	2,460 ext. citations	4.5 avg, IF	5.15 L-index

#	Paper	IF	Citations
116	Guest Editorial Introduction to the Focused Section on Adaptive Learning and Control for Advanced Mechatronics Systems. *IEEE/ASME Transactions on Mechatronics*, **2022**, 1-4	5.5	1
115	Twofold Observer-Based Precise Force Control. *IEEE Transactions on Control Systems Technology*, **2021**, 1-10	4.8	
114	High-Precision Dual-Stage Pointing Mechanism for Miniature Satellite Laser Communication Terminals. *IEEE Transactions on Industrial Electronics*, **2021**, 68, 776-785	8.9	2
113	External Force Estimation in Linear Series Elastic Actuator Without Load-Side Encoder. *IEEE Transactions on Industrial Electronics*, **2021**, 68, 861-870	8.9	3
112	A Reduced-order Multi-sensor-based Force Observer. *IEEE Transactions on Industrial Electronics*, **2021**, 1-1	8.9	
111	. *IEEE Transactions on Control Systems Technology*, **2021**, 1-12	4.8	2
110	Neuronal Avalanches Across the Rat Somatosensory Barrel Cortex and the Effect of Single Whisker Stimulation. *Frontiers in Systems Neuroscience*, **2021**, 15, 709677	3.5	3
109	Time-Critical Wireless Networked Embedded Systems: Feasibility and Experimental Assessment. *IEEE Transactions on Industrial Informatics*, **2020**, 16, 7732-7742	11.9	6
108	Novel Force Observer for Precise Force Estimation Using Force Sensor **2020**,		1
107	Selection of Required Controller for Position- and Force-Based Task in Motion Copying System. *Journal of Robotics and Mechatronics*, **2020**, 32, 113-127	0.7	0
106	A PhysX-Based Framework to Develop Rehabilitation Systems Using Haptics and Virtual Reality **2020**, 969-988		
105	Disturbance Observer-Based Robust Control and Its Applications: 35th Anniversary Overview. *IEEE Transactions on Industrial Electronics*, **2020**, 67, 2042-2053	8.9	114
104	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	0.7	3
103	Impedance Field Expression of Bilateral Control for Reducing Data Traffic in Haptic Transmission. *IEEE Transactions on Industrial Electronics*, **2019**, 66, 1142-1150	8.9	10
102	Cooperative Optimization of UAVs Formation Visual Tracking. *Robotics*, **2019**, 8, 52	2.8	4
101	Self-commissioning calculation of dynamic models for synchronous machines with magnetic saturation using flux as state variable. *Journal of Engineering*, **2019**, 2019, 3609-3613	0.7	2
100	Drive-by-Wi-Fi: testing 1 kHz control experiments over wireless **2019**,		3

99	Embedded systems for time‐critical applications over Wi-Fi: design and experimental assessment **2019**,		2
98	Online Stator Resistance Tracking for Reluctance and Interior Permanent Magnet Synchronous Motors. *IEEE Transactions on Industry Applications*, **2018**, 54, 3405-3414	4.3	15
97	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	8.9	29
96	Disturbance Observer and Kalman Filter Based Motion Control Realization. *IEEJ Journal of Industry Applications*, **2018**, 7, 1-14	0.7	15
95	How disturbance observer changed my life **2018**,		3
94	Robustness Analysis of Two-Mass System Control Using Acceleration-Aided Kalman Filter **2018**,		1
93	A LSTM Neural Network applied to Mobile Robots Path Planning **2018**,		4
92	Comparative Study of Soft Motion for Motion Copying System with Environmental Variations **2018**,		2
91	A Dual Quaternion Feedback Linearized Approach for Maneuver Regulation of Rigid Bodies **2018**, 2, 327-332		2
90	Development of a four-channel haptic system for remote assessment of patients with impaired hands. *Robotica*, **2017**, 35, 1975-1991	2.1	2
89	Weight estimation system using surface EMG armband **2017**,		2
88	Energy-Efficient Autonomous Solar Water-Pumping System for Permanent-Magnet Synchronous Motors. *IEEE Transactions on Industrial Electronics*, **2017**, 64, 43-51	8.9	68
87	Advanced current control of synchronous reluctance motors **2017**,		11
86	Adaptive optimal control for rehabilitation systems **2017**,		1
85	Fast force control using acceleration-aided Kalman filter and reaction force observer for probing systems **2017**,		2
84	A General Framework for Designing SISO-Based Motion Controller With Multiple Sensor Feedback. *IEEE Transactions on Industrial Electronics*, **2016**, 63, 7607-7620	8.9	8
83	**2016**,		1
82	Estimation of load-side position of two mass resonant systems using MEMS accelerometers **2016**,		2

81	Hierarchical Scaled-States Direct Predictive Control of Synchronous Reluctance Motor Drives. *IEEE Transactions on Industrial Electronics*, **2016**, 1-1	8.9	20
80	Acceleration Measurement Drift Rejection in Motion Control Systems by Augmented-State Kinematic Kalman Filter. *IEEE Transactions on Industrial Electronics*, **2016**, 63, 1953-1961	8.9	41
79	A Nonlinear Adaptive Compliance Controller for Rehabilitation. *IEEJ Journal of Industry Applications* , **2016**, 5, 123-131	0.7	1
78	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	
77	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,	3.8	4
76	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	0.7	7
75	Use of MEMS Inertial Sensors for Performance Improvement of Low-cost Motion Control Systems. *IEEJ Journal of Industry Applications*, **2016**, 5, 78-89	0.7	4
74	Performance improvement of haptic device in bilateral control using aaKF and RFOB **2016**,		5
73	**2016**,		5
72	Enhanced low-speed operations of back EMF-based sensorless anisotropic PMSM drives **2016**,		3
71	Advanced Motion Control for Next-Generation Industrial Applications. *IEEE Transactions on Industrial Electronics*, **2016**, 63, 1886-1888	8.9	16
70	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	8.9	28
69	Use of load-side MEMS accelerometers in servo positioning of two-mass-spring systems **2015**,		7
68	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	8.9	84
67	Use of antagonistic shape memory alloy wires in load positioning applications **2014**,		1
66	Non-linear adaptive impedance controller for rehabilitation purposes **2014**,		2
65	Force controller tuning for a master-slave system with proximity based haptic feedback **2014**,		2
64	Reverse-Engineer the Brain: Perspectives and Challenges. *Biosystems and Biorobotics*, **2014**, 173-188	0.2	0

63	IMU-aided image stabilization and tracking in a HSM-driven camera positioning unit **2013**,		2
62	Parametric identification of PM synchronous motors: A Hammerstein-model approach **2013**,		1
61	A PhysX-based framework to develop rehabilitation using haptic and virtual reality **2013**,		2
60	IMU-based image stabilization in a HSM-driven camera positioning unit **2013**,		1
59	Use of MEMS accelerometers for performance improvement of motion control systems with low resolution position sensors **2013**,		1
58	Time delay compensation method based on reflected wave rejection **2013**,		2
57	Performance improvement of motion control systems with low resolution position sensors using MEMS accelerometers **2013**,		3
56	Haptic-based neurorehabilitation in poststroke patients: a feasibility prospective multicentre trial for robotics hand rehabilitation. *Computational and Mathematical Methods in Medicine*, **2013**, 2013, 895492	2.8	22
55	Exploring the Potential of MEMS Gyroscopes: Successfully Using Sensors in Typical Industrial Motion Control Applications. *IEEE Industrial Electronics Magazine*, **2012**, 6, 14-24	6.2	20
54	Theory and implementation of a MTPA tracking controller for anisotropic PM motor drives **2012**,		8
53	Stability of a telerobotic manipulation system with proximityBased haptic feedback **2012**,		1
52	A telerobotic manipulation system for an immerse ultrasonic examination using haptic constraints **2012**,		3
51	Tactile Sensing Systems Based on POSFET Sensing Arrays. *Lecture Notes in Electrical Engineering*, **2012**, 181-186	0.2	0
50	A low-power 3-axis digital-output MEMS gyroscope with single drive and multiplexed angular rate readout **2011**,		36
49	Torque Ripple Minimization in Hybrid Stepper Motors Using Acceleration Measurements1. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2011**, 44, 10349-10354		4
48	Active damping applied to HSM-driven mechanical loads with elasticity*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2011**, 44, 10355-10360		1
47	Motion reconstruction with a low-cost MEMS IMU for the automation of human operated specimen manipulation **2011**,		3
46	Towards Tactile Sensing System on Chip for Robotic Applications. *IEEE Sensors Journal*, **2011**, 11, 3216-3226	1.4	107

45	A reduction method of steady-state errors in time-delay systems with communication disturbance observer **2011**,		4
44	Performance evaluation of a VR-based hand and finger rehabilitation program **2011**,		3
43	A general framework for a rehabilitative oriented haptic interface **2010**,		1
42	Development of a haptic teleoperation system for remote motor and functional evaluation of hand in patients with neurological impairments **2010**,		4
41	Identification and validation of a fractional order dynamic model for a piezoelectric tactile sensor **2010**,		1
40	Modeling, identification and validation of an electric vehicle for model-based control design **2010**,		4
39	Vehicle Simulation for the Development of an Active Suspension System for an Agricultural Tractor. *SAE International Journal of Commercial Vehicles*, **2009**, 2, 12-25	1	3
38	Development and characterization of touch sensing devices for robotic applications **2009**,		2
37	Automatic Mode Matching in MEMS Vibrating Gyroscopes Using Extremum-Seeking Control. *IEEE Transactions on Industrial Electronics*, **2009**, 56, 3880-3891	8.9	71
36	Open loop compensation of the quadrature error in MEMS vibrating gyroscopes **2009**,		16
35	Semi-Active Suspension Systems for Heavy-Duty Vehicles: Multibody Model Development, Identification and Control Algorithm Evaluation **2009**,		1
34	Stability analysis of an extremum seeking controller for mode-matching in vibrating microgyros **2008**,		1
33	Experimental analysis of an Internet-based bilateral teleoperation system with motion and force scaling. *IEEE Transactions on Industrial Electronics*, **2008**, 55, 3290-3299	8.9	61
32	Stability Analysis and Practical Design Procedure of Time Delayed Control Systems With Communication Disturbance Observer. *IEEE Transactions on Industrial Informatics*, **2008**, 4, 185-197	11.9	85
31	A novel structure of time delayed control systems with communication disturbance observer **2008**,		1
30	Experiments results on robustness effects of a new prefilter in generalized predictive control: Application to bilateral teleoperation systems **2008**,		2
29	Development of a reduced size unmanned car **2008**,		4
28	Modelling, control and design of heavy duty suspension systems **2008**,		4

27	The SPES multi-foil direct target. *Nuclear Instruments & Methods in Physics Research B*, **2008**, 266, 4257-4260	1.2	14
26	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	6
25	Teleoperation systems over the Internet: Experimental validation of a bilateral Generalized Predictive Controller **2007**,		2
24	Robust bilateral generalized predictive control for teleoperation systems **2007**,		8
23	Analysis and Design of Time Delayed Control Systems with Communication Disturbance Observer **2007**,		16
22	Stability experiments of a scaled bilateral teleoperation system over Internet using a model predictive controller **2007**,		2
21	Robust Time Delayed Control Systems with Communication Disturbance Observer **2007**,		10
20	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	18
19	A Multi-Instrument, Force-Feedback Keyboard. *Computer Music Journal*, **2006**, 30, 38-52	0.5	14
18	Test-Mass Release Phase Ground Testing for the LISA Pathfinder Mission. *AIP Conference Proceedings*, **2006**,	0	2
17	A new direct deformation sensor for active compensation of positioning errors in large milling machines **2006**,		3
16	Modeling product variations in hard disk drive micro-actuator suspensions. *Microsystem Technologies*, **2006**, 12, 803-813	1.7	
15	Control of a Z-axis MEMS vibrational gyroscope. *IEEE/ASME Transactions on Mechatronics*, **2005**, 10, 364-370	3.9	46
14	Hard disk drive with voltage-driven voice coil motor and model-based control. *IEEE Transactions on Magnetics*, **2005**, 41, 784-790	2	21
13	Realization of an adaptive voltage driver for voice coil motor. *Microsystem Technologies*, **2005**, 11, 663-675	1.7	4
12	Voltage driven hard disk drive with voice coil model-based control. *Microsystem Technologies*, **2005**, 11, 478-487	1.7	0
11	Disturbance rejection in hard disk drives with multi-rate estimated state feedback. *Control Engineering Practice*, **2004**, 12, 1409-1421	3.9	6
10	Force-reflecting teleoperation over the Internet: the JBIT project. *Proceedings of the IEEE*, **2003**, 91, 449-463	4.3	31

9	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	6
8	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		1
7	MEMS-based accelerometers use in Hard Disk Drives. *Microsystem Technologies*, **2002**, 8, 174-181	1.7	3
6	A simulation and control design environment for single-stage and dual-stage hard disk drives. *IEEE/ASME Transactions on Mechatronics*, **2002**, 7, 161-170	5.5	11
5	Web-interfaced, force-reflecting teleoperation systems. *IEEE Transactions on Industrial Electronics*, **2001**, 48, 1257-1265	8.9	41
4	Sensorless full-digital PMSM drive with EKF estimation of speed and rotor position. *IEEE Transactions on Industrial Electronics*, **1999**, 46, 184-191	8.9	362
3	A Design and Control Environment for Internet-Based Telerobotics. *International Journal of Robotics Research*, **1998**, 17, 433-449	5.7	121
2	Issues on Internet-Based Teleoperation. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1997**, 30, 591-597		8
1	Architectures for shared haptic virtual environments. *Computers and Graphics*, **1997**, 21, 421-429	1.8	50