Alessandro De Luca

List of Publications by Year
in descending order

125 papers	8,053 citations	117625 34 h-index	123424 61 g-index
128 all docs	128 docs citations	128 times ranked	4372 citing authors

#	Article	IF	Citations
1	On-Line Learning for Planning and Control of Underactuated Robots With Uncertain Dynamics. IEEE Robotics and Automation Letters, 2022, 7, 358-365.	5.1	5
2	Feedback Regulation of Elastically Decoupled Underactuated Soft Robots. IEEE Robotics and Automation Letters, 2022, 7, 4512-4519.	5.1	6
3	Kinematic Control of Redundant Robots With Online Handling of Variable Generalized Hard Constraints. IEEE Robotics and Automation Letters, 2022, 7, 9279-9286.	5.1	2
4	Human-robot contactless collaboration with mixed reality interface. Robotics and Computer-Integrated Manufacturing, 2021, 67, 102030.	9.9	22
5	Linear-Quadratic Optimal Boundary Control of a One-Link Flexible Arm. , 2021, 5, 833-838.		11
6	Flexible Robots. , 2021, , 814-822.		1
7	Collision Detection, Identification, and Localization on the DLR SARA Robot with Sensing Redundancy. , 2021, , .		13
8	Human-robot coexistence and interaction in open industrial cells. Robotics and Computer-Integrated Manufacturing, 2020, 61, 101846.	9.9	93
9	Task Priority Matrix at the Acceleration Level: Collision Avoidance Under Relaxed Constraints. IEEE Robotics and Automation Letters, 2020, 5, 4970-4977.	5.1	5
10	Time-Optimal Trajectory Planning for Flexible Joint Robots. IEEE Robotics and Automation Letters, 2020, 5, 938-945.	5.1	20
11	Flexible Robots. , 2020, , 1-9.		0
12	Flexible Robots. , 2020, , 1-9.		1
13	Dynamic Identification of the Franka Emika Panda Robot With Retrieval of Feasible Parameters Using Penalty-Based Optimization. IEEE Robotics and Automation Letters, 2019, 4, 4147-4154.	5.1	151
14	Admittance Control for Human-Robot Interaction Using an Industrial Robot Equipped with a F/T Sensor. , 2019, , .		25
15	Stable Torque Optimization for Redundant Robots Using a Short Preview. IEEE Robotics and Automation Letters, 2019, 4, 2046-2053.	5.1	8
16	Locomotion and Telepresence in Virtual and Real Worlds. Springer Proceedings in Advanced Robotics, 2019, , 85-98.	1.3	5
17	A model-based residual approach for human-robot collaboration during manual polishing operations. Mechatronics, 2018, 55, 234-247.	3.3	63
18	Faster Motion on Cartesian Paths Exploiting Robot Redundancy at the Acceleration Level. IEEE Robotics and Automation Letters, 2018, 3, 3553-3560.	5.1	18

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19	Combining Wearable Finger Haptics and Augmented Reality: User Evaluation Using an External Camera and the Microsoft HoloLens. IEEE Robotics and Automation Letters, 2018, 3, 4297-4304.	5.1	21
20	Real-Time Computation of Distance to Dynamic Obstacles With Multiple Depth Sensors. IEEE Robotics and Automation Letters, 2017, 2, 56-63.	5.1	50
21	Evaluation of Wearable Haptic Systems for the Fingers in Augmented Reality Applications. IEEE Transactions on Haptics, 2017, 10, 511-522.	2.7	89
22	Robot Collisions: A Survey on Detection, Isolation, and Identification. IEEE Transactions on Robotics, 2017, 33, 1292-1312.	10.3	469
23	Payload estimation based on identified coefficients of robot dynamics â€" With an application to collision detection. , 2017, , .		16
24	Actuator design of compliant walkers via optimal control. , 2017, , .		7
25	Visual coordination task for human-robot collaboration. , 2017, , .		6
26	Human-robot coexistence and contact handling with redundant robots. , 2017, , .		15
27	Port-based modeling of human-robot collaboration towards safety-enhancing energy shaping control. , 2016, , .		9
28	Extracting feasible robot parameters from dynamic coefficients using nonlinear optimization methods. , 2016, , .		30
29	Combining real and virtual sensors for measuring interaction forces and moments acting on a robot. , 2016, , .		22
30	Hybrid force/velocity control for physical human-robot collaboration tasks. , 2016, , .		17
31	Robots with Flexible Elements. Springer Handbooks, 2016, , 243-282.	0.6	82
32	Fabrizio Flacco [In Memoriam]. IEEE Robotics and Automation Magazine, 2016, 23, 199-200.	2.0	0
33	Efficient Computation of Inverse Dynamics and Feedback Linearization for VSA-Based Robots. IEEE Robotics and Automation Letters, 2016, 1, 908-915.	5.1	46
34	Unilateral constraints in the Reverse Priority redundancy resolution method. , 2015, , .		9
35	Control of Redundant Robots Under Hard Joint Constraints: Saturation in the Null Space. IEEE Transactions on Robotics, 2015, 31, 637-654.	10.3	146
36	A recursive Newton-Euler algorithm for robots with elastic joints and its application to control. , 2015, , .		25

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37	A model predictive control approach for the Partner Ballroom Dance Robot. , 2015, , .		5
38	A Depth Space Approach for Evaluating Distance to Objects. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 80, 7-22.	3.4	97
39	Discrete-time redundancy resolution at the velocity level with acceleration/torque optimization properties. Robotics and Autonomous Systems, 2015, 70, 191-201.	5.1	53
40	Control of generalized contact motion and force in physical human-robot interaction. , 2015, , .		102
41	Identifying the dynamic model used by the KUKA LWR: A reverse engineering approach. , 2014, , .		59
42	A pure signal-based stiffness estimation for VSA devices. , 2014, , .		9
43	A reverse priority approach to multi-task control of redundant robots. , 2014, , .		24
44	Discrete-time velocity control of redundant robots with acceleration/torque optimization properties. , 2014, , .		7
45	Estimation of contact forces using a virtual force sensor. , 2014, , .		86
46	Motion Control of the CyberCarpet Platform. IEEE Transactions on Control Systems Technology, 2013, 21, 410-427.	5.2	18
47	Fast redundancy resolution for high-dimensional robots executing prioritized tasks under hard bounds in the joint space. , 2013, , .		5
48	Optimal redundancy resolution with task scaling under hard bounds in the robot joint space. , 2013, , .		15
49	Human-robot physical interaction and collaboration using an industrial robot with a closed control architecture. , 2013, , .		108
50	Flexible Robots. , 2013, , 1-10.		0
51	Safe physical human-robot collaboration. , 2013, , .		14
52	On-line estimation of variable stiffness in flexible robot joints. International Journal of Robotics Research, 2012, 31, 1556-1577.	8.5	43
53	Integrated control for pHRI: Collision avoidance, detection, reaction and collaboration. , 2012, , .		134
54	A depth space approach to human-robot collision avoidance. , 2012, , .		280

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55	Prioritized multi-task motion control of redundant robots under hard joint constraints. , 2012, , .		37
56	Motion control of redundant robots under joint constraints: Saturation in the Null Space. , 2012, , .		79
57	Robust estimation of variable stiffness in flexible joints. , 2011, , .		0
58	Adaptive predictive gaze control of a redundant humanoid robot head. , 2011, , .		3
59	Stiffness Estimation and Nonlinear Control of Robots with Variable Stiffness Actuation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6872-6879.	0.4	11
60	CyberWalk. ACM Transactions on Applied Perception, 2011, 8, 1-22.	1.9	100
61	Adaptive predictive gaze control of a redundant humanoid robot head. , 2011, , .		13
62	Residual-based stiffness estimation in robots with flexible transmissions. , 2011, , .		24
63	A PD-type regulator with exact gravity cancellation for robots with flexible joints. , 2011, , .		41
64	Multiple depth/presence sensors: Integration and optimal placement for human/robot coexistence. , 2010, , .		20
65	Dynamic gravity cancellation in robots with flexible transmissions. , 2010, , .		19
66	Making virtual walking real. ACM Transactions on Applied Perception, 2010, 7, 1-14.	1.9	52
67	Kinematic control of nonholonomic mobile manipulators in the presence of steering wheels. , 2010, , .		21
68	Nonlinear decoupled motion-stiffness control and collision detection/reaction for the VSA-II variable stiffness device. , 2009, , .		42
69	A modified newton-euler method for dynamic computations in robot fault detection and control. , 2009, , .		45
70	Control design and experimental evaluation of the 2D CyberWalk platform. , 2009, , .		9
71	An atlas of physical human–robot interaction. Mechanism and Machine Theory, 2008, 43, 253-270.	4.5	634
72	Robots with Flexible Elements. , 2008, , 287-319.		103

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73	3D Structure Identification from Image Moments. , 2008, , .		19
74	On the Feedback Linearization of Robots with Variable Joint Stiffness. , 2008, , .		84
75	Visual Servoing with Exploitation of Redundancy: An Experimental Study. , 2008, , .		14
76	Friction Observer and Compensation for Control of Robots with Joint Torque Measurement. , 2008, , .		70
77	Feature Depth Observation for Image-based Visual Servoing: Theory and Experiments. International Journal of Robotics Research, 2008, 27, 1093-1116.	8.5	151
78	A Bayesian framework for optimal motion planning with uncertainty. , 2008, , .		34
79	Exploiting Robot Redundancy in Collision Detection and Reaction. , 2008, , .		42
80	Collision Detection and Reaction: A Contribution to Safe Physical Human-Robot Interaction. , 2008, , .		361
81	An Acceleration-based State Observer for Robot Manipulators with Elastic Joints. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	51
82	On-Line Estimation of Feature Depth for Image-Based Visual Servoing Schemes. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	44
83	Acceleration-level control of the CyberCarpet. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	14
84	Image-based visual servoing schemes for nonholonomic mobile manipulators. Robotica, 2007, 25, 131-145.	1.9	47
85	PD control with on-line gravity compensation for robots with flexible links. , 2007, , .		18
86	Nonlinear Fault Detection and Isolation in a Three-Tank Heating System. IEEE Transactions on Control Systems Technology, 2006, 14, 1158-1166.	5.2	32
87	Relaxed fault detection and isolation: An application to a nonlinear case study. Automatica, 2006, 42, 109-116.	5.0	38
88	Collision Detection and Safe Reaction with the DLR-III Lightweight Manipulator Arm. , 2006, , .		429
89	PD control with on-line gravity compensation for robots with elastic joints: Theory and experiments. Automatica, 2005, 41, 1809-1819.	5.0	224
90	Compliance Control for an Anthropomorphic Robot with Elastic Joints: Theory and Experiments. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2005, 127, 321-328.	1.6	77

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91	An identification scheme for robot actuator faults. , 2005, , .		25
92	Rest-to-Rest Motion for Planar Multi-Link Flexible Manipulator Through Backward Recursion. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 115-123.	1.6	22
93	Dynamic Feedback Control of XYn?? Planar Robots with n Rotational Passive Joints. Journal of Field Robotics, 2003, 20, 251-270.	0.7	4
94	Trajectory Planning and Control for Planar Robots with Passive Last Joint. International Journal of Robotics Research, 2002, 21, 575-590.	8.5	110
95	WMR control via dynamic feedback linearization: design, implementation, and experimental validation. IEEE Transactions on Control Systems Technology, 2002, 10, 835-852.	5.2	615
96	Comments on "Adaptive variable structure set-point control of underactuated robots". IEEE Transactions on Automatic Control, 2001, 46, 809-811.	5.7	2
97	Stabilization of an underactuated planar 2R manipulator. , 2000, 10, 181-198.		100
98	Stabilization of an underactuated planar 2R manipulator. International Journal of Robust and Nonlinear Control, 2000, 10, 181-198.	3.7	1
99	Steering a class of redundant mechanisms through end-effector generalized forces. IEEE Transactions on Automation Science and Engineering, 1998, 14, 329-335.	2.3	28
100	Trajectory control of flexible manipulators. Lecture Notes in Control and Information Sciences, 1998, , 83-104.	1.0	26
101	Nonholonomic behavior in redundant robots under kinematic control. IEEE Transactions on Automation Science and Engineering, 1997, 13, 776-782.	2.3	26
102	End-effector regulation of robots with elastic elements by an iterative scheme. International Journal of Adaptive Control and Signal Processing, 1996, 10, 379-393.	4.1	10
103	Reconfiguration of redundant robots under kinematic inversion. Advanced Robotics, 1995, 10, 249-263.	1.8	5
104	Modeling of robots in contact with a dynamic environment. IEEE Transactions on Automation Science and Engineering, 1994, 10, 542-548.	2.3	64
105	An iterative scheme for learning gravity compensation in flexible robot arms. Automatica, 1994, 30, 993-1002.	5.0	38
106	Regulation of flexible arms under gravity. IEEE Transactions on Automation Science and Engineering, 1993, 9, 463-467.	2.3	69
107	Inversion-based nonlinear control of robot arms with flexible links. Journal of Guidance, Control, and Dynamics, 1993, 16, 1169-1176.	2.8	85
108	A frequency-domain approach to learning control: implementation for a robot manipulator. IEEE Transactions on Industrial Electronics, 1992, 39, 1-10.	7.9	66

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109	Trajectory Tracking in Flexible Robot Arms. , 1992, , 17-34.		2
110	Closed-form dynamic model of planar multilink lightweight robots. IEEE Transactions on Systems, Man, and Cybernetics, 1991, 21, 826-839.	0.9	312
111	A sensitivity approach to optimal spline robot trajectories. Automatica, 1991, 27, 535-539.	5.0	49
112	Nonlinear Regulation of End-Effector Motion for a Flexible Robot Arm. , 1991, , 229-236.		10
113	Inversion techniques for trajectory control of flexible robot arms. Journal of Field Robotics, 1989, 6, 325-344.	0.7	135
114	Trajectory control of a non-linear one-link flexible arm. International Journal of Control, 1989, 50, 1699-1715.	1.9	139
115	Design of an exact nonlinear controller for induction motors. IEEE Transactions on Automatic Control, 1989, 34, 1304-1307.	5.7	173
116	Joint-Based Control of a Nonlinear Model of a Flexible Arm. , 1988, , .		30
117	Exact augmented lagrangian approach to multilevel optimization of large-scale systems. International Journal of Systems Science, 1987, 18, 157-176.	5.5	9
118	Aggregation in Sraffa's simple production model. Journal of Economics/ Zeitschrift Fur Nationalokonomie, 1987, 47, 167-193.	0.7	1
119	An asymptotically stable joint PD controller for robot arms with flexible links under gravity. , 0, , .		17
120	Modeling and control alternatives for robots in dynamic cooperation. , 0, , .		2
121	Sensorless Robot Collision Detection and Hybrid Force/Motion Control. , 0, , .		189
122	On the Control of Robots with Visco-Elastic Joints. , 0, , .		20
123	Conditions for Detecting and Isolating Sets of Faults in Nonlinear Systems. , 0, , .		2
124	Kinematic modeling and redundancy resolution for nonholonomic mobile manipulators. , 0, , .		37
125	The motion control problem for the CyberCarpet. , 0, , .		7