

Alin Albu-SchÄffer

List of Publications by Year in descending order

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Version: 2024-02-01

278
papers

14,219
citations

76294

40
h-index

40954

93
g-index

282
all docs

282
docs citations

282
times ranked

6495
citing authors

#	ARTICLE	IF	CITATIONS
1	Variable impedance actuators: A review. <i>Robotics and Autonomous Systems</i> , 2013, 61, 1601-1614.	3.0	822
2	A Unified Passivity-based Control Framework for Position, Torque and Impedance Control of Flexible Joint Robots. <i>International Journal of Robotics Research</i> , 2007, 26, 23-39.	5.8	654
3	The DLR lightweight robot: design and control concepts for robots in human environments. <i>Industrial Robot</i> , 2007, 34, 376-385.	1.2	512
4	Robot Collisions: A Survey on Detection, Isolation, and Identification. <i>IEEE Transactions on Robotics</i> , 2017, 33, 1292-1312.	7.3	469
5	Soft robotics. <i>IEEE Robotics and Automation Magazine</i> , 2008, 15, 20-30.	2.2	431
6	Collision Detection and Safe Reaction with the DLR-III Lightweight Manipulator Arm. , 2006, , .		429
7	Progress and prospects of the human-robot collaboration. <i>Autonomous Robots</i> , 2018, 42, 957-975.	3.2	415
8	Collision Detection and Reaction: A Contribution to Safe Physical Human-Robot Interaction. , 2008, , .		361
9	Requirements for Safe Robots: Measurements, Analysis and New Insights. <i>International Journal of Robotics Research</i> , 2009, 28, 1507-1527.	5.8	360
10	Human-Like Adaptation of Force and Impedance in Stable and Unstable Interactions. <i>IEEE Transactions on Robotics</i> , 2011, 27, 918-930.	7.3	360
11	On the Passivity-Based Impedance Control of Flexible Joint Robots. <i>IEEE Transactions on Robotics</i> , 2008, 24, 416-429.	7.3	351
12	The DLR hand arm system. , 2011, , .		330
13	Variable Stiffness Actuators: Review on Design and Components. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016, 21, 2418-2430.	3.7	293
14	Three-Dimensional Bipedal Walking Control Based on Divergent Component of Motion. <i>IEEE Transactions on Robotics</i> , 2015, 31, 355-368.	7.3	258
15	DLR MiroSurge: a versatile system for research in endoscopic telesurgery. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2010, 5, 183-193.	1.7	226
16	Overview of the torque-controlled humanoid robot TORO. , 2014, , .		199
17	Hand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial hands. <i>Physics of Life Reviews</i> , 2016, 17, 1-23.	1.5	191
18	Robots Driven by Compliant Actuators: Optimal Control Under Actuation Constraints. <i>IEEE Transactions on Robotics</i> , 2013, 29, 1085-1101.	7.3	176

#	ARTICLE	IF	CITATIONS
19	Variable stiffness actuators: The user's point of view. International Journal of Robotics Research, 2015, 34, 727-743.	5.8	160
20	The DLR MIRO: a versatile lightweight robot for surgical applications. Industrial Robot, 2008, 35, 324-336.	1.2	158
21	DLR's robotics technologies for on-orbit servicing. Advanced Robotics, 2004, 18, 139-174.	1.1	145
22	On making robots understand safety: Embedding injury knowledge into control. International Journal of Robotics Research, 2012, 31, 1578-1602.	5.8	143
23	A Humanoid Two-Arm System for Dexterous Manipulation. , 2006, , .		141
24	An overview of null space projections for redundant, torque-controlled robots. International Journal of Robotics Research, 2015, 34, 1385-1400.	5.8	139
25	Bipedal walking control based on Capture Point dynamics. , 2011, , .		133
26	Reactive Whole-Body Control: Dynamic Mobile Manipulation Using a Large Number of Actuated Degrees of Freedom. IEEE Robotics and Automation Magazine, 2012, 19, 20-33.	2.2	120
27	A passivity based Cartesian impedance controller for flexible joint robots - part I: torque feedback and gravity compensation. , 2004, , .		115
28	Prioritized multi-task compliance control of redundant manipulators. Automatica, 2015, 53, 416-423.	3.0	114
29	A passivity based Cartesian impedance controller for flexible joint robots - part II: full state feedback, impedance design and experiments. , 2004, , .		110
30	Bipedal walking control based on Capture Point dynamics. , 2011, , .		110
31	First analysis and experiments in aerial manipulation using fully actuated redundant robot arm. , 2013, , .		107
32	The role of the robot mass and velocity in physical human-robot interaction - Part I: Non-constrained blunt impacts. , 2008, , .		104
33	Cartesian impedance control techniques for torque controlled light-weight robots. , 0, , .		103
34	Rollin' Justin - Mobile platform with variable base. , 2009, , .		102
35	Force, Impedance, and Trajectory Learning for Contact Tooling and Haptic Identification. IEEE Transactions on Robotics, 2018, 34, 1170-1182.	7.3	102
36	Three-dimensional bipedal walking control using Divergent Component of Motion. , 2013, , .		100

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37	On joint design with intrinsic variable compliance: derivation of the DLR QA-Joint. , 2010, , .		96
38	A globally stable state feedback controller for flexible joint robots. Advanced Robotics, 2001, 15, 799-814.	1.1	85
39	Comparison of object-level grasp controllers for dynamic dexterous manipulation. International Journal of Robotics Research, 2012, 31, 3-23.	5.8	84
40	A dataset of continuous affect annotations and physiological signals for emotion analysis. Scientific Data, 2019, 6, 196.	2.4	79
41	Closed-Loop Behavior of an Autonomous Helicopter Equipped with a Robotic Arm for Aerial Manipulation Tasks. International Journal of Advanced Robotic Systems, 2013, 10, 145.	1.3	78
42	Backstepping Control of Variable Stiffness Robots. IEEE Transactions on Control Systems Technology, 2015, 23, 2195-2202.	3.2	77
43	The sigma.7 haptic interface for MiroSurge: A new bi-manual surgical console. , 2011, , .		73
44	Integration of Reactive, Torque-Based Self-Collision Avoidance Into a Task Hierarchy. IEEE Transactions on Robotics, 2012, 28, 1278-1293.	7.3	72
45	KONTUR-2: Force-feedback teleoperation from the international space station. , 2016, , .		72
46	Friction Observer and Compensation for Control of Robots with Joint Torque Measurement. , 2008, , .		70
47	Whole-body impedance control of wheeled mobile manipulators. Autonomous Robots, 2016, 40, 505-517.	3.2	68
48	Towards the Robotic Co-Worker. Springer Tracts in Advanced Robotics, 2011, , 261-282.	0.3	68
49	Walking control of fully actuated robots based on the Bipedal SLIP model. , 2012, , .		64
50	The role of the robot mass and velocity in physical human-robot interaction - Part II: Constrained blunt impacts. , 2008, , .		63
51	Biomimetic motor behavior for simultaneous adaptation of force, impedance and trajectory in interaction tasks. , 2010, , .		62
52	Robotic On-Orbit Servicing - DLR's Experience and Perspective. , 2006, , .		61
53	Kick it with elasticity: Safety and performance in human-robot soccer. Robotics and Autonomous Systems, 2009, 57, 761-775.	3.0	61
54	An Overview on Principles for Energy Efficient Robot Locomotion. Frontiers in Robotics and AI, 2018, 5, 129.	2.0	60

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55	State feedback damping control for a multi DOF variable stiffness robot arm. , 2011, , .		59
56	Elastic Structure Preserving (ESP) Control for Compliantly Actuated Robots. IEEE Transactions on Robotics, 2018, 34, 317-335.	7.3	59
57	Bidirectional antagonistic variable stiffness actuation: Analysis, design & Implementation. , 2010, , .		58
58	Optimal control for exploiting the natural dynamics of Variable Stiffness robots. , 2012, , .		57
59	Passivity and Stability Boundaries for Haptic Systems With Time Delay. IEEE Transactions on Control Systems Technology, 2014, 22, 1297-1309.	3.2	57
60	Programming by touch: the different way of human-robot interaction. IEEE Transactions on Industrial Electronics, 2003, 50, 659-666.	5.2	56
61	Development of a biped robot with torque controlled joints. , 2010, , .		55
62	Generalizing Torque Control Concepts: Using Well-Established Torque Control Methods on Variable Stiffness Robots. IEEE Robotics and Automation Magazine, 2015, 22, 37-51.	2.2	54
63	State feedback controller for flexible joint robots: a globally stable approach implemented on DLR's light-weight robots. , 0, , .		52
64	A human-centered approach to robot gesture based communication within collaborative working processes. , 2011, , .		52
65	The OOS-SIM: An on-ground simulation facility for on-orbit servicing robotic operations. , 2015, , .		52
66	New insights concerning intrinsic joint elasticity for safety. , 2010, , .		51
67	The “DLR Crash Report”; Towards a standard crash-testing protocol for robot safety - Part I: Results. , 2009, , .		50
68	On the kinematic modeling and control of a mobile platform equipped with steering wheels and movable legs. , 2009, , .		49
69	Parameter identification and passivity based joint control for a 7 DOF torque controlled light weight robot. , 0, , .		48
70	Dynamic whole-body mobile manipulation with a torque controlled humanoid robot via impedance control laws. , 2011, , .		48
71	Safe Physical Human-Robot Interaction: Measurements, Analysis and New Insights. Springer Tracts in Advanced Robotics, 2010, , 395-407.	0.3	47
72	The DLR MiroSurge - A robotic system for surgery. , 2009, , .		46

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73	The ARCHES Space-Analogue Demonstration Mission: Towards Heterogeneous Teams of Autonomous Robots for Collaborative Scientific Sampling in Planetary Exploration. IEEE Robotics and Automation Letters, 2020, 5, 5315-5322.	3.3	46
74	The skeleton algorithm for self-collision avoidance of a humanoid manipulator. , 2007, , .		45
75	Robust Adaptive Tracking Control Based on State Feedback Controller With Integrator Terms for Elastic Joint Robots With Uncertain Parameters. IEEE Transactions on Control Systems Technology, 2018, 26, 2259-2267.	3.2	45
76	Real-time reactive motion generation based on variable attractor dynamics and shaped velocities. , 2010, , .		44
77	Trajectory generation for continuous leg forces during double support and heel-to-toe shift based on divergent component of motion. , 2014, , .		43
78	A hands-on-robot for accurate placement of pedicle screws. , 0, , .		42
79	Optimal Control for Maximizing Link Velocity of Robotic Variable Stiffness Joints. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6863-6871.	0.4	41
80	A versatile biomimetic controller for contact tooling and haptic exploration. , 2012, , .		41
81	Multi-objective compliance control of redundant manipulators: Hierarchy, control, and stability. , 2013, , .		41
82	Model-Free Friction Observers for Flexible Joint Robots With Torque Measurements. IEEE Transactions on Robotics, 2019, 35, 1508-1515.	7.3	39
83	A humanoid upper body system for two-handed manipulation. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	38
84	Dynamic modelling and control of variable stiffness actuators. , 2010, , .		38
85	A truly safely moving robot has to know what injury it may cause. , 2012, , .		38
86	On the closed form computation of the dynamic matrices and their differentiations. , 2013, , .		38
87	Designing optimally safe robot surface properties for minimizing the stress characteristics of human-robot collisions. , 2011, , .		37
88	Knowledge-enabled parameterization of whole-body control strategies for compliant service robots. Autonomous Robots, 2016, 40, 519-536.	3.2	37
89	Interaction Force, Impedance and Trajectory Adaptation: By Humans, for Robots. Springer Tracts in Advanced Robotics, 2014, , 331-345.	0.3	37
90	Variable impedance actuators: Moving the robots of tomorrow. , 2012, , .		36

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91	Impedance control for variable stiffness mechanisms with nonlinear joint coupling. , 2008, , .		35
92	The “DLR crash report”: Towards a standard crash-testing protocol for robot safety - Part II: Discussions. , 2009, , .		35
93	Safety Analysis for a Human-Friendly Manipulator. International Journal of Social Robotics, 2010, 2, 235-252.	3.1	35
94	Dynamic Motion Planning for Robots in Partially Unknown Environments*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6842-6850.	0.4	35
95	Object-centered hybrid reasoning for whole-body mobile manipulation. , 2014, , .		35
96	Tracking Control for the Grasping of a Tumbling Satellite With a Free-Floating Robot. IEEE Robotics and Automation Letters, 2018, 3, 3638-3645.	3.3	35
97	Anthropomorphic Soft Robotics â€“ From Torque Control to Variable Intrinsic Compliance. Springer Tracts in Advanced Robotics, 2011, , 185-207.	0.3	34
98	Extensions to reactive self-collision avoidance for torque and position controlled humanoids. , 2011, , .		33
99	Iteratively Refined Feasibility Checks in Robotic Assembly Sequence Planning. IEEE Robotics and Automation Letters, 2019, 4, 1416-1423.	3.3	33
100	Passive Hierarchical Impedance Control Via Energy Tanks. IEEE Robotics and Automation Letters, 2017, 2, 522-529.	3.3	32
101	Dynamic Walking on Compliant and Uneven Terrain using DCM and Passivity-based Whole-body Control. , 2019, , .		32
102	A review on nonlinear modes in conservative mechanical systems. Annual Reviews in Control, 2020, 50, 49-71.	4.4	32
103	Soft-tissue injury in robotics. , 2010, , .		31
104	Study on Soft-Tissue Injury in Robotics. IEEE Robotics and Automation Magazine, 2011, 18, 20-34.	2.2	31
105	On continuous null space projections for torque-based, hierarchical, multi-objective manipulation. , 2012, , .		30
106	Cartesian impedance control for a variable stiffness robot arm. , 2011, , .		29
107	Nonlinear Oscillations for Cyclic Movements in Human and Robotic Arms. IEEE Transactions on Robotics, 2014, 30, 865-879.	7.3	29
108	Dynamic Locomotion Gaits of a Compliantly Actuated Quadruped With SLIP-Like Articulated Legs Embodied in the Mechanical Design. IEEE Robotics and Automation Letters, 2018, 3, 3908-3915.	3.3	29

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109	Coordinated Control of Spacecraft's Attitude and End-Effector for Space Robots. IEEE Robotics and Automation Letters, 2019, 4, 2108-2115.	3.3	29
110	ROKVISS - robotics component verification on ISS current experimental results on parameter identification. , 0, , .		28
111	Pattern Recognition for Knowledge Transfer in Robotic Assembly Sequence Planning. IEEE Robotics and Automation Letters, 2020, 5, 3666-3673.	3.3	28
112	An Analytical Method for the Planning of Robust Assembly Tasks of Complex Shaped Planar Parts. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	27
113	Modular state-based behavior control for safe human-robot interaction: A lightweight control architecture for a lightweight robot. , 2011, , .		27
114	Fusing Joint Measurements and Visual Features for In-Hand Object Pose Estimation. IEEE Robotics and Automation Letters, 2018, 3, 3497-3504.	3.3	26
115	Object-Level Impedance Control for Dexterous In-Hand Manipulation. IEEE Robotics and Automation Letters, 2020, 5, 2987-2994.	3.3	26
116	Robotic agents capable of natural and safe physical interaction with human co-workers. , 2015, , .		25
117	Robot Companions for Citizens. Procedia Computer Science, 2011, 7, 47-51.	1.2	24
118	Experimental study on dynamic reactionless motions with DLR's humanoid robot Justin. , 2009, , .		23
119	Unmanned Aerial Systems Physically Interacting with the Environment: Load Transportation, Deployment, and Aerial Manipulation. , 2015, , 2755-2785.		23
120	A Unified Passivity Based Control Framework for Position, Torque and Impedance Control of Flexible Joint Robots. , 2007, , 5-21.		23
121	Classifying compliant manipulation tasks for automated planning in robotics. , 2015, , .		22
122	Actuators for Soft Robotics. Springer Handbooks, 2016, , 499-530.	0.3	22
123	Extending the Capability of Using a Waterjet in Surgical Interventions by the Use of Robotics. IEEE Transactions on Biomedical Engineering, 2017, 64, 284-294.	2.5	22
124	Singularity avoidance for nonholonomic, omnidirectional wheeled mobile platforms with variable footprint. , 2011, , .		21
125	Energy Shaping Control for a Class of Underactuated Euler-Lagrange Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 567-575.	0.4	21
126	Dynamics and control of a free-floating space robot in presence of nonzero linear and angular momenta. , 2016, , .		21

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127	Soft Robotics with Variable Stiffness Actuators: Tough Robots for Soft Human Robot Interaction. , 2015, , 231-254.		21
128	The Repetition Roadmap for Repetitive Constrained Motion Planning. IEEE Robotics and Automation Letters, 2018, 3, 3884-3891.	3.3	20
129	Impedance control of a non-linearly coupled tendon driven thumb. , 2011, , .		19
130	A modally adaptive control for multi-contact cyclic motions in compliantly actuated robotic systems. , 2013, , .		19
131	A passivity-based approach for trajectory tracking and link-side damping of compliantly actuated robots. , 2016, , .		19
132	SRT3D: A Sparse Region-Based 3D Object Tracking Approach for the Real World. International Journal of Computer Vision, 2022, 130, 1008-1030.	10.9	19
133	Direct force reflecting teleoperation with a flexible joint robot. , 2012, , .		18
134	The DLR C-runner: Concept, design and experiments. , 2016, , .		18
135	Safe Interactions and Kinesthetic Feedback in High Performance Earth-To-Moon Teleoperation. , 2020, , .		18
136	An Introduction to Robotically Assisted Surgical Systems: Current Developments and Focus Areas of Research. Current Robotics Reports, 2021, 2, 321-332.	5.1	18
137	On impact decoupling properties of elastic robots and time optimal velocity maximization on joint level. , 2012, , .		17
138	Design and control of compliantly actuated bipedal running robots: Concepts to exploit natural system dynamics. , 2014, , .		17
139	Neuromodulation and Synaptic Plasticity for the Control of Fast Periodic Movement: Energy Efficiency in Coupled Compliant Joints via PCA. Frontiers in Neurorobotics, 2016, 10, 2.	1.6	17
140	Biologically Inspired Deadbeat Control for Running: From Human Analysis to Humanoid Control and Back. IEEE Transactions on Robotics, 2016, 32, 854-867.	7.3	17
141	Path-Accurate Online Trajectory Generation for Jerk-Limited Industrial Robots. IEEE Robotics and Automation Letters, 2016, 1, 82-89.	3.3	17
142	Convex Properties of Center-of-Mass Trajectories for Locomotion Based on Divergent Component of Motion. IEEE Robotics and Automation Letters, 2018, 3, 3449-3456.	3.3	17
143	A model-free approach to vibration suppression for intrinsically elastic robots. , 2014, , .		16
144	A passivity-based controller for motion tracking and damping assignment for compliantly actuated robots. , 2016, , .		16

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145	Design and Operational Elements of the Robotic Subsystem for the e.deorbit Debris Removal Mission. <i>Frontiers in Robotics and AI</i> , 2018, 5, 100.	2.0	16
146	An Ecosystem for Heterogeneous Robotic Assistants in Caregiving: Core Functionalities and Use Cases. <i>IEEE Robotics and Automation Magazine</i> , 2021, 28, 12-28.	2.2	16
147	EDAN: An EMG-controlled Daily Assistant to Help People With Physical Disabilities. , 2020, , .		16
148	A Cartesian Compliance Controller for a Manipulator Mounted on a Flexible Structure. , 2006, , .		15
149	MiroSurgeâ€”Advanced User Interaction Modalities in Minimally Invasive Robotic Surgery. <i>Presence: Teleoperators and Virtual Environments</i> , 2010, 19, 400-414.	0.3	15
150	Orbital stabilization of mechanical systems through semidefinite Lyapunov functions. , 2013, , .		15
151	Repetition sampling for efficiently planning similar constrained manipulation tasks. , 2017, , .		15
152	Exploring planet geology through force-feedback telemanipulation from orbit. <i>Science Robotics</i> , 2022, 7, eabl6307.	9.9	15
153	Robotic assembly of complex planar parts: An experimental evaluation. , 2008, , .		14
154	Holistic design and analysis for the human-friendly robotic co-worker. , 2010, , .		14
155	Optimal torque and stiffness control in compliantly actuated robots. , 2012, , .		14
156	Hardware and Control Concept for an Experimental Bipedal Robot with Joint Torque Sensors. <i>Journal of the Robotics Society of Japan</i> , 2012, 30, 378-382.	0.0	14
157	Modal limit cycle control for variable stiffness actuated robots. , 2013, , .		14
158	Passivity of virtual free-floating dynamics rendered on robotic facilities. , 2015, , .		14
159	Teleoperation for on-orbit servicing missions through the ASTRA geostationary satellite. , 2016, , .		14
160	Eigenmodes of Nonlinear Dynamics: Definition, Existence, and Embodiment into Legged Robots with Elastic Elements. <i>IEEE Robotics and Automation Letters</i> , 2017, , 1-1.	3.3	14
161	Passivity Analysis and Control of Humanoid Robots on Movable Ground. <i>IEEE Robotics and Automation Letters</i> , 2018, 3, 3457-3464.	3.3	14
162	Exciting Efficient Oscillations in Nonlinear Mechanical Systems Through Eigenmanifold Stabilization. , 2021, 5, 1916-1921.		14

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163	Injury evaluation of human-robot impacts. , 2008, , .		13
164	Optimal control for haptic rendering: Fast energy dissipation and minimum overshoot. , 2013, , .		13
165	Practical consequences of inertia shaping for interaction and tracking in robot control. Control Engineering Practice, 2021, 114, 104875.	3.2	13
166	EXPERIMENTAL ANALYSIS ON SPATIAL AND CARTESIAN IMPEDANCE CONTROL FOR THE DEXTEROUS DLR/HIT II HAND. International Journal of Robotics and Automation, 2014, 29, .	0.1	13
167	Collision Detection, Identification, and Localization on the DLR SARA Robot with Sensing Redundancy. , 2021, , .		13
168	Touch: The direct type of human interaction with a redundant service robot. , 0, , .		12
169	Workspace Fixation for Free-Floating Space Robot Operations. , 2018, , .		12
170	Haptic intention augmentation for cooperative teleoperation. , 2017, , .		11
171	Closing the Force Loop to Enhance Transparency in Time-delayed Teleoperation. , 2020, , .		11
172	Joint-Level Control of the DLR Lightweight Robot SARA. , 2020, , .		11
173	Nonlinear oscillations for cyclic movements in variable impedance actuated robotic arms. , 2013, , .		10
174	Jumping control for compliantly actuated multilegged robots. , 2014, , .		10
175	Elastic Structure Preserving Impedance (ESİ) Control for Compliantly Actuated Robots. , 2018, , .		10
176	A Sparse Gaussian Approach to Region-Based 6DoF Object Tracking. Lecture Notes in Computer Science, 2021, , 666-682.	1.0	10
177	Exploiting potential energy storage for cyclic manipulation: An analysis for elastic dribbling with an anthropomorphic robot. , 2011, , .		9
178	Optimal control for maximizing potential energy in a variable stiffness joint. , 2012, , .		9
179	Rigid vs. elastic actuation: Requirements & performance. , 2012, , .		9
180	Momentum dumping for space robots. , 2017, , .		9

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181	Scaling Our World View: How Monoamines Can Put Context Into Brain Circuitry. <i>Frontiers in Cellular Neuroscience</i> , 2018, 12, 506.	1.8	9
182	Mechanisms and Design of DLR Humanoid Robots. , 2017, , 1-26.		9
183	A Peer-to-Peer Trilateral Passivity Control for Delayed Collaborative Teleoperation. <i>Lecture Notes in Computer Science</i> , 2012, , 395-406.	1.0	9
184	Impedance Control on Arbitrary Surfaces for Ultrasound Scanning Using Discrete Differential Geometry. <i>IEEE Robotics and Automation Letters</i> , 2022, 7, 7738-7746.	3.3	9
185	Constructive Energy Shaping Based Impedance Control for a Class of Underactuated Euler-Lagrange Systems. , 0, , .		8
186	The sigma.7 haptic interface for MiroSurge: A new bi-manual surgical console. , 2011, , .		8
187	Cartesian impedance control for a variable stiffness robot arm. , 2011, , .		8
188	Weight and Weightlessness Effects on Sensorimotor Performance During Manual Tracking. <i>Lecture Notes in Computer Science</i> , 2016, , 111-121.	1.0	8
189	Exploiting Elastic Energy Storage for "Blind" Cyclic Manipulation: Modeling, Stability Analysis, Control, and Experiments for Dribbling. <i>IEEE Transactions on Robotics</i> , 2018, 34, 91-112.	7.3	8
190	Inferring Semantic State Transitions During Telerobotic Manipulation. , 2018, , .		8
191	Non-Linear Local Force Feedback Control for Haptic Interfaces. <i>IFAC-PapersOnLine</i> , 2018, 51, 486-492.	0.5	8
192	Towards Autonomous Robotic Assembly: Using Combined Visual and Tactile Sensing for Adaptive Task Execution. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2021, 101, 1.	2.0	8
193	It Is (Almost) All about Human Safety: A Novel Paradigm for Robot Design, Control, and Planning. <i>Lecture Notes in Computer Science</i> , 2013, , 202-215.	1.0	8
194	Dynamic Trajectory Generation for Serial Elastic Actuated Robots. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 636-643.	0.4	7
195	Improving tracking accuracy of a MIMO state feedback controller for elastic joint robots. , 2014, , .		7
196	Cognition-enabled robotic wiping: Representation, planning, execution, and interpretation. <i>Robotics and Autonomous Systems</i> , 2019, 114, 199-216.	3.0	7
197	Actuating Eigenmanifolds of Conservative Mechanical Systems via Bounded or Impulsive Control Actions. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 2783-2790.	3.3	7
198	Strict Nonlinear Normal Modes of Systems Characterized by Scalar Functions on Riemannian Manifolds. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 1910-1917.	3.3	7

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199	Experimental Closed-Loop Excitation of Nonlinear Normal Modes on an Elastic Industrial Robot. IEEE Robotics and Automation Letters, 2022, 7, 1689-1696.	3.3	7
200	Passive Decoupled Multitask Controller for Redundant Robots. IEEE Transactions on Control Systems Technology, 2023, 31, 1-16.	3.2	7
201	Konzepte für den Roboterassistenten der Zukunft. Automatisierungstechnik, 2010, 58, 695-708.	0.4	6
202	Static calibration of the DLR medical robot MIRO, a flexible lightweight robot with integrated torque sensors. , 2011, , .		6
203	The Hardware Abstraction Layer — Supporting control design by tackling the complexity of humanoid robot hardware. , 2014, , .		6
204	Biomechanisch sichere Geschwindigkeitsregelung für die Mensch-Roboter Interaktion. Automatisierungstechnik, 2014, 62, 175-187.	0.4	6
205	Switching based limit cycle control for compliantly actuated second-order systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 6392-6399.	0.4	6
206	Targeted jumping of compliantly actuated hoppers based on discrete planning and switching control. , 2015, , .		6
207	DCM-Based Gait Generation for Walking on Moving Support Surfaces. , 2018, , .		6
208	Compliant Floating-Base Control of Space Robots. IEEE Robotics and Automation Letters, 2021, 6, 7485-7492.	3.3	6
209	A New Generation of Compliance Controlled Manipulators with Human Arm Like Properties. , 2003, , 207-218.		6
210	Biological data questions the support of the self inhibition required for pattern generation in the half center model. PLoS ONE, 2020, 15, e0238586.	1.1	6
211	Cartesian Compliant Control Strategies for Light-Weight, Flexible Joint Robots. , 2003, , 135-151.		5
212	Aus der Forschung zum Industrieprodukt: Die Entwicklung des KUKA Leichtbauroboters. Automatisierungstechnik, 2010, 58, 670-680.	0.4	5
213	Dynamic whole-body mobile manipulation with a torque controlled humanoid robot via impedance control laws. , 2011, , .		5
214	Exploiting elastic energy storage for cyclic manipulation: Modeling, stability, and observations for dribbling. , 2011, , .		5
215	Workspace analysis for a kinematically coupled torso of a torque controlled humanoid robot. , 2014, , .		5
216	Optimal Control of Variable Stiffness Actuators with Nonlinear Springs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 8487-8495.	0.4	5

#	ARTICLE	IF	CITATIONS
217	Legged Elastic Multibody Systems: Adjusting Limit Cycles to Close-to-Optimal Energy Efficiency. IEEE Robotics and Automation Letters, 2017, 2, 436-443.	3.3	5
218	Using Elastically Actuated Legged Robots in Rough Terrain: Experiments with DLR Quadruped bert. , 2020, , .		5
219	Efficient and Goal-Directed Oscillations in Articulated Soft Robots: The Point-To-Point Case. IEEE Robotics and Automation Letters, 2021, 6, 2555-2562.	3.3	5
220	Stabilization of User-Defined Feedback Controllers in Teleoperation With Passive Coupling Reference. IEEE Robotics and Automation Letters, 2021, 6, 3513-3520.	3.3	5
221	Model-Augmented Haptic Telemanipulation: Concept, Retrospective Overview, and Current Use Cases. Frontiers in Robotics and AI, 2021, 8, 611251.	2.0	5
222	From underactuation to quasi- full actuation: Aiming at a unifying control framework for articulated soft robots. International Journal of Robust and Nonlinear Control, 2022, 32, 5453-5484.	2.1	5
223	Influence of sensor quantization on the control performance of robotics actuators. , 2007, , .		4
224	DLRs zweihÄndiger Humanoide Justin: Systementwurf, Integration und Regelung. Automatisierungstechnik, 2010, 58, .	0.4	4
225	Safe acting and manipulation in human environments: A key concept for robots in our society. , 2011, , .		4
226	Adaptive friction compensation in trajectory tracking control of DLR medical robots with elastic joints. , 2012, , .		4
227	Intrinsically elastic robots: The key to human like performance. , 2012, , .		4
228	Towards a robust variable stiffness actuator. , 2013, , .		4
229	Optimal control strategies for maximizing the performance of Variable Stiffness Joints with nonlinear springs. , 2014, , .		4
230	Dynamic bipedal walking by controlling only the equilibrium of intrinsic elasticities. , 2016, , .		4
231	Iterative path-accurate trajectory generation for fast sensor-based motion of robot arms. Advanced Robotics, 2016, 30, 1380-1394.	1.1	4
232	Optical-inertial tracking of an input device for real-time robot control. , 2016, , .		4
233	Decoupling and tracking control for elastic joint robots with coupled joint structure. Advanced Robotics, 2017, 31, 184-203.	1.1	4
234	Visco-Elastic Structure Preserving Impedance (VESİ) Control for Compliantly Actuated Robots. , 2018, , .		4

#	ARTICLE	IF	CITATIONS
235	Robust, Locally Guided Peg-in-Hole using Impedance-Controlled Robots. , 2020, , .		4
236	Exponential Convergence Rates of Nonlinear Mechanical Systems: The 1-DoF Case With Configuration-Dependent Inertia. , 2021, 5, 445-450.		4
237	Using Nonlinear Normal Modes for Execution of Efficient Cyclic Motions in Articulated Soft Robots. Springer Proceedings in Advanced Robotics, 2021, , 566-575.	0.9	4
238	Optimal Control for Viscoelastic Robots and Its Generalization in Real-Time. Springer Tracts in Advanced Robotics, 2016, , 131-148.	0.3	4
239	Coordination of thrusters, reaction wheels, and arm in orbital robots. Robotics and Autonomous Systems, 2020, 131, 103564.	3.0	4
240	Impedance control of a non-linearly coupled tendon driven thumb. , 2011, , .		3
241	A Coordinate-based Approach for Static Balancing and Walking Control of Compliantly Actuated Legged Robots. , 2019, , .		3
242	PD-Like Regulation of Mechanical Systems With Prescribed Bounds of Exponential Stability: The Point-to-Point Case. , 2021, 5, 2102-2107.		3
243	Adapting Highly-Dynamic Compliant Movements to Changing Environments: A Benchmark Comparison of Reflex- vs. CPG-Based Control Strategies. Frontiers in Neurorobotics, 2021, 15, 762431.	1.6	3
244	Entkopplungsregelung und Reibungskompensation für einen Roboter mit elastischen verkoppelten Gelenken. Automatisierungstechnik, 2010, 58, 499-511.	0.4	2
245	A human-centered approach to robot gesture based communication within collaborative working processes. , 2011, , .		2
246	Evaluation of human safety in the DLR Robotic Motion Simulator using a crash test dummy. , 2013, , .		2
247	A robust sagittal plane hexapedal running model with serial elastic actuation and simple periodic feedforward control. , 2013, , .		2
248	Neuron model interpretation of a cyclic motion control concept. , 2014, , .		2
249	A graphical method to configure SpaceWire networks: SpaceWire networks and protocols, long paper. , 2016, , .		2
250	Visual Focus of Attention Recognition from Fixed Chair Sitting Postures Using RGB-D Data. , 2016, , .		2
251	Modal Matching: An Approach to Natural Compliant Jumping Control. IEEE Robotics and Automation Letters, 2016, 1, 274-281.	3.3	2
252	Data-Driven Discrete Planning for Targeted Hopping of Compliantly Actuated Robotic Legs. , 2018, , .		2

#	ARTICLE	IF	CITATIONS
253	Design of a robotic instrument for minimally invasive waterjet surgery. , 2019, , .		2
254	Mechanism Design of DLR Humanoid Robots. , 2019, , 637-662.		2
255	Error Bounds for PD-Controlled Mechanical Systems Under Bounded Disturbances Using Interval Arithmetic. IEEE Robotics and Automation Letters, 2020, 5, 1231-1238.	3.3	2
256	Learning to teleoperate an upper-limb assistive humanoid robot for bimanual daily-living tasks. Biomedical Physics and Engineering Express, 2022, 8, 015022.	0.6	2
257	Embedding a Nonlinear Strict Oscillatory Mode into a Segmented Leg. , 2021, , .		2
258	Strict Modes Everywhere – Bringing Order Into Dynamics of Mechanical Systems by a Potential Compatible With the Geodesic Flow. IEEE Robotics and Automation Letters, 2022, 7, 2337-2344.	3.3	2
259	Unsupervised symbol emergence for supervised autonomy using multi-modal latent Dirichlet allocations. Advanced Robotics, 2022, 36, 71-84.	1.1	2
260	Kinematic Transfer Learning of Sampling Distributions for Manipulator Motion Planning. , 2022, , .		2
261	Planning Natural Locomotion for Articulated Soft Quadrupeds. , 2022, , .		2
262	Static calibration of the DLR medical robot MIRO, a flexible lightweight robot with integrated torque sensors. , 2011, , .		1
263	From Torque-Controlled to Intrinsically Compliant Humanoid Robots. Mechanical Engineering, 2015, 137, S7-S11.	0.0	1
264	Imitation learning of human grasping skills from motion and force data. , 2011, , .		1
265	Exodex Adam – A Reconfigurable Dexterous Haptic User Interface for the Whole Hand. Frontiers in Robotics and AI, 2021, 8, 716598.	2.0	1
266	Exploiting potential energy storage for cyclic manipulation: An analysis for elastic dribbling with an anthropomorphic robot. , 2011, , .		0
267	Robotic simulation of on orbit servicing including hard impacts. , 2016, , .		0
268	Exact Modal Characterization of the Non Conservative Non Linear Radial Mass Spring System. , 2019, , .		0
269	Adaptive Air Density Estimation for Precise Tracking Control and Accurate External Wrench Observation for Flying Robots. IEEE Robotics and Automation Letters, 2020, 5, 1445-1452.	3.3	0
270	Exciting efficient oscillations in nonlinear mechanical systems through Eigenmanifold stabilization. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
271	PD-like Regulation of Mechanical Systems with Prescribed Bounds of Exponential Stability: the Point-to-Point Case. , 2021, , .		0
272	Exciting Nonlinear Modes of Conservative Mechanical Systems by Operating a Master Variable Decoupling. , 2021, , .		0
273	Static and dynamic characteristics of mckibben pneumatic actuator for realization of stable robot motions. , 2011, , .		0
274	Title is missing!. , 2020, 15, e0238586.		0
275	Title is missing!. , 2020, 15, e0238586.		0
276	Title is missing!. , 2020, 15, e0238586.		0
277	Title is missing!. , 2020, 15, e0238586.		0
278	Title is missing!. , 2020, 15, e0238586.		0