

Alin Albu-SchÄffer

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/164408/publications.pdf>

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	Passive Decoupled Multitask Controller for Redundant Robots. IEEE Transactions on Control Systems Technology, 2023, 31, 1-16.	3.2	7
2	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
3	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
4	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
5	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
6	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
7	Unsupervised symbol emergence for supervised autonomy using multi-modal latent Dirichlet allocations. Advanced Robotics, 2022, 36, 71-84.	1.1	2
8	Exploring planet geology through force-feedback telemanipulation from orbit. Science Robotics, 2022, 7, eabl6307.	9.9	15
9	Impedance Control on Arbitrary Surfaces for Ultrasound Scanning Using Discrete Differential Geometry. IEEE Robotics and Automation Letters, 2022, 7, 7738-7746.	3.3	9
10	Kinematic Transfer Learning of Sampling Distributions for Manipulator Motion Planning. , 2022, , .		2
11	Planning Natural Locomotion for Articulated Soft Quadrupeds. , 2022, , .		2
12	Exponential Convergence Rates of Nonlinear Mechanical Systems: The 1-DoF Case With Configuration-Dependent Inertia. , 2021, 5, 445-450.		4
13	A Sparse Gaussian Approach to Region-Based 6DoF Object Tracking. Lecture Notes in Computer Science, 2021, , 666-682.	1.0	10
14	Towards Autonomous Robotic Assembly: Using Combined Visual and Tactile Sensing for Adaptive Task Execution. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 101, 1.	2.0	8
15	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
16	Actuating Eigenmanifolds of Conservative Mechanical Systems via Bounded or Impulsive Control Actions. IEEE Robotics and Automation Letters, 2021, 6, 2783-2790.	3.3	7
17	Strict Nonlinear Normal Modes of Systems Characterized by Scalar Functions on Riemannian Manifolds. IEEE Robotics and Automation Letters, 2021, 6, 1910-1917.	3.3	7
18	Stabilization of User-Defined Feedback Controllers in Teleoperation With Passive Coupling Reference. IEEE Robotics and Automation Letters, 2021, 6, 3513-3520.	3.3	5

#	ARTICLE	IF	CITATIONS
19	Exciting efficient oscillations in nonlinear mechanical systems through Eigenmanifold stabilization. , 2021, , .		0
20	PD-like Regulation of Mechanical Systems with Prescribed Bounds of Exponential Stability: the Point-to-Point Case. , 2021, , .		0
21	Model-Augmented Haptic Telemanipulation: Concept, Retrospective Overview, and Current Use Cases. Frontiers in Robotics and AI, 2021, 8, 611251.	2.0	5
22	An Introduction to Robotically Assisted Surgical Systems: Current Developments and Focus Areas of Research. Current Robotics Reports, 2021, 2, 321-332.	5.1	18
23	An Ecosystem for Heterogeneous Robotic Assistants in Caregiving: Core Functionalities and Use Cases. IEEE Robotics and Automation Magazine, 2021, 28, 12-28.	2.2	16
24	Practical consequences of inertia shaping for interaction and tracking in robot control. Control Engineering Practice, 2021, 114, 104875.	3.2	13
25	Compliant Floating-Base Control of Space Robots. IEEE Robotics and Automation Letters, 2021, 6, 7485-7492.	3.3	6
26	PD-Like Regulation of Mechanical Systems With Prescribed Bounds of Exponential Stability: The Point-to-Point Case. , 2021, 5, 2102-2107.		3
27	Exciting Efficient Oscillations in Nonlinear Mechanical Systems Through Eigenmanifold Stabilization. , 2021, 5, 1916-1921.		14
28	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
29	Collision Detection, Identification, and Localization on the DLR SARA Robot with Sensing Redundancy. , 2021, , .		13
30	Embedding a Nonlinear Strict Oscillatory Mode into a Segmented Leg. , 2021, , .		2
31	Exodex Adamâ€”A Reconfigurable Dexterous Haptic User Interface for the Whole Hand. Frontiers in Robotics and AI, 2021, 8, 716598.	2.0	1
32	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
33	Exciting Nonlinear Modes of Conservative Mechanical Systems by Operating a Master Variable Decoupling. , 2021, , .		0
34	Closing the Force Loop to Enhance Transparency in Time-delayed Teleoperation. , 2020, , .		11
35	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
36	Using Elastically Actuated Legged Robots in Rough Terrain: Experiments with DLR Quadruped bert. , 2020, , .		5

#	ARTICLE	IF	CITATIONS
37	Safe Interactions and Kinesthetic Feedback in High Performance Earth-To-Moon Teleoperation. , 2020, , .		18
38	Robust, Locally Guided Peg-in-Hole using Impedance-Controlled Robots. , 2020, , .		4
39	A review on nonlinear modes in conservative mechanical systems. Annual Reviews in Control, 2020, 50, 49-71.	4.4	32
40	Object-Level Impedance Control for Dexterous In-Hand Manipulation. IEEE Robotics and Automation Letters, 2020, 5, 2987-2994.	3.3	26
41	Pattern Recognition for Knowledge Transfer in Robotic Assembly Sequence Planning. IEEE Robotics and Automation Letters, 2020, 5, 3666-3673.	3.3	28
42	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
43	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
44	Coordination of thrusters, reaction wheels, and arm in orbital robots. Robotics and Autonomous Systems, 2020, 131, 103564.	3.0	4
45	Joint-Level Control of the DLR Lightweight Robot SARA. , 2020, , .		11
46	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
47	EDAN: An EMG-controlled Daily Assistant to Help People With Physical Disabilities. , 2020, , .		16
48	Title is missing!. , 2020, 15, e0238586.		0
49	Title is missing!. , 2020, 15, e0238586.		0
50	Title is missing!. , 2020, 15, e0238586.		0
51	Title is missing!. , 2020, 15, e0238586.		0
52	Title is missing!. , 2020, 15, e0238586.		0
53	A Coordinate-based Approach for Static Balancing and Walking Control of Compliantly Actuated Legged Robots. , 2019, , .		3
54	Model-Free Friction Observers for Flexible Joint Robots With Torque Measurements. IEEE Transactions on Robotics, 2019, 35, 1508-1515.	7.3	39

#	ARTICLE	IF	CITATIONS
55	A dataset of continuous affect annotations and physiological signals for emotion analysis. Scientific Data, 2019, 6, 196.	2.4	79
56	Exact Modal Characterization of the Non Conservative Non Linear Radial Mass Spring System. , 2019, , .		0
57	Design of a robotic instrument for minimally invasive waterjet surgery. , 2019, , .		2
58	Iteratively Refined Feasibility Checks in Robotic Assembly Sequence Planning. IEEE Robotics and Automation Letters, 2019, 4, 1416-1423.	3.3	33
59	Coordinated Control of Spacecraft's Attitude and End-Effector for Space Robots. IEEE Robotics and Automation Letters, 2019, 4, 2108-2115.	3.3	29
60	Dynamic Walking on Compliant and Uneven Terrain using DCM and Passivity-based Whole-body Control. , 2019, , .		32
61	Cognition-enabled robotic wiping: Representation, planning, execution, and interpretation. Robotics and Autonomous Systems, 2019, 114, 199-216.	3.0	7
62	Mechanism Design of DLR Humanoid Robots. , 2019, , 637-662.		2
63	Exploiting Elastic Energy Storage for "Blind" Cyclic Manipulation: Modeling, Stability Analysis, Control, and Experiments for Dribbling. IEEE Transactions on Robotics, 2018, 34, 91-112.	7.3	8
64	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
65	Elastic Structure Preserving (ESP) Control for Compliantly Actuated Robots. IEEE Transactions on Robotics, 2018, 34, 317-335.	7.3	59
66	Progress and prospects of the human"robot collaboration. Autonomous Robots, 2018, 42, 957-975.	3.2	415
67	An Overview on Principles for Energy Efficient Robot Locomotion. Frontiers in Robotics and AI, 2018, 5, 129.	2.0	60
68	DCM-Based Gait Generation for Walking on Moving Support Surfaces. , 2018, , .		6
69	Inferring Semantic State Transitions During Telerobotic Manipulation. , 2018, , .		8
70	Non-Linear Local Force Feedback Control for Haptic Interfaces. IFAC-PapersOnLine, 2018, 51, 486-492.	0.5	8
71	Scaling Our World View: How Monoamines Can Put Context Into Brain Circuitry. Frontiers in Cellular Neuroscience, 2018, 12, 506.	1.8	9
72	Elastic Structure Preserving Impedance (ESI) Control for Compliantly Actuated Robots. , 2018, , .		10

#	ARTICLE	IF	CITATIONS
73	Data-Driven Discrete Planning for Targeted Hopping of Compliantly Actuated Robotic Legs. , 2018, , .		2
74	Visco-Elastic Structure Preserving Impedance (VESİ) Control for Compliantly Actuated Robots. , 2018, , .		4
75	Workspace Fixation for Free-Floating Space Robot Operations. , 2018, , .		12
76	Design and Operational Elements of the Robotic Subsystem for the e.deorbit Debris Removal Mission. Frontiers in Robotics and AI, 2018, 5, 100.	2.0	16
77	The Repetition Roadmap for Repetitive Constrained Motion Planning. IEEE Robotics and Automation Letters, 2018, 3, 3884-3891.	3.3	20
78	Force, Impedance, and Trajectory Learning for Contact Tooling and Haptic Identification. IEEE Transactions on Robotics, 2018, 34, 1170-1182.	7.3	102
79	Passivity Analysis and Control of Humanoid Robots on Movable Ground. IEEE Robotics and Automation Letters, 2018, 3, 3457-3464.	3.3	14
80	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
81	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
82	Fusing Joint Measurements and Visual Features for In-Hand Object Pose Estimation. IEEE Robotics and Automation Letters, 2018, 3, 3497-3504.	3.3	26
83	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
84	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
85	Eigenmodes of Nonlinear Dynamics: Definition, Existence, and Embodiment into Legged Robots with Elastic Elements. IEEE Robotics and Automation Letters, 2017, , 1-1.	3.3	14
86	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
87	Passive Hierarchical Impedance Control Via Energy Tanks. IEEE Robotics and Automation Letters, 2017, 2, 522-529.	3.3	32
88	Decoupling and tracking control for elastic joint robots with coupled joint structure. Advanced Robotics, 2017, 31, 184-203.	1.1	4
89	Robot Collisions: A Survey on Detection, Isolation, and Identification. IEEE Transactions on Robotics, 2017, 33, 1292-1312.	7.3	469
90	Haptic intention augmentation for cooperative teleoperation. , 2017, , .		11

#	ARTICLE	IF	CITATIONS
91	Repetition sampling for efficiently planning similar constrained manipulation tasks. , 2017, , .		15
92	Momentum dumping for space robots. , 2017, , .		9
93	Mechanisms and Design of DLR Humanoid Robots. , 2017, , 1-26.		9
94	Neuromodulation and Synaptic Plasticity for the Control of Fast Periodic Movement: Energy Efficiency in Coupled Compliant Joints via PCA. <i>Frontiers in Neurorobotics</i> , 2016, 10, 2.	1.6	17
95	A passivity-based approach for trajectory tracking and link-side damping of compliantly actuated robots. , 2016, , .		19
96	Dynamics and control of a free-floating space robot in presence of nonzero linear and angular momenta. , 2016, , .		21
97	The DLR C-runner: Concept, design and experiments. , 2016, , .		18
98	Dynamic bipedal walking by controlling only the equilibrium of intrinsic elasticities. , 2016, , .		4
99	Robotic simulation of on orbit servicing including hard impacts. , 2016, , .		0
100	A graphical method to configure SpaceWire networks: SpaceWire networks and protocols, long paper. , 2016, , .		2
101	A passivity-based controller for motion tracking and damping assignment for compliantly actuated robots. , 2016, , .		16
102	Visual Focus of Attention Recognition from Fixed Chair Sitting Postures Using RGB-D Data. , 2016, , .		2
103	Modal Matching: An Approach to Natural Compliant Jumping Control. <i>IEEE Robotics and Automation Letters</i> , 2016, 1, 274-281.	3.3	2
104	Knowledge-enabled parameterization of whole-body control strategies for compliant service robots. <i>Autonomous Robots</i> , 2016, 40, 519-536.	3.2	37
105	Teleoperation for on-orbit servicing missions through the ASTRA geostationary satellite. , 2016, , .		14
106	Actuators for Soft Robotics. <i>Springer Handbooks</i> , 2016, , 499-530.	0.3	22
107	Biologically Inspired Deadbeat Control for Running: From Human Analysis to Humanoid Control and Back. <i>IEEE Transactions on Robotics</i> , 2016, 32, 854-867.	7.3	17
108	Weight and Weightlessness Effects on Sensorimotor Performance During Manual Tracking. <i>Lecture Notes in Computer Science</i> , 2016, , 111-121.	1.0	8

#	ARTICLE	IF	CITATIONS
109	Iterative path-accurate trajectory generation for fast sensor-based motion of robot arms. <i>Advanced Robotics</i> , 2016, 30, 1380-1394.	1.1	4
110	KONTUR-2: Force-feedback teleoperation from the international space station. , 2016, , .		72
111	Optical-inertial tracking of an input device for real-time robot control. , 2016, , .		4
112	Variable Stiffness Actuators: Review on Design and Components. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016, 21, 2418-2430.	3.7	293
113	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
114	Path-Accurate Online Trajectory Generation for Jerk-Limited Industrial Robots. <i>IEEE Robotics and Automation Letters</i> , 2016, 1, 82-89.	3.3	17
115	Whole-body impedance control of wheeled mobile manipulators. <i>Autonomous Robots</i> , 2016, 40, 505-517.	3.2	68
116	Optimal Control for Viscoelastic Robots and Its Generalization in Real-Time. <i>Springer Tracts in Advanced Robotics</i> , 2016, , 131-148.	0.3	4
117	Targeted jumping of compliantly actuated hoppers based on discrete planning and switching control. , 2015, , .		6
118	Classifying compliant manipulation tasks for automated planning in robotics. , 2015, , .		22
119	From Torque-Controlled to Intrinsically Compliant Humanoid Robots. <i>Mechanical Engineering</i> , 2015, 137, S7-S11.	0.0	1
120	Robotic agents capable of natural and safe physical interaction with human co-workers. , 2015, , .		25
121	The OOS-SIM: An on-ground simulation facility for on-orbit servicing robotic operations. , 2015, , .		52
122	Generalizing Torque Control Concepts: Using Well-Established Torque Control Methods on Variable Stiffness Robots. <i>IEEE Robotics and Automation Magazine</i> , 2015, 22, 37-51.	2.2	54
123	Variable stiffness actuators: The user's point of view. <i>International Journal of Robotics Research</i> , 2015, 34, 727-743.	5.8	160
124	An overview of null space projections for redundant, torque-controlled robots. <i>International Journal of Robotics Research</i> , 2015, 34, 1385-1400.	5.8	139
125	Three-Dimensional Bipedal Walking Control Based on Divergent Component of Motion. <i>IEEE Transactions on Robotics</i> , 2015, 31, 355-368.	7.3	258
126	Prioritized multi-task compliance control of redundant manipulators. <i>Automatica</i> , 2015, 53, 416-423.	3.0	114

#	ARTICLE	IF	CITATIONS
127	Passivity of virtual free-floating dynamics rendered on robotic facilities. , 2015, , .		14
128	Backstepping Control of Variable Stiffness Robots. IEEE Transactions on Control Systems Technology, 2015, 23, 2195-2202.	3.2	77
129	Unmanned Aerial Systems Physically Interacting with the Environment: Load Transportation, Deployment, and Aerial Manipulation. , 2015, , 2755-2785.		23
130	Soft Robotics with Variable Stiffness Actuators: Tough Robots for Soft Human Robot Interaction. , 2015, , 231-254.		21
131	Workspace analysis for a kinematically coupled torso of a torque controlled humanoid robot. , 2014, , .		5
132	Object-centered hybrid reasoning for whole-body mobile manipulation. , 2014, , .		35
133	The Hardware Abstraction Layer — Supporting control design by tackling the complexity of humanoid robot hardware. , 2014, , .		6
134	Overview of the torque-controlled humanoid robot TORO. , 2014, , .		199
135	Design and control of compliantly actuated bipedal running robots: Concepts to exploit natural system dynamics. , 2014, , .		17
136	Improving tracking accuracy of a MIMO state feedback controller for elastic joint robots. , 2014, , .		7
137	Biomechanisch sichere Geschwindigkeitsregelung f¼r die Mensch-Roboter Interaktion. Automatisierungstechnik, 2014, 62, 175-187.	0.4	6
138	Optimal control strategies for maximizing the performance of Variable Stiffness Joints with nonlinear springs. , 2014, , .		4
139	Trajectory generation for continuous leg forces during double support and heel-to-toe shift based on divergent component of motion. , 2014, , .		43
140	Jumping control for compliantly actuated multilegged robots. , 2014, , .		10
141	A model-free approach to vibration suppression for intrinsically elastic robots. , 2014, , .		16
142	Passivity and Stability Boundaries for Haptic Systems With Time Delay. IEEE Transactions on Control Systems Technology, 2014, 22, 1297-1309.	3.2	57
143	Neuron model interpretation of a cyclic motion control concept. , 2014, , .		2
144	Nonlinear Oscillations for Cyclic Movements in Human and Robotic Arms. IEEE Transactions on Robotics, 2014, 30, 865-879.	7.3	29

#	ARTICLE	IF	CITATIONS
145	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
146	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
147	Interaction Force, Impedance and Trajectory Adaptation: By Humans, for Robots. Springer Tracts in Advanced Robotics, 2014, , 331-345.	0.3	37
148	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
149	Variable impedance actuators: A review. Robotics and Autonomous Systems, 2013, 61, 1601-1614.	3.0	822
150	Robots Driven by Compliant Actuators: Optimal Control Under Actuation Constraints. IEEE Transactions on Robotics, 2013, 29, 1085-1101.	7.3	176
151	Evaluation of human safety in the DLR Robotic Motion Simulator using a crash test dummy. , 2013, , .		2
152	Nonlinear oscillations for cyclic movements in variable impedance actuated robotic arms. , 2013, , .		10
153	Orbital stabilization of mechanical systems through semidefinite Lyapunov functions. , 2013, , .		15
154	Multi-objective compliance control of redundant manipulators: Hierarchy, control, and stability. , 2013, , .		41
155	Towards a robust variable stiffness actuator. , 2013, , .		4
156	Optimal control for haptic rendering: Fast energy dissipation and minimum overshoot. , 2013, , .		13
157	A modally adaptive control for multi-contact cyclic motions in compliantly actuated robotic systems. , 2013, , .		19
158	On the closed form computation of the dynamic matrices and their differentiations. , 2013, , .		38
159	A robust sagittal plane hexapedal running model with serial elastic actuation and simple periodic feedforward control. , 2013, , .		2
160	Three-dimensional bipedal walking control using Divergent Component of Motion. , 2013, , .		100
161	First analysis and experiments in aerial manipulation using fully actuated redundant robot arm. , 2013, , .		107
162	Modal limit cycle control for variable stiffness actuated robots. , 2013, , .		14

#	ARTICLE	IF	CITATIONS
163	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
164	It Is (Almost) All about Human Safety: A Novel Paradigm for Robot Design, Control, and Planning. Lecture Notes in Computer Science, 2013, , 202-215.	1.0	8
165	On making robots understand safety: Embedding injury knowledge into control. International Journal of Robotics Research, 2012, 31, 1578-1602.	5.8	143
166	Adaptive friction compensation in trajectory tracking control of DLR medical robots with elastic joints. , 2012, , .		4
167	On continuous null space projections for torque-based, hierarchical, multi-objective manipulation. , 2012, , .		30
168	On impact decoupling properties of elastic robots and time optimal velocity maximization on joint level. , 2012, , .		17
169	Optimal control for exploiting the natural dynamics of Variable Stiffness robots. , 2012, , .		57
170	Optimal control for maximizing potential energy in a variable stiffness joint. , 2012, , .		9
171	Direct force reflecting teleoperation with a flexible joint robot. , 2012, , .		18
172	A versatile biomimetic controller for contact tooling and haptic exploration. , 2012, , .		41
173	A truly safely moving robot has to know what injury it may cause. , 2012, , .		38
174	Variable impedance actuators: Moving the robots of tomorrow. , 2012, , .		36
175	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
176	Dynamic Trajectory Generation for Serial Elastic Actuated Robots. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 636-643.	0.4	7
177	Integration of Reactive, Torque-Based Self-Collision Avoidance Into a Task Hierarchy. IEEE Transactions on Robotics, 2012, 28, 1278-1293.	7.3	72
178	Walking control of fully actuated robots based on the Bipedal SLIP model. , 2012, , .		64
179	Intrinsically elastic robots: The key to human like performance. , 2012, , .		4
180	Comparison of object-level grasp controllers for dynamic dexterous manipulation. International Journal of Robotics Research, 2012, 31, 3-23.	5.8	84

#	ARTICLE	IF	CITATIONS
181	Optimal torque and stiffness control in compliantly actuated robots. , 2012, , .		14
182	Rigid vs. elastic actuation: Requirements & performance. , 2012, , .		9
183	Hardware and Control Concept for an Experimental Bipedal Robot with Joint Torque Sensors. Journal of the Robotics Society of Japan, 2012, 30, 378-382.	0.0	14
184	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
185	A Peer-to-Peer Trilateral Passivity Control for Delayed Collaborative Teleoperation. Lecture Notes in Computer Science, 2012, , 395-406.	1.0	9
186	The sigma.7 haptic interface for MiroSurge: A new bi-manual surgical console. , 2011, , .		73
187	Safe acting and manipulation in human environments: A key concept for robots in our society. , 2011, , .		4
188	Bipedal walking control based on Capture Point dynamics. , 2011, , .		110
189	Exploiting potential energy storage for cyclic manipulation: An analysis for elastic dribbling with an anthropomorphic robot. , 2011, , .		9
190	The DLR hand arm system. , 2011, , .		330
191	Anthropomorphic Soft Robotics “ From Torque Control to Variable Intrinsic Compliance. Springer Tracts in Advanced Robotics, 2011, , 185-207.	0.3	34
192	Human-Like Adaptation of Force and Impedance in Stable and Unstable Interactions. IEEE Transactions on Robotics, 2011, 27, 918-930.	7.3	360
193	The sigma.7 haptic interface for MiroSurge: A new bi-manual surgical console. , 2011, , .		8
194	Static calibration of the DLR medical robot MIRO, a flexible lightweight robot with integrated torque sensors. , 2011, , .		1
195	Bipedal walking control based on Capture Point dynamics. , 2011, , .		133
196	Impedance control of a non-linearly coupled tendon driven thumb. , 2011, , .		3
197	Dynamic whole-body mobile manipulation with a torque controlled humanoid robot via impedance control laws. , 2011, , .		5
198	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

#	ARTICLE	IF	CITATIONS
199	Cartesian impedance control for a variable stiffness robot arm. , 2011, , .		8
200	Exploiting potential energy storage for cyclic manipulation: An analysis for elastic dribbling with an anthropomorphic robot. , 2011, , .		0
201	A human-centered approach to robot gesture based communication within collaborative working processes. , 2011, , .		2
202	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
203	Robot Companions for Citizens. Procedia Computer Science, 2011, 7, 47-51.	1.2	24
204	Study on Soft-Tissue Injury in Robotics. IEEE Robotics and Automation Magazine, 2011, 18, 20-34.	2.2	31
205	Exploiting elastic energy storage for cyclic manipulation: Modeling, stability, and observations for dribbling. , 2011, , .		5
206	A human-centered approach to robot gesture based communication within collaborative working processes. , 2011, , .		52
207	Dynamic whole-body mobile manipulation with a torque controlled humanoid robot via impedance control laws. , 2011, , .		48
208	Extensions to reactive self-collision avoidance for torque and position controlled humanoids. , 2011, , .		33
209	Cartesian impedance control for a variable stiffness robot arm. , 2011, , .		29
210	Static calibration of the DLR medical robot MIRO, a flexible lightweight robot with integrated torque sensors. , 2011, , .		6
211	Designing optimally safe robot surface properties for minimizing the stress characteristics of human-robot collisions. , 2011, , .		37
212	State feedback damping control for a multi DOF variable stiffness robot arm. , 2011, , .		59
213	Singularity avoidance for nonholonomic, omnidirectional wheeled mobile platforms with variable footprint. , 2011, , .		21
214	Impedance control of a non-linearly coupled tendon driven thumb. , 2011, , .		19
215	Modular state-based behavior control for safe human-robot interaction: A lightweight control architecture for a lightweight robot. , 2011, , .		27
216	Towards the Robotic Co-Worker. Springer Tracts in Advanced Robotics, 2011, , 261-282.	0.3	68

#	ARTICLE	IF	CITATIONS
217	Imitation learning of human grasping skills from motion and force data. , 2011, , .		1
218	Static and dynamic characteristics of McKibben pneumatic actuator for realization of stable robot motions. , 2011, , .		0
219	Safety Analysis for a Human-Friendly Manipulator. International Journal of Social Robotics, 2010, 2, 235-252.	3.1	35
220	DLR MiroSurge: a versatile system for research in endoscopic telesurgery. International Journal of Computer Assisted Radiology and Surgery, 2010, 5, 183-193.	1.7	226
221	On joint design with intrinsic variable compliance: derivation of the DLR QA-Joint. , 2010, , .		96
222	DLRs zweihÄndiger Humanoide Justin: Systementwurf, Integration und Regelung. Automatisierungstechnik, 2010, 58, .	0.4	4
223	Dynamic modelling and control of variable stiffness actuators. , 2010, , .		38
224	Real-time reactive motion generation based on variable attractor dynamics and shaped velocities. , 2010, , .		44
225	Soft-tissue injury in robotics. , 2010, , .		31
226	Holistic design and analysis for the human-friendly robotic co-worker. , 2010, , .		14
227	New insights concerning intrinsic joint elasticity for safety. , 2010, , .		51
228	Bidirectional antagonistic variable stiffness actuation: Analysis, design & Implementation. , 2010, , .		58
229	Entkopplungsregelung und Reibungskompensation für einen Roboter mit elastischen verkoppelten Gelenken. Automatisierungstechnik, 2010, 58, 499-511.	0.4	2
230	Aus der Forschung zum Industrieprodukt: Die Entwicklung des KUKA Leichtbauroboters. Automatisierungstechnik, 2010, 58, 670-680.	0.4	5
231	Konzepte für den Roboterassistenten der Zukunft. Automatisierungstechnik, 2010, 58, 695-708.	0.4	6
232	MiroSurge – Advanced User Interaction Modalities in Minimally Invasive Robotic Surgery. Presence: Teleoperators and Virtual Environments, 2010, 19, 400-414.	0.3	15
233	Development of a biped robot with torque controlled joints. , 2010, , .		55
234	Safe Physical Human-Robot Interaction: Measurements, Analysis and New Insights. Springer Tracts in Advanced Robotics, 2010, , 395-407.	0.3	47

#	ARTICLE	IF	CITATIONS
235	Biomimetic motor behavior for simultaneous adaptation of force, impedance and trajectory in interaction tasks. , 2010, , .		62
236	The “DLR crash report”: Towards a standard crash-testing protocol for robot safety - Part II: Discussions. , 2009, , .		35
237	Experimental study on dynamic reactionless motions with DLR's humanoid robot Justin. , 2009, , .		23
238	The “DLR Crash Report”: Towards a standard crash-testing protocol for robot safety - Part I: Results. , 2009, , .		50
239	Rollin' Justin - Mobile platform with variable base. , 2009, , .		102
240	On the kinematic modeling and control of a mobile platform equipped with steering wheels and movable legs. , 2009, , .		49
241	Kick it with elasticity: Safety and performance in human“robot soccer. Robotics and Autonomous Systems, 2009, 57, 761-775.	3.0	61
242	Requirements for Safe Robots: Measurements, Analysis and New Insights. International Journal of Robotics Research, 2009, 28, 1507-1527.	5.8	360
243	The DLR MiroSurge - A robotic system for surgery. , 2009, , .		46
244	Soft robotics. IEEE Robotics and Automation Magazine, 2008, 15, 20-30.	2.2	431
245	Impedance control for variable stiffness mechanisms with nonlinear joint coupling. , 2008, , .		35
246	The role of the robot mass and velocity in physical human-robot interaction - Part I: Non-constrained blunt impacts. , 2008, , .		104
247	On the Passivity-Based Impedance Control of Flexible Joint Robots. IEEE Transactions on Robotics, 2008, 24, 416-429.	7.3	351
248	The role of the robot mass and velocity in physical human-robot interaction - Part II: Constrained blunt impacts. , 2008, , .		63
249	The DLR MIRO: a versatile lightweight robot for surgical applications. Industrial Robot, 2008, 35, 324-336.	1.2	158
250	Injury evaluation of human-robot impacts. , 2008, , .		13
251	Friction Observer and Compensation for Control of Robots with Joint Torque Measurement. , 2008, , .		70
252	Robotic assembly of complex planar parts: An experimental evaluation. , 2008, , .		14

#	ARTICLE	IF	CITATIONS
253	Collision Detection and Reaction: A Contribution to Safe Physical Human-Robot Interaction. , 2008, , .		361
254	The DLR lightweight robot: design and control concepts for robots in human environments. Industrial Robot, 2007, 34, 376-385.	1.2	512
255	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
256	Influence of sensor quantization on the control performance of robotics actuators. , 2007, , .		4
257	The skeleton algorithm for self-collision avoidance of a humanoid manipulator. , 2007, , .		45
258	A Unified Passivity-based Control Framework for Position, Torque and Impedance Control of Flexible Joint Robots. International Journal of Robotics Research, 2007, 26, 23-39.	5.8	654
259	A humanoid upper body system for two-handed manipulation. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	38
260	A Unified Passivity Based Control Framework for Position, Torque and Impedance Control of Flexible Joint Robots. , 2007, , 5-21.		23
261	A Cartesian Compliance Controller for a Manipulator Mounted on a Flexible Structure. , 2006, , .		15
262	A Humanoid Two-Arm System for Dexterous Manipulation. , 2006, , .		141
263	Collision Detection and Safe Reaction with the DLR-III Lightweight Manipulator Arm. , 2006, , .		429
264	Robotic On-Orbit Servicing - DLR's Experience and Perspective. , 2006, , .		61
265	A passivity based Cartesian impedance controller for flexible joint robots - part II: full state feedback, impedance design and experiments. , 2004, , .		110
266	DLR's robotics technologies for on-orbit servicing. Advanced Robotics, 2004, 18, 139-174.	1.1	145
267	A passivity based Cartesian impedance controller for flexible joint robots - part I: torque feedback and gravity compensation. , 2004, , .		115
268	Programming by touch: the different way of human-robot interaction. IEEE Transactions on Industrial Electronics, 2003, 50, 659-666.	5.2	56
269	Cartesian Compliant Control Strategies for Light-Weight, Flexible Joint Robots. , 2003, , 135-151.		5
270	A New Generation of Compliance Controlled Manipulators with Human Arm Like Properties. , 2003, , 207-218.		6

#	ARTICLE	IF	CITATIONS
271	A globally stable state feedback controller for flexible joint robots. <i>Advanced Robotics</i> , 2001, 15, 799-814.	1.1	85
272	State feedback controller for flexible joint robots: a globally stable approach implemented on DLR's light-weight robots. , 0, , .		52
273	Touch: The direct type of human interaction with a redundant service robot. , 0, , .		12
274	Parameter identification and passivity based joint control for a 7 DOF torque controlled light weight robot. , 0, , .		48
275	Cartesian impedance control techniques for torque controlled light-weight robots. , 0, , .		103
276	Constructive Energy Shaping Based Impedance Control for a Class of Underactuated Euler-Lagrange Systems. , 0, , .		8
277	ROKVISS - robotics component verification on ISS current experimental results on parameter identification. , 0, , .		28
278	A hands-on-robot for accurate placement of pedicle screws. , 0, , .		42