

Alexander Klimchik

List of Publications by Year in descending order

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129
papers

1,758
citations

430874

18
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36
g-index

134
all docs

134
docs citations

134
times ranked

764
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced stiffness modeling of manipulators with passive joints. Mechanism and Machine Theory, 2011, 46, 662-679.	4.5	203
2	Geometric calibration of industrial robots using enhanced partial pose measurements and design of experiments. Robotics and Computer-Integrated Manufacturing, 2015, 35, 151-168.	9.9	137
3	Identification of the manipulator stiffness model parameters in industrial environment. Mechanism and Machine Theory, 2015, 90, 1-22.	4.5	121
4	Stiffness modeling for perfect and non-perfect parallel manipulators under internal and external loadings. Mechanism and Machine Theory, 2014, 79, 1-28.	4.5	112
5	Efficiency evaluation of robots in machining applications using industrial performance measure. Robotics and Computer-Integrated Manufacturing, 2017, 48, 12-29.	9.9	104
6	CAD-based approach for identification of elasto-static parameters of robotic manipulators. Finite Elements in Analysis and Design, 2013, 75, 19-30.	3.2	93
7	Fundamentals of manipulator stiffness modeling using matrix structural analysis. Mechanism and Machine Theory, 2019, 133, 365-394.	4.5	73
8	Compliance error compensation technique for parallel robots composed of non-perfect serial chains. Robotics and Computer-Integrated Manufacturing, 2013, 29, 385-393.	9.9	52
9	Stiffness Matrix of Manipulators With Passive Joints: Computational Aspects. IEEE Transactions on Robotics, 2012, 28, 955-958.	10.3	44
10	Optimal Selection of Measurement Configurations for Stiffness Model Calibration of Anthropomorphic Manipulators. Applied Mechanics and Materials, 0, 162, 161-170.	0.2	39
11	Interactive Robot Programming Using Mixed Reality. IFAC-PapersOnLine, 2018, 51, 50-55.	0.9	37
12	Collision detection, localization & classification for industrial robots with joint torque sensors. , 2017, , .		36
13	Serial vs. quasi-serial manipulators: Comparison analysis of elasto-static behaviors. Mechanism and Machine Theory, 2017, 107, 46-70.	4.5	35
14	Human-robot interaction for robotic manipulator programming in Mixed Reality. , 2020, , .		35
15	Combination of geometric and parametric approaches for kinematic identification of an industrial robot. Robotics and Computer-Integrated Manufacturing, 2021, 71, 102142.	9.9	34
16	Optimal pose selection for calibration of planar anthropomorphic manipulators. Precision Engineering, 2015, 40, 214-229.	3.4	33
17	Geometric and elastostatic calibration of robotic manipulator using partial pose measurements. Advanced Robotics, 2014, 28, 1419-1429.	1.8	31
18	Experimental study of robotic-based machining. IFAC-PapersOnLine, 2016, 49, 174-179.	0.9	28

#	ARTICLE	IF	CITATIONS
19	Identification of geometrical and elastostatic parameters of heavy industrial robots. , 2013, , .		26
20	Compliance Error Compensation in Robotic-Based Milling. Lecture Notes in Electrical Engineering, 2014, , 197-216.	0.4	25
21	Robotic manipulators with double encoders: accuracy improvement based on advanced stiffness modeling and intelligent control. IFAC-PapersOnLine, 2018, 51, 740-745.	0.9	24
22	UAV Positioning Mechanisms in Landing Stations: Classification and Engineering Design Review. Sensors, 2020, 20, 3648.	3.8	22
23	Interactive Robots Control Using Mixed Reality. IFAC-PapersOnLine, 2019, 52, 695-700.	0.9	18
24	Real-Time External Contact Force Estimation and Localization for Collaborative Robot. , 2019, , .		17
25	Multi robots interactive control using mixed reality. International Journal of Production Research, 2021, 59, 7126-7138.	7.5	15
26	Fast Sampling-based Next-Best-View Exploration Algorithm for a MAV. , 2021, , .		13
27	MSA-technique for stiffness modeling of manipulators with complex and hybrid structures. IFAC-PapersOnLine, 2018, 51, 37-43.	0.9	11
28	Design of experiments for calibration of planar anthropomorphic manipulators. , 2011, , .		10
29	Stiffness Modeling of Robotic Manipulator with Gravity Compensator. Mechanisms and Machine Science, 2014, , 185-192.	0.5	10
30	Static stability of manipulator configuration: Influence of the external loading. European Journal of Mechanics, A/Solids, 2015, 51, 193-203.	3.7	9
31	Design of experiments for elastostatic calibration of heavy industrial robots with kinematic parallelogram and gravity compensator. IFAC-PapersOnLine, 2016, 49, 967-972.	0.9	9
32	Accuracy Improvement of Robot-Based Milling Using an Enhanced Manipulator Model. Mechanisms and Machine Science, 2014, , 73-81.	0.5	9
33	Optimization-Based Trajectory Tracking Approach for Multi-Rotor Aerial Vehicles in Unknown Environments. IEEE Robotics and Automation Letters, 2022, 7, 4598-4605.	5.1	9
34	Optimality Criteria for Measurement Poses Selection in Calibration of Robot Stiffness Parameters. , 2012, , .		8
35	Humanoid robot kinematic calibration using industrial manipulator. , 2017, , .		8
36	Programming by Demonstration Using Two-Step Optimization for Industrial Robot.. IFAC-PapersOnLine, 2018, 51, 72-77.	0.9	8

#	ARTICLE	IF	CITATIONS
37	Collision Driven Multi Scenario Approach for Human Collaboration with Industrial Robot. , 2018, , .		8
38	Error Analysis in Solving the Inverse Problem of the Cable-driven Parallel Underactuated Robot Kinematics and Methods for their Elimination. IFAC-PapersOnLine, 2019, 52, 1156-1161.	0.9	8
39	Deep Learning with Transfer Learning Method for Error Compensation of Cable-driven Robot. , 2020, , .		8
40	Workpiece placement optimization for machining operations with industrial robots. , 2014, , .		7
41	Complete Stiffness Model for a Serial Robot. , 2014, , .		7
42	Elastostatic Modeling of Multi-Link Flexible Manipulator Based on Two-Dimensional Dual-Triangle Tensegrity Mechanism. Journal of Mechanisms and Robotics, 2022, 14, .	2.2	7
43	Real-Time Estimation of Multiple Potential Contact Locations and Forces. IEEE Robotics and Automation Letters, 2021, 6, 7025-7032.	5.1	7
44	Comparison Study of Industrial Robots for High-Speed Machining. Lecture Notes in Mechanical Engineering, 2017, , 135-149.	0.4	6
45	HyperNEAT-based flipper control for a crawler robot motion in 3D simulation environment. , 2017, , .		6
46	Advancement of MSA-Technique for Stiffness Modeling of Serial and Parallel Robotic Manipulators. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2019, , 355-362.	0.6	6
47	Cartesian stiffness matrix of manipulators with passive joints: Analytical approach. , 2011, , .		5
48	Robust algorithm for calibration of robotic manipulator model. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 808-812.	0.4	5
49	Modelling of dynamically stable AR-601M robot locomotion in Simulink. MATEC Web of Conferences, 2016, 75, 09004.	0.2	5
50	Calibration of industrial robots with pneumatic gravity compensators. , 2017, , .		5
51	Optimal Planar 3RRR Robot Assembly Mode and Actuation Scheme for Machining Applications. IFAC-PapersOnLine, 2018, 51, 734-739.	0.9	5
52	Advancement of Robots With Double Encoders for Industrial and Collaborative Applications. , 2018, , .		5
53	Control System Design for Two Link Robot Arm with MACCEPA 2.0 Variable Stiffness Actuators. , 2019, , .		5
54	Development of typical collision reactions in combination with algorithms for external impacts identification. IFAC-PapersOnLine, 2019, 52, 253-258.	0.9	5

#	ARTICLE	IF	CITATIONS
55	Measurement of End-effector Pose Errors and the Cable Profile of Cable-Driven Robot using Monocular Camera. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 103, 1.	3.4	5
56	Energy-based local forward and inverse kinematics methods for tensegrity robots. , 2020, , .		5
57	Mixed-Integer-Based Path and Morphing Planning for a Tensegrity Drone. Applied Sciences (Switzerland), 2022, 12, 5588.	2.5	5
58	Advanced robot calibration using partial pose measurements. , 2013, , .		4
59	Practical Identifiability of the Manipulator Link Stiffness Parameters. , 2013, , .		4
60	Control of Actuators with Linearized Variable Stiffness. IFAC-PapersOnLine, 2019, 52, 713-718.	0.9	4
61	Stiffness Analysis of a New Tensegrity Mechanism based on Planar Dual-triangles. , 2020, , .		4
62	Design and Stiffness Analysis of 12 DoF Poppy-inspired Humanoid. , 2017, , .		4
63	Compliance Error Compensation based on Reduced Model for Industrial Robots. , 2018, , .		4
64	Admissible Region ZMP Trajectory Generation for Bipedal Robots Walking Over Uneven Terrain. Smart Innovation, Systems and Technologies, 2020, , 125-136.	0.6	4
65	Transfer Learning for Collision Localization in Collaborative Robotics. , 2020, , .		4
66	Trajectory tracking for quadrotors: An optimization-based planning followed by controlling approach. Journal of Field Robotics, 2022, 39, 1001-1011.	6.0	4
67	Machining with serial and quasi-serial industrial robots: Comparison analysis and architecture limitations. , 2016, , .		3
68	Comparison of kinematic and dynamic leg trajectory optimization techniques for biped robot locomotion. Journal of Physics: Conference Series, 2017, 803, 012069.	0.4	3
69	Optimization of centipede robot body designs through evolutionary algorithms and multiple rough terrains simulation. , 2017, , .		3
70	Model Predictive Path Integral Control for Car Driving with Autogenerated Cost map Based on Prior Map and Camera Image. , 2019, , .		3
71	Mechanics of Compliant Serial Manipulator Composed of Dual-triangle Segments. International Journal of Mechanical Engineering and Robotics Research, 2021, , 169-176.	1.0	3
72	Optimization of Measurement Configurations for Geometrical Calibration of Industrial Robot. Lecture Notes in Computer Science, 2012, , 132-143.	1.3	3

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73	Swing Leg Trajectory Optimization for a Humanoid Robot Locomotion. , 2016, , .		3
74	Stiffness Modelling of Parallelogram-Based Parallel Manipulators. , 2010, , 675-682.		3
75	The Stability and Stiffness Analysis of a Dual-Triangle Planar Rotation Mechanism. , 2020, , .		3
76	Path Planning Followed by Kinodynamic Smoothing for Multirotor Aerial Vehicles (MAVs). , 2020, , .		3
77	Underactuated mechanical systems: Whether orbital stabilization is an adequate assignment for a controller design?. IFAC-PapersOnLine, 2020, 53, 9262-9269.	0.9	3
78	Morphing-Enabled Path Planning for Flying Tensegrity Robots as a Semidefinite Program. Frontiers in Robotics and AI, 2022, 9, 812849.	3.2	3
79	Stability of Manipulator Configuration Under External Loading. , 2012, , .		2
80	Industry-Oriented Performance Measures for Design of Robot Calibration Experiment. Mechanisms and Machine Science, 2013, , 519-527.	0.5	2
81	Experimental study on geometric and elastostatic calibration of industrial robot for milling application. , 2014, , .		2
82	Geometrical Patterns for Measurement Pose Selection in Calibration of Serial Manipulators. , 2014, , 263-271.		2
83	Stiffness of serial and quasi-serial manipulators: comparison analysis. MATEC Web of Conferences, 2016, 75, 02003.	0.2	2
84	Concept Development Of Biomimetic Centipede Robot StriRus. , 2018, , .		2
85	Stiffness Analysis for Anthropomorphic Platform. , 2018, , .		2
86	Interactive mobile robot in a dynamic environment. IFAC-PapersOnLine, 2018, 51, 354-359.	0.9	2
87	Numerical Optimisation-Based Control Pipeline for Robot Arm for Machine Learning Experiments. , 2019, , .		2
88	State Observer for Linear Systems with Explicit Constraints: Orthogonal Decomposition Method. Sensors, 2021, 21, 6312.	3.8	2
89	Stiffness Analysis of Parallel Manipulators with Preloaded Passive Joints. , 2010, , 465-474.		2
90	Model Predictive Path Integral Control for Car Driving with Dynamic Cost Map. , 2018, , .		2

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91	Arbitrary Trajectory Foot Planner for Bipedal Walking. , 2017, , .		2
92	Compliance Error Compensation based on Reduced Model for Industrial Robots. , 2018, , .		2
93	Multi-Scenario Contacts Handling for Collaborative Robots Applications. , 2021, , .		2
94	Model Free Error Compensation for Cable-Driven Robot Based on Deep Learning with Sim2real Transfer Learning. Lecture Notes in Electrical Engineering, 2022, , 479-496.	0.4	2
95	Stiffness Modeling for Gravity Compensators. Mechanisms and Machine Science, 2022, , 27-71.	0.5	2
96	Non-linear stiffness behavior of planar serial robotic manipulators. Mechanism and Machine Theory, 2022, 172, 104783.	4.5	2
97	Stiffness Modeling of Robotic-Manipulators Under Auxiliary Loadings. , 2012, , .		1
98	Stiffness modeling of non-perfect parallel manipulators. , 2012, , .		1
99	Modelling of the gravity compensators in robotic manufacturing cells. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 790-795.	0.4	1
100	Efficiency Improvement of Measurement Pose Selection Techniques in Robot Calibration. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 802-807.	0.4	1
101	Algebraic technique for the stiffness model reduction in elastostatic calibration of robotic manipulators. , 2014, , .		1
102	Real-world large-step stair-climbing for small humanoids using evolutionary computation. , 2017, , .		1
103	Stiffness modelling of serial under-constrained manipulators using matrix structural analysis. IFAC-PapersOnLine, 2018, 51, 710-715.	0.9	1
104	Stiffness Analysis of Parallel Manipulator NaVaRo with Dual Actuation Modes. , 2018, , .		1
105	Stiffness modeling of NAVARO II transmission system. IFAC-PapersOnLine, 2019, 52, 701-706.	0.9	1
106	Regions of Interest Segmentation from LiDAR Point Cloud for Multirotor Aerial Vehicles. , 2020, , .		1
107	Convex Optimization-based Stiffness Control for Tensegrity Robotic Structures. , 2020, , .		1
108	Kinematic Control of Compliant Serial Manipulators Composed of Dual-Triangles. , 2021, , .		1

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109	Model Predictive Path Integral Control for Car Driving with Dynamic Cost Map. , 2018, , .		1
110	Comprising of Elastostatic and Elastodynamic Modeling for Compliance Error Compensation in Bipedal Robot. Lecture Notes in Electrical Engineering, 2020, , 404-424.	0.4	1
111	Algebraic approach to the stiffness model reduction for manipulators with double encoders. , 2020, , .		1
112	Increasing Machining Accuracy of Industrial Manipulators Using Reduced Elastostatic Model. Lecture Notes in Electrical Engineering, 2020, , 384-406.	0.4	1
113	Mechanical design optimization for a five-link walking bipedal robot. IFAC-PapersOnLine, 2020, 53, 8953-8958.	0.9	1
114	Dynamic Object Grasping in Human-Robot Cooperation Based on Mixed-Reality. , 2021, , .		1
115	Robotic Pick and Assembly Using Deep Learning and Hybrid Vision/Force Control. , 2021, , .		1
116	Comparison of Serial and Quasi-Serial Industrial Robots for Isotropic Tasks. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2016, , 421-429.	0.6	0
117	Generation of motion patterns with turns for bipedal walking robot based on actuated 3D Dual-SLIP model. , 2018, , .		0
118	Scenarios for Physical Robot-Environment Interaction. , 2018, , .		0
119	Variable Actuation Modes in Parallel Manipulators: Impact on the Stiffness Behavior. , 2018, , .		0
120	Stiffness Parameters Identification for Walking Robot. , 2019, , .		0
121	Trajectory optimization for underactuated systems using reinforcement learning: cart-pole problem. , 2019, , .		0
122	Automated robotic assembly of complex workpieces from regular components. , 2019, , .		0
123	Multi-collision Detection for Collaborative Robot. , 2019, , .		0
124	Automated robotic assembly of complex workpieces from tipped components forms. IOP Conference Series: Materials Science and Engineering, 2021, 1129, 012059.	0.6	0
125	Spherical robot wrist control with compensation of compliance errors. , 2020, , .		0
126	Humanoid robot solving a task of balancing on a tilting platform. Cybernetics and Physics, 2020, , 5-12.	0.3	0

#	ARTICLE	IF	CITATIONS
127	Workspace Analysis of Tensegrity Structures with an Iterative Energy-based Algorithm. , 2020, , .		0
128	A deep learning based robot positioning error compensation. , 2021, , .		0
129	Equilibrium Configurations of Compliant Tensegrity Mechanism Based on Planar Dual-Triangles. Lecture Notes in Electrical Engineering, 2022, , 316-337.	0.4	0