

Matthew Spenko

List of Publications by Year in descending order

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54
papers

1,226
citations

623734

14
h-index

477307

29
g-index

54
all docs

54
docs citations

54
times ranked

996
citing authors

#	ARTICLE	IF	CITATIONS
1	An Adaptive Shared Control System for an Intelligent Mobility Aid for the Elderly. <i>Autonomous Robots</i> , 2003, 15, 53-66.	4.8	196
2	Directional adhesion for climbing: theoretical and practical considerations. <i>Journal of Adhesion Science and Technology</i> , 2007, 21, 1317-1341.	2.6	125
3	Improving controllable adhesion on both rough and smooth surfaces with a hybrid electrostatic/gecko-like adhesive. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20131089.	3.4	117
4	A modified pressure-sinkage model for small, rigid wheels on deformable terrains. <i>Journal of Terramechanics</i> , 2011, 48, 149-155.	3.1	75
5	Modeling and Performance Assessment of the HyTAQ, a Hybrid Terrestrial/Aerial Quadrotor. <i>IEEE Transactions on Robotics</i> , 2014, 30, 1278-1285.	10.3	72
6	Autonomous perching and take-off on vertical walls for a quadrotor micro air vehicle. , 2015, , .		69
7	Increasing the adhesion force of electrostatic adhesives using optimized electrode geometry and a novel manufacturing process. <i>Journal of Electrostatics</i> , 2014, 72, 147-155.	1.9	63
8	An Electrostatic/Gecko-Inspired Adhesives Soft Robotic Gripper. <i>IEEE Robotics and Automation Letters</i> , 2020, 5, 4679-4686.	5.1	41
9	A shape memory alloy-actuated gecko-inspired robotic gripper. <i>Sensors and Actuators A: Physical</i> , 2018, 276, 76-82.	4.1	40
10	Electrostatic self-cleaning gecko-like adhesives. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20170714.	3.4	30
11	A self-aligning gripper using an electrostatic/gecko-like adhesive. , 2016, , .		29
12	A pressure-sinkage model for small-diameter wheels on compactive, deformable terrain. <i>Journal of Terramechanics</i> , 2013, 50, 37-44.	3.1	24
13	Optimization and experimental validation of electrostatic adhesive geometry. , 2013, , .		20
14	Understanding the influence of silicone elastomer properties on wedge-shaped microstructured dry adhesives loaded in shear. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20180551.	3.4	19
15	Recursive Integrity Monitoring for Mobile Robot Localization Safety. , 2019, , .		19
16	A tunable dielectric to improve electrostatic adhesion in electrostatic/microstructured adhesives. <i>Journal of Electrostatics</i> , 2019, 97, 58-70.	1.9	19
17	Increasing adhesion via a new electrode design and improved manufacturing in electrostatic/microstructured adhesives. <i>Journal of Electrostatics</i> , 2018, 91, 48-55.	1.9	18
18	Evaluation of Material Properties for Practical Microstructured Adhesives: Low Dust Adhesion and High Shear Strength. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 8654-8666.	8.0	16

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19	Efficient Integrity Monitoring for KF-based Localization. , 2019, , .		14
20	A multi-digit tactile motion stimulator. Journal of Neuroscience Methods, 2014, 226, 80-87.	2.5	13
21	Optimizing electrostatic cleaning for dust removal on gecko-inspired adhesives. Journal of Electrostatics, 2020, 108, 103499.	1.9	13
22	A Self-Reconfigurable Variable-Stiffness Soft Robot Based on Boundary-Constrained Modular Units. IEEE Transactions on Robotics, 2022, 38, 810-821.	10.3	13
23	Development of a gecko-like robotic gripper using Scott's-Russell mechanisms. Robotica, 2020, 38, 541-549.	1.9	12
24	A New Approach to Unwanted-Object Detection in GNSS/LiDAR-Based Navigation. Sensors, 2018, 18, 2740.	3.8	11
25	Cable-Driven Jamming of a Boundary Constrained Soft Robot. , 2020, , .		11
26	A Boundary-Constrained Swarm Robot with Granular Jamming. , 2020, , .		10
27	Quantifying Robot Localization Safety: A New Integrity Monitoring Method for Fixed-Lag Smoothing. IEEE Robotics and Automation Letters, 2020, 5, 3182-3189.	5.1	10
28	Optimization of Electrostatic Adhesives for Robotic Climbing and Manipulation. , 2012, , .		9
29	Ultrasonic and Electrostatic Self-Cleaning Microstructured Adhesives for Robotic Grippers. , 2018, , .		9
30	Integrity Risk-Based Model Predictive Control for Mobile Robots. , 2019, , .		9
31	Evaluation of silicone elastomers as structural materials for microstructured adhesives. Bioinspiration and Biomimetics, 2019, 14, 046005.	2.9	9
32	Landmark Data Selection and Unmapped Obstacle Detection in Lidar-Based Navigation. , 0, , .		9
33	A microstructured adhesive gripper with piezoelectric controlled adhesion, cleaning, and sensing. Smart Materials and Structures, 2019, 28, 115037.	3.5	8
34	An empirical study of the terramechanics of small unmanned ground vehicles. , 2010, , .		7
35	Execution of dynamic maneuvers for unmanned ground vehicles using variable internal inertial properties. , 2009, , .		6
36	Comprehensive pressure-sinkage model for small-wheeled unmanned ground vehicles on dilative, deformable terrain. , 2012, , .		6

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37	Integrity monitoring for Kalman filter-based localization. International Journal of Robotics Research, 2020, 39, 1503-1524.	8.5	6
38	Landmark Augmentation for Mobile Robot Localization Safety. IEEE Robotics and Automation Letters, 2021, 6, 119-126.	5.1	6
39	Design and experimental characterization of an omnidirectional unmanned ground vehicle for outdoor terrain. , 2012, , .		5
40	Local Nearest Neighbor Integrity Risk Evaluation for Robot Navigation. , 2018, , .		5
41	Evaluating GNSS Navigation Availability in 3-D Mapped Urban Environments. , 2020, , .		5
42	Crosslinker and catalyst as silicone elastomer bonding enhancers: applications to fabrication of hybrid electrostatic/gecko-like adhesives. Journal of Micromechanics and Microengineering, 2019, 29, 077001.	2.6	4
43	Dynamics and control of an omnidirectional unmanned ground vehicle. , 2009, , .		3
44	Parameter optimization of directional dry adhesives for robotic climbing and gripping applications. , 2012, , .		3
45	Design and experimental characterization of an omnidirectional unmanned ground vehicle for unstructured terrain. Robotica, 2015, 33, 1984-2000.	1.9	3
46	The Effect of Bending Compliance on Adhesion Pressure of Hybrid Electrostatic/Gecko-Like Adhesives. , 2018, , .		3
47	Making Contact: A Review of Robotic Attachment Mechanisms for Extraterrestrial Applications. Advanced Intelligent Systems, 2023, 5, 2100063.	6.1	3
48	Localization Safety Validation for Autonomous Robots. , 2020, , .		3
49	Using R-Functions to Control the Shape of Soft Robots. IEEE Robotics and Automation Letters, 2022, 7, 8598-8603.	5.1	3
50	Increasing agility in unmanned ground vehicles using variable internal mass and inertial properties. , 2009, , .		2
51	Statistical Characterization of Biomimetic Gecko Adhesives. Aerotecnica Missili & Spazio, 2019, 98, 187-197.	0.9	1
52	Repeatable and accurate assembly of X-ray foil optics. Precision Engineering, 2006, 30, 63-70.	3.4	0
53	Application of a diameter-dependent terramechanics model to small-wheeled unmanned ground vehicles operating on deformable terrain. , 2011, , .		0
54	Application of a diameter-dependent terramechanics model to small-wheeled unmanned ground vehicles operating on deformable terrain. , 2011, , .		0