

# Zongquan Deng

## List of Publications by Citations

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98  
papers

905  
citations

15  
h-index

26  
g-index

121  
ext. papers

1,223  
ext. citations

3.5  
avg. IF

4.68  
L-index

#	Paper	IF	Citations
98	Foot-Terrain interaction mechanics for legged robots: Modeling and experimental validation. <i>International Journal of Robotics Research</i> , <b>2013</b> , 32, 1585-1606	5.7	74
97	Adaptive Neural Network-Based Tracking Control for Full-State Constrained Wheeled Mobile Robotic System. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , <b>2017</b> , 47, 2410-2419	7.3	65
96	Interaction Mechanics Model for Rigid Driving Wheels of Planetary Rovers Moving on Sandy Terrain with Consideration of Multiple Physical Effects. <i>Journal of Field Robotics</i> , <b>2015</b> , 32, 827-859	6.7	53
95	Adaptive Partial Reinforcement Learning Neural Network-Based Tracking Control for Wheeled Mobile Robotic Systems. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , <b>2020</b> , 50, 2512-2523	7.3	52
94	Design and Mobility Analysis of Large Deployable Mechanisms Based on Plane-Symmetric Bricard Linkage. <i>Journal of Mechanical Design, Transactions of the ASME</i> , <b>2017</b> , 139,	3	46
93	Adaptive neural network tracking control-based reinforcement learning for wheeled mobile robots with skidding and slipping. <i>Neurocomputing</i> , <b>2018</b> , 283, 20-30	5.4	42
92	Adaptive motion control of wheeled mobile robot with unknown slippage. <i>International Journal of Control</i> , <b>2014</b> , 87, 1513-1522	1.5	38
91	Adaptive Neural Network-Based Finite-Time Online Optimal Tracking Control of the Nonlinear System With Dead Zone. <i>IEEE Transactions on Cybernetics</i> , <b>2021</b> , 51, 382-392	10.2	35
90	Gait Generation With Smooth Transition Using CPG-Based Locomotion Control for Hexapod Walking Robot. <i>IEEE Transactions on Industrial Electronics</i> , <b>2016</b> , 63, 5488-5500	8.9	30
89	A review of heavy-duty legged robots. <i>Science China Technological Sciences</i> , <b>2014</b> , 57, 298-314	3.5	30
88	Experimental study and analysis of the wheels-steering mechanics for planetary exploration wheeled mobile robots moving on deformable terrain. <i>International Journal of Robotics Research</i> , <b>2013</b> , 32, 712-743	5.7	27
87	Longitudinal skid model for wheels of planetary exploration rovers based on terramechanics. <i>Journal of Terramechanics</i> , <b>2013</b> , 50, 327-343	2.2	26
86	Experiment and multiobjective optimization design of tape-spring hinges. <i>Structural and Multidisciplinary Optimization</i> , <b>2015</b> , 51, 1373-1384	3.6	23
85	ADP-Based Online Tracking Control of Partially Uncertain Time-Delayed Nonlinear System and Application to Wheeled Mobile Robots. <i>IEEE Transactions on Cybernetics</i> , <b>2020</b> , 50, 3182-3194	10.2	20
84	Trajectory tracking control of wheeled mobile manipulator based on fuzzy neural network and extended Kalman filtering. <i>Neural Computing and Applications</i> , <b>2018</b> , 30, 447-462	4.8	17
83	Linear normal stress under a wheel in skid for wheeled mobile robots running on sandy terrain. <i>Journal of Terramechanics</i> , <b>2017</b> , 70, 49-57	2.2	15
82	Low Impact Force and Energy Consumption Motion Planning for Hexapod Robot with Passive Compliant Ankles. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2019</b> , 94, 349-370	2.9	15

81	Motion planning and simulation verification of a hydraulic hexapod robot based on reducing energy/flow consumption. <i>Journal of Mechanical Science and Technology</i> , <b>2015</b> , 29, 4427-4436	1.6	14
80	Robust adaptive control of door opening by a mobile rescue manipulator based on unknown-force-related constraints estimation. <i>Robotica</i> , <b>2018</b> , 36, 119-140	2.1	12
79	Adaptive Neural Network-Based Finite-Time Tracking Control for Nonstrict Nonaffined MIMO Nonlinear Systems. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , <b>2019</b> , 1-11	7.3	11
78	Three-layer intelligence of planetary exploration wheeled mobile robots: Robint, virtint, and humint. <i>Science China Technological Sciences</i> , <b>2015</b> , 58, 1299-1317	3.5	10
77	Dynamic Modeling and Performance Analysis of a 3-DOF Pan Mechanism for a Cooking Robot#. <i>Mechanics Based Design of Structures and Machines</i> , <b>2010</b> , 38, 243-260	1.7	10
76	Design and Experiments of a Novel Rotary Piezoelectric Actuator Using Longitudinal/Torsional Convertors. <i>IEEE Access</i> , <b>2019</b> , 7, 22186-22195	3.5	9
75	Experimental investigation on flowing characteristics of flexible tube coring in lunar sampling missions. <i>Powder Technology</i> , <b>2018</b> , 326, 16-24	5.2	9
74	Rotary-Perussive Ultrasonic Drill: An Effective Subsurface Penetrating Tool for Minor Planet Exploration. <i>IEEE Access</i> , <b>2018</b> , 6, 37796-37806	3.5	9
73	Hydrodynamic calculation and analysis of a complex-shaped underwater robot based on computational fluid dynamics and prototype test. <i>Advances in Mechanical Engineering</i> , <b>2017</b> , 9, 168781401773450	1.2	9
72	An admittance-controlled wheeled mobile manipulator for mobility assistance: Human-Robot interaction estimation and redundancy resolution for enhanced force exertion ability. <i>Mechatronics</i> , <b>2021</b> , 74, 102497	3	9
71	Unknown geometrical constraints estimation and trajectory planning for robotic door-opening task with visual teleoperation assists. <i>Assembly Automation</i> , <b>2019</b> , 39, 479-488	2.1	8
70	Minimizing the Energy Consumption for a Hexapod Robot Based on Optimal Force Distribution. <i>IEEE Access</i> , <b>2020</b> , 8, 5393-5406	3.5	8
69	Design of Comprehensive High-fidelity/High-speed Virtual Simulation System for Lunar Rover <b>2008</b> ,		8
68	Enhancement of Force Exertion Capability of a Mobile Manipulator by Kinematic Reconfiguration. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 5842-5849	4.2	8
67	Experimental Study on Friction Characteristics and Running Stability of a Novel Ultrasonic Levitating Bearing. <i>IEEE Access</i> , <b>2018</b> , 6, 21719-21730	3.5	7
66	Deployment analysis and optimization of a flexible deployable structure for large synthetic aperture radar antennas. <i>Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering</i> , <b>2016</b> , 230, 615-627	0.9	7
65	Adaptive Fuzzy Finite-Time Tracking Control for Nonstrict Full States Constrained Nonlinear System With Coupled Dead-Zone Input. <i>IEEE Transactions on Cybernetics</i> , <b>2020</b> ,	10.2	6
64	High-slip wheel-terrain contact modelling for grouser-wheeled planetary rovers traversing on sandy terrains. <i>Mechanism and Machine Theory</i> , <b>2020</b> , 153, 104032	4	6

63	Reinforcement Learning Neural Network-Based Adaptive Control for State and Input Time-Delayed Wheeled Mobile Robots. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , <b>2020</b> , 50, 4171-4182	7.3	6
62	Diagonal recurrent neural networks for parameters identification of terrain based on wheel-soil interaction analysis. <i>Neural Computing and Applications</i> , <b>2017</b> , 28, 797-804	4.8	5
61	Large deployable network constructed by Altmann linkages. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , <b>2017</b> , 231, 341-355	1.3	5
60	Air rudder mechanism dynamics considering two elements: Joint clearance and link flexibility. <i>Journal of Mechanical Science and Technology</i> , <b>2017</b> , 31, 3189-3197	1.6	5
59	Mobility performance analysis of lunar rover based on terramechanics <b>2008</b> ,		5
58	A 3-R(SRS)RP Multi-Loop Mechanism for Space Manipulation: Design, Kinematics, Singularity, and Workspace. <i>Journal of Mechanisms and Robotics</i> , <b>2020</b> , 12,	2.2	5
57	Inchworm Drilling System for Planetary Subsurface Exploration. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2020</b> , 25, 837-847	5.5	5
56	Mobility and singularity analyses of a symmetric multi-loop mechanism for space applications. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 095440622199555	1.3	5
55	Design and Dynamic Equivalent Modeling of Double-Layer Hoop Deployable Antenna. <i>International Journal of Aerospace Engineering</i> , <b>2018</b> , 2018, 1-15	0.9	5
54	Research on a low-impact unlocking trigger device of heavy load based on shape memory alloy fiber. <i>Advances in Mechanical Engineering</i> , <b>2017</b> , 9, 168781401772408	1.2	4
53	Quickly Obtaining Range of Articulated Rotating Speed for Electrically Driven Large-Load-Ratio Six-Legged Robot Based on Maximum Walking Speed Method. <i>IEEE Access</i> , <b>2019</b> , 7, 29453-29470	3.5	4
52	A Piezoelectric-Driven Rock-Drilling Device for Extraterrestrial Subsurface Exploration. <i>Shock and Vibration</i> , <b>2018</b> , 2018, 1-12	1.1	4
51	State estimation of a heavy-duty hexapod robot with passive compliant ankles based on the leg kinematics and IMU data fusion. <i>Journal of Mechanical Science and Technology</i> , <b>2018</b> , 32, 3885-3897	1.6	4
50	Thermal Analysis of the Driving Component Based on the Thermal Network Method in a Lunar Drilling System and Experimental Verification. <i>Energies</i> , <b>2017</b> , 10, 355	3.1	4
49	Dynamic Modeling and Experimental Validation of Door-Opening Process by a Mobile Manipulator. <i>IEEE Access</i> , <b>2019</b> , 7, 80916-80927	3.5	3
48	Impact Dynamics of a Percussive System Based on Rotary-Percussive Ultrasonic Drill. <i>Shock and Vibration</i> , <b>2017</b> , 2017, 1-10	1.1	3
47	Spatial Geometry Modeling of Truss Structure and Analysis of Connection Deviation for Deployable Truss Antenna <b>2010</b> ,		3
46	Stability analysis of a tracked mobile robot in climbing stairs process <b>2012</b> ,		3

45	A novel active deform and wheel-legged suspension of Mars rover <b>2016</b> ,		3
44	Toward a Unified Approximate Analytical Representation for Spatially Running Spring-Loaded Inverted Pendulum Model. <i>IEEE Transactions on Robotics</i> , <b>2021</b> , 37, 691-698	6.5	3
43	Lightweight Self-Forming Super-Elastic Mechanical Metamaterials with Adaptive Stiffness. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2008252	15.6	3
42	Optimal Energy Consumption for Mobile Manipulators Executing Door-Opening Task. <i>Mathematical Problems in Engineering</i> , <b>2018</b> , 2018, 1-11	1.1	3
41	Switch control for operating constrained mechanisms using a rescuing mobile manipulator with multiple working modes <b>2016</b> ,		2
40	Impact Dynamics Prediction of a Rotary-Percussive Ultrasonic Drill With a Free Mass. <i>IEEE Access</i> , <b>2018</b> , 6, 32649-32661	3.5	2
39	Development of ray nondestructive detecting and grinding robot for weld seam in pipe <b>2017</b> ,		2
38	Kinematic analysis of pipe robot in elbow based on virtual prototype technology <b>2015</b> ,		2
37	Active gravity compensation test bed for a six-DOF free-flying robot <b>2015</b> ,		2
36	Active control of free paraboloidal membrane shells using photostrictive actuators. <i>Transactions of Tianjin University</i> , <b>2011</b> , 17, 6-12	2.9	2
35	Algorithm analysis for a rover simulation platform <b>2011</b> ,		2
34	Revealing the Mechanical Characteristics via Kinematic Wave Model for Snake-Like Robot Executing Exploration of Lunar Craters. <i>IEEE Access</i> , <b>2020</b> , 8, 38368-38379	3.5	2
33	A new iterative synthetic data generation method for CNN based stroke gesture recognition. <i>Multimedia Tools and Applications</i> , <b>2018</b> , 77, 17181-17205	2.5	2
32	Pressing and Rubbing: Physics-Informed Features Facilitate Haptic Terrain Classification for Legged Robots.. <i>IEEE Robotics and Automation Letters</i> , <b>2022</b> , 1-1	4.2	2
31	A continuous contact force model of planar revolute joint based on fitting method. <i>Advances in Mechanical Engineering</i> , <b>2017</b> , 9, 168781401769047	1.2	1
30	Study of space micro-vibration active isolation platform acceleration measurement <b>2015</b> ,		1
29	Sagittal SLIP-anchored task space control for a monopode robot traversing irregular terrain. <i>Frontiers of Mechanical Engineering</i> , <b>2020</b> , 15, 193-208	3.3	1
28	Design and control of a novel six-DOF maglev platform for positioning and vibration isolation <b>2017</b> ,		1

27	Dynamic analysis of a cable underwater robot in a nuclear reaction pool <b>2016</b> ,		1
26	Mobility analysis of a family of one-dimensional deployable mechanisms based on Sarrus mechanism <b>2016</b> ,		1
25	Experimental evaluating approach to a suitable Martian coaxial rotorcraft blade <b>2017</b> ,		1
24	Dual-SLIP model based galloping gait control for quadruped robot: A Task-space Formulation <b>2017</b> ,		1
23	Design of experimental setups for evaluating hover performance of a Martian coaxial rotorcraft <b>2017</b> ,		1
22	Velocity analysis of tri-axial differential pipeline robot when getting across elbow <b>2010</b> ,		1
21	Configuration synthesis and performance evaluation metrics of lunar rover locomotion systems. <i>Transactions of Tianjin University</i> , <b>2009</b> , 15, 193-200	2.9	1
20	Drilling states monitoring for a planetary drilling & coring testbed (PDCT): Method and design <b>2016</b> ,		1
19	Prediction of Load-Carrying Capacity in the Radial Direction for Piezoelectric-Driven Ultrasonic Bearings. <i>IEEE Access</i> , <b>2019</b> , 7, 30599-30614	3.5	1
18	Closed-Form Equations and Experimental Verification for Soft Robot Arm Based on Cosserat Theory* <b>2019</b> ,		1
17	Analysis of the repeatability of a deployable space tri-prism mast based on the Monte Carlo method. <i>Journal of Mechanical Science and Technology</i> , <b>2021</b> , 35, 921-933	1.6	1
16	A New Underwater Robot for Crack Welding in Nuclear Power Plants <b>2018</b> ,		1
15	Footstep Planning for Hexapod Robots Based on 3D Quasi-static Equilibrium Support Region. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2021</b> , 103, 1	2.9	1
14	Linear Expressions of Drawbar Pull and Driving Torque for Grouser-Wheeled Planetary Rovers Without Terrain Mechanical Parameters. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 8197-8204	4.2	1
13	High-Fidelity Dynamic Modeling and Simulation of Planetary Rovers Using Single-Input-Multi-Output Joints With Terrain Property Mapping. <i>IEEE Transactions on Robotics</i> , <b>2022</b> , 1-10	6.5	1
12	An improved variable-length beam element with a torsion effect based on the absolute nodal coordinate formulation. <i>Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics</i> , <b>2018</b> , 232, 69-83	0.9	0
11	Estimation of interaction forces with minimal parameters for rigid wheels on deformable terrain using modified Hooke's law. <i>Mechanism and Machine Theory</i> , <b>2022</b> , 169, 104663	4	0
10	A novel localization approach for underwater welding vehicles in spent fuel pools via attitude heading reference system and altimeters. <i>International Journal of Advanced Robotic Systems</i> , <b>2019</b> , 16, 172988141983054	1.4	

- 9 Analysis of Hinge Hysteresis Based on Response Surface Method. *IEEE Access*, **2020**, 8, 47312-47321 3.5
- 8 Dynamic equivalent continuum modeling of beamlike space lattice structure. *The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM*, **2010**, 2010.5, 486-491
- 7 Design Method of Truss Structure with the Same Size Module for Deployable Truss Antenna. *The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM*, **2010**, 2010.5, 480-485
- 6 Analysis of cable effect on dynamic motion of an underwater vehicle for welding of reaction pool. *Advances in Mechanical Engineering*, **2019**, 11, 168781401988676 1.2
- 5 Centroid variability model Based control of HITUVV for automatic underwater welding with enhanced stability and accuracy. *Advances in Mechanical Engineering*, **2019**, 11, 168781401989021 1.2
- 4 Coupled Bending Inwards Motion and Control Strategy Analysis of a Cable-Driven Underactuated Finger. *IEEE Access*, **2021**, 1-1 3.5
- 3 Analysis of Inherent Characteristics, Load Sharing Characteristics, and Transportation Mechanical Response of a Transmission System in a Lunar Sampler and Its Experimental Verification. *IEEE Access*, **2018**, 6, 59790-59802 3.5
- 2 Numerical simulation on interaction process between impact penetrator and lunar soil particles for lunar subsurface exploration. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, 095441002110708 0.9
- 1 Teleoperation of Wheeled Mobile Robot With Dynamic Longitudinal Slippage. *IEEE Transactions on Control Systems Technology*, **2022**, 1-15 4.8