Zongquan Deng

List of Publications by Year in Descending Order

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	Estimation of interaction forces with minimal parameters for rigid wheels on deformable terrain using modified Hooke's law. *Mechanism and Machine Theory*, **2022**, 169, 104663	4	0
97	Pressing and Rubbing: Physics-Informed Features Facilitate Haptic Terrain Classification for Legged Robots.. *IEEE Robotics and Automation Letters*, **2022**, 1-1	4.2	2
96	High-Fidelity Dynamic Modeling and Simulation of Planetary Rovers Using Single-Input-Multi-Output Joints With Terrain Property Mapping. *IEEE Transactions on Robotics*, **2022**, 1-10	6.5	1
95	Teleoperation of Wheeled Mobile Robot With Dynamic Longitudinal Slippage. *IEEE Transactions on Control Systems Technology*, **2022**, 1-15	4.8	
94	An admittance-controlled wheeled mobile manipulator for mobility assistance: Human–robot interaction estimation and redundancy resolution for enhanced force exertion ability. *Mechatronics*, **2021**, 74, 102497	3	9
93	Toward a Unified Approximate Analytical Representation for Spatially Running Spring-Loaded Inverted Pendulum Model. *IEEE Transactions on Robotics*, **2021**, 37, 691-698	6.5	3
92	Lightweight Self-Forming Super-Elastic Mechanical Metamaterials with Adaptive Stiffness. *Advanced Functional Materials*, **2021**, 31, 2008252	15.6	3
91	Adaptive Neural Network-Based Finite-Time Online Optimal Tracking Control of the Nonlinear System With Dead Zone. *IEEE Transactions on Cybernetics*, **2021**, 51, 382-392	10.2	35
90	Coupled Bending Inwards Motion and Control Strategy Analysis of a Cable-Driven Underactuated Finger. *IEEE Access*, **2021**, 1-1	3.5	
89	Analysis of the repeatability of a deployable space tri-prism mast based on the Monte Carlo method. *Journal of Mechanical Science and Technology*, **2021**, 35, 921-933	1.6	1
88	Footstep Planning for Hexapod Robots Based on 3D Quasi-static Equilibrium Support Region. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2021**, 103, 1	2.9	1
87	Linear Expressions of Drawbar Pull and Driving Torque for Grouser-Wheeled Planetary Rovers Without Terrain Mechanical Parameters. *IEEE Robotics and Automation Letters*, **2021**, 6, 8197-8204	4.2	1
86	Adaptive Fuzzy Finite-Time Tracking Control for Nonstrict Full States Constrained Nonlinear System With Coupled Dead-Zone Input. *IEEE Transactions on Cybernetics*, **2020**,	10.2	6
85	Analysis of Hinge Hysteresis Based on Response Surface Method. *IEEE Access*, **2020**, 8, 47312-47321	3.5	
84	Minimizing the Energy Consumption for a Hexapod Robot Based on Optimal Force Distribution. *IEEE Access*, **2020**, 8, 5393-5406	3.5	8
83	Sagittal SLIP-anchored task space control for a monopode robot traversing irregular terrain. *Frontiers of Mechanical Engineering*, **2020**, 15, 193-208	3.3	1
82	A 3-R(SRS)RP Multi-Loop Mechanism for Space Manipulation: Design, Kinematics, Singularity, and Workspace. *Journal of Mechanisms and Robotics*, **2020**, 12,	2.2	5

81	Inchworm Drilling System for Planetary Subsurface Exploration. *IEEE/ASME Transactions on Mechatronics*, **2020**, 25, 837-847	5.5	5
80	Revealing the Mechanical Characteristics via Kinematic Wave Model for Snake-Like Robot Executing Exploration of Lunar Craters. *IEEE Access*, **2020**, 8, 38368-38379	3.5	2
79	High-slip wheel-terrain contact modelling for grouser-wheeled planetary rovers traversing on sandy terrains. *Mechanism and Machine Theory*, **2020**, 153, 104032	4	6
78	Enhancement of Force Exertion Capability of a Mobile Manipulator by Kinematic Reconfiguration. *IEEE Robotics and Automation Letters*, **2020**, 5, 5842-5849	4.2	8
77	Reinforcement Learning Neural Network-Based Adaptive Control for State and Input Time-Delayed Wheeled Mobile Robots. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2020**, 50, 4171-4182	7.3	6
76	ADP-Based Online Tracking Control of Partially Uncertain Time-Delayed Nonlinear System and Application to Wheeled Mobile Robots. *IEEE Transactions on Cybernetics*, **2020**, 50, 3182-3194	10.2	20
75	Adaptive Partial Reinforcement Learning Neural Network-Based Tracking Control for Wheeled Mobile Robotic Systems. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2020**, 50, 2512-2523	7.3	52
74	Adaptive Neural Network-Based Finite-Time Tracking Control for Nonstrict Nonaffined MIMO Nonlinear Systems. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2019**, 1-11	7.3	11
73	Unknown geometrical constraints estimation and trajectory planning for robotic door-opening task with visual teleoperation assists. *Assembly Automation*, **2019**, 39, 479-488	2.1	8
72	Quickly Obtaining Range of Articulated Rotating Speed for Electrically Driven Large-Load-Ratio Six-Legged Robot Based on Maximum Walking Speed Method. *IEEE Access*, **2019**, 7, 29453-29470	3.5	4
71	Design and Experiments of a Novel Rotary Piezoelectric Actuator Using Longitudinal-Torsional Convertors. *IEEE Access*, **2019**, 7, 22186-22195	3.5	9
70	A novel localization approach for underwater welding vehicles in spent fuel pools via attitude heading reference system and altimeters. *International Journal of Advanced Robotic Systems*, **2019**, 16, 172988141983054	1.4	
69	Dynamic Modeling and Experimental Validation of Door-Opening Process by a Mobile Manipulator. *IEEE Access*, **2019**, 7, 80916-80927	3.5	3
68	Prediction of Load-Carrying Capacity in the Radial Direction for Piezoelectric-Driven Ultrasonic Bearings. *IEEE Access*, **2019**, 7, 30599-30614	3.5	1
67	Closed-Form Equations and Experimental Verification for Soft Robot Arm Based on Cosserat Theory* **2019**,		1
66	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	
65	Centroid variability model-based control of HITUWV for automatic underwater welding with enhanced stability and accuracy. *Advances in Mechanical Engineering*, **2019**, 11, 168781401989021	1.2	
64	Low Impact Force and Energy Consumption Motion Planning for Hexapod Robot with Passive Compliant Ankles. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2019**, 94, 349-370	2.9	15

63	Experimental investigation on flowing characteristics of flexible tube coring in lunar sampling missions. *Powder Technology*, **2018**, 326, 16-24	5.2	9
62	Adaptive neural network tracking control-based reinforcement learning for wheeled mobile robots with skidding and slipping. *Neurocomputing*, **2018**, 283, 20-30	5.4	42
61	Experimental Study on Friction Characteristics and Running Stability of a Novel Ultrasonic Levitating Bearing. *IEEE Access*, **2018**, 6, 21719-21730	3.5	7
60	Trajectory tracking control of wheeled mobile manipulator based on fuzzy neural network and extended Kalman filtering. *Neural Computing and Applications*, **2018**, 30, 447-462	4.8	17
59	Robust adaptive control of door opening by a mobile rescue manipulator based on unknown-force-related constraints estimation. *Robotica*, **2018**, 36, 119-140	2.1	12
58	An improved variable-length beam element with a torsion effect based on the absolute nodal coordinate formulation. *Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics*, **2018**, 232, 69-83	0.9	0
57	Rotary-Percussive Ultrasonic Drill: An Effective Subsurface Penetrating Tool for Minor Planet Exploration. *IEEE Access*, **2018**, 6, 37796-37806	3.5	9
56	A Piezoelectric-Driven Rock-Drilling Device for Extraterrestrial Subsurface Exploration. *Shock and Vibration*, **2018**, 2018, 1-12	1.1	4
55	State estimation of a heavy-duty hexapod robot with passive compliant ankles based on the leg kinematics and IMU data fusion. *Journal of Mechanical Science and Technology*, **2018**, 32, 3885-3897	1.6	4
54	Impact Dynamics Prediction of a Rotary-Percussive Ultrasonic Drill With a Free Mass. *IEEE Access*, **2018**, 6, 32649-32661	3.5	2
53	A new iterative synthetic data generation method for CNN based stroke gesture recognition. *Multimedia Tools and Applications*, **2018**, 77, 17181-17205	2.5	2
52	A New Underwater Robot for Crack Welding in Nuclear Power Plants **2018**,		1
51	Optimal Energy Consumption for Mobile Manipulators Executing Door-Opening Task. *Mathematical Problems in Engineering*, **2018**, 2018, 1-11	1.1	3
50	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	
49	Design and Dynamic Equivalent Modeling of Double-Layer Hoop Deployable Antenna. *International Journal of Aerospace Engineering*, **2018**, 2018, 1-15	0.9	5
48	Diagonal recurrent neural networks for parameters identification of terrain based on wheel–soil interaction analysis. *Neural Computing and Applications*, **2017**, 28, 797-804	4.8	5
47	Large deployable network constructed by Altmann linkages. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, **2017**, 231, 341-355	1.3	5
46	Linear normal stress under a wheel in skid for wheeled mobile robots running on sandy terrain. *Journal of Terramechanics*, **2017**, 70, 49-57	2.2	15

45	Design and Mobility Analysis of Large Deployable Mechanisms Based on Plane-Symmetric Bricard Linkage. *Journal of Mechanical Design, Transactions of the ASME*, **2017**, 139,	3	46
44	A continuous contact force model of planar revolute joint based on fitting method. *Advances in Mechanical Engineering*, **2017**, 9, 168781401769047	1.2	1
43	Adaptive Neural Network-Based Tracking Control for Full-State Constrained Wheeled Mobile Robotic System. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2017**, 47, 2410-2419	7.3	65
42	Research on a low-impact unlocking trigger device of heavy load based on shape memory alloy fiber. *Advances in Mechanical Engineering*, **2017**, 9, 168781401772408	1.2	4
41	Design and control of a novel six-DOF maglev platform for positioning and vibration isolation **2017**,		1
40	Experimental evaluating approach to a suitable Martian coaxial rotorcraft blade **2017**,		1
39	Dual-SLIP model based galloping gait control for quadruped robot: A Task-space Formulation **2017**,		1
38	Air rudder mechanism dynamics considering two elements: Joint clearance and link flexibility. *Journal of Mechanical Science and Technology*, **2017**, 31, 3189-3197	1.6	5
37	Design of experimental setups for evaluating hover performance of a Martian coaxial rotorcraft **2017**,		1
36	Hydrodynamic calculation and analysis of a complex-shaped underwater robot based on computational fluid dynamics and prototype test. *Advances in Mechanical Engineering*, **2017**, 9, 168781401773450	1.2	8
35	Development of ray nondestructive detecting and grinding robot for weld seam in pipe **2017**,		2
34	Thermal Analysis of the Driving Component Based on the Thermal Network Method in a Lunar Drilling System and Experimental Verification. *Energies*, **2017**, 10, 355	3.1	4
33	Impact Dynamics of a Percussive System Based on Rotary-Percussive Ultrasonic Drill. *Shock and Vibration*, **2017**, 2017, 1-10	1.1	3
32	Dynamic analysis of a cable underwater robot in a nuclear reaction pool **2016**,		1
31	Switch control for operating constrained mechanisms using a rescuing mobile manipulator with multiple working modes **2016**,		2
30	Mobility analysis of a family of one-dimensional deployable mechanisms based on Sarrus mechanism **2016**,		1
29	Gait Generation With Smooth Transition Using CPG-Based Locomotion Control for Hexapod Walking Robot. *IEEE Transactions on Industrial Electronics*, **2016**, 63, 5488-5500	8.9	30
28	Deployment analysis and optimization of a flexible deployable structure for large synthetic aperture radar antennas. *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, **2016**, 230, 615-627	0.9	7

27	Drilling states monitoring for a planetary drilling & coring testbed (PDCT): Method and design **2016** ,		1
26	A novel active deform and wheel-legged suspension of Mars rover **2016**,		3
25	Experiment and multiobjective optimization design of tape-spring hinges. *Structural and Multidisciplinary Optimization*, **2015**, 51, 1373-1384	3.6	23
24	Study of space micro-vibration active isolation platform acceleration measurement **2015**,		1
23	Three-layer intelligence of planetary exploration wheeled mobile robots: Robint, virtint, and humint. *Science China Technological Sciences*, **2015**, 58, 1299-1317	3.5	10
22	Kinematic analysis of pipe robot in elbow based on virtual prototype technology **2015**,		2
21	Motion planning and simulation verification of a hydraulic hexapod robot based on reducing energy/flow consumption. *Journal of Mechanical Science and Technology*, **2015**, 29, 4427-4436	1.6	14
20	Interaction Mechanics Model for Rigid Driving Wheels of Planetary Rovers Moving on Sandy Terrain with Consideration of Multiple Physical Effects. *Journal of Field Robotics*, **2015**, 32, 827-859	6.7	53
19	Active gravity compensation test bed for a six-DOF free-flying robot **2015**,		2
18	A review of heavy-duty legged robots. *Science China Technological Sciences*, **2014**, 57, 298-314	3.5	30
17	Adaptive motion control of wheeled mobile robot with unknown slippage. *International Journal of Control*, **2014**, 87, 1513-1522	1.5	38
16	Longitudinal skid model for wheels of planetary exploration rovers based on terramechanics. *Journal of Terramechanics*, **2013**, 50, 327-343	2.2	26
15	Foot□terrain interaction mechanics for legged robots: Modeling and experimental validation. *International Journal of Robotics Research*, **2013**, 32, 1585-1606	5.7	74
14	Experimental study and analysis of the wheels□steering mechanics for planetary exploration wheeled mobile robots moving on deformable terrain. *International Journal of Robotics Research*, **2013**, 32, 712-743	5.7	27
13	Stability analysis of a tracked mobile robot in climbing stairs process **2012**,		3
12	Active control of free paraboloidal membrane shells using photostrictive actuators. *Transactions of Tianjin University*, **2011**, 17, 6-12	2.9	2
11	Algorithm analysis for a rover simulation platform **2011**,		2
10	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		

9	Velocity analysis of tri-axial differential pipeline robot when getting across elbow **2010**,		1
8	Spatial Geometry Modeling of Truss Structure and Analysis of Connection Deviation for Deployable Truss Antenna **2010**,		3
7	Dynamic Modeling and Performance Analysis of a 3-DOF Pan Mechanism for a Cooking Robot#. *Mechanics Based Design of Structures and Machines*, **2010**, 38, 243-260	1.7	10
6	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		
5	Configuration synthesis and performance evaluation metrics of lunar rover locomotion systems. *Transactions of Tianjin University*, **2009**, 15, 193-200	2.9	1
4	Design of Comprehensive High-fidelity/High-speed Virtual Simulation System for Lunar Rover **2008**,		8
3	Mobility performance analysis of lunar rover based on terramechanics **2008**,		5
2	Mobility and singularity analyses of a symmetric multi-loop mechanism for space applications. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*,095440622199555	1.3	5
1	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	