

Jessy W Grizzle

List of Publications by Year in descending order

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all docs

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docs citations

53
times ranked

1886
citing authors

#	ARTICLE	IF	CITATIONS
1	Rapidly Exponentially Stabilizing Control Lyapunov Functions and Hybrid Zero Dynamics. IEEE Transactions on Automatic Control, 2014, 59, 876-891.	3.6	278
2	Models, feedback control, and open problems of 3D bipedal robotic walking. Automatica, 2014, 50, 1955-1988.	3.0	236
3	The Spring Loaded Inverted Pendulum as the Hybrid Zero Dynamics of an Asymmetric Hopper. IEEE Transactions on Automatic Control, 2009, 54, 1779-1793.	3.6	213
4	An Energy Management Controller to Optimally Trade Off Fuel Economy and Drivability for Hybrid Vehicles. IEEE Transactions on Control Systems Technology, 2012, 20, 1490-1505.	3.2	149
5	Hybrid Invariant Manifolds in Systems With Impulse Effects With Application to Periodic Locomotion in Bipedal Robots. IEEE Transactions on Automatic Control, 2009, 54, 1751-1764.	3.6	140
6	Contact-aided invariant extended Kalman filtering for robot state estimation. International Journal of Robotics Research, 2020, 39, 402-430.	5.8	129
7	Correct-by-Construction Adaptive Cruise Control: Two Approaches. IEEE Transactions on Control Systems Technology, 2016, 24, 1294-1307.	3.2	114
8	Obstacle Avoidance for Low-Speed Autonomous Vehicles With Barrier Function. IEEE Transactions on Control Systems Technology, 2018, 26, 194-206.	3.2	113
9	Feedback Control of a Cassie Bipedal Robot: Walking, Standing, and Riding a Segway. , 2019, , .		110
10	Correctness Guarantees for the Composition of Lane Keeping and Adaptive Cruise Control. IEEE Transactions on Automation Science and Engineering, 2018, 15, 1216-1229.	3.4	103
11	Event-Based Stabilization of Periodic Orbits for Underactuated 3-D Bipedal Robots With Left-Right Symmetry. IEEE Transactions on Robotics, 2014, 30, 365-381.	7.3	99
12	Stable Bipedal Walking With Foot Rotation Through Direct Regulation of the Zero Moment Point. IEEE Transactions on Robotics, 2008, 24, 390-401.	7.3	84
13	From 2D Design of Underactuated Bipedal Gaits to 3D Implementation: Walking With Speed Tracking. IEEE Access, 2016, 4, 3469-3478.	2.6	74
14	Feedback Control of an Exoskeleton for Paraplegics: Toward Robustly Stable, Hands-Free Dynamic Walking. IEEE Control Systems, 2018, 38, 61-87.	1.0	72
15	3D dynamic walking on stepping stones with control barrier functions. , 2016, , .		70
16	First Steps Towards Translating HZD Control of Bipedal Robots to Decentralized Control of Exoskeletons. IEEE Access, 2017, 5, 9919-9934.	2.6	66
17	Exponentially stabilizing continuous-time controllers for periodic orbits of hybrid systems: Application to bipedal locomotion with ground height variations. International Journal of Robotics Research, 2016, 35, 977-999.	5.8	58
18	Improvements to Target-Based 3D LiDAR to Camera Calibration. IEEE Access, 2020, 8, 134101-134110.	2.6	52

#	ARTICLE	IF	CITATIONS
19	Bayesian Spatial Kernel Smoothing for Scalable Dense Semantic Mapping. IEEE Robotics and Automation Letters, 2020, 5, 790-797.	3.3	42
20	Towards Restoring Locomotion for Paraplegics: Realizing Dynamically Stable Walking on Exoskeletons. , 2018, , .		40
21	Nonholonomic virtual constraints and gait optimization for robust walking control. International Journal of Robotics Research, 2017, 36, 895-922.	5.8	38
22	Hybrid Electric Powertrain Design Methodology With Planetary Gear Sets for Performance and Fuel Economy. IEEE Access, 2018, 6, 9585-9602.	2.6	38
23	Combining trajectory optimization, supervised machine learning, and model structure for mitigating the curse of dimensionality in the control of bipedal robots. International Journal of Robotics Research, 2019, 38, 1063-1097.	5.8	38
24	Supervised learning for stabilizing underactuated bipedal robot locomotion, with outdoor experiments on the wave field. , 2017, , .		37
25	Walking gait optimization for accommodation of unknown terrain height variations. , 2015, , .		36
26	Adaptive cruise control: Experimental validation of advanced controllers on scale-model cars. , 2015, , .		35
27	Dynamic Walking on Randomly-Varying Discrete Terrain with One-step Preview. , 0, , .		33
28	Legged Robot State-Estimation Through Combined Forward Kinematic and Preintegrated Contact Factors. , 2018, , .		31
29	Realizing simultaneous lane keeping and adaptive speed regulation on accessible mobile robot testbeds. , 2017, , .		26
30	Data-Driven Computation of Minimal Robust Control Invariant Set. , 2018, , .		26
31	One-Step Ahead Prediction of Angular Momentum about the Contact Point for Control of Bipedal Locomotion: Validation in a LIP-inspired Controller. , 2021, , .		26
32	Symmetry in legged locomotion: a new method for designing stable periodic gaits. Autonomous Robots, 2017, 41, 1119-1142.	3.2	25
33	Hybrid Contact Preintegration for Visual-Inertial-Contact State Estimation Using Factor Graphs. , 2018, , .		25
34	Data-driven control for feedback linearizable single-input systems. , 2017, , .		24
35	Nonholonomic virtual constraints for dynamic walking. , 2015, , .		23
36	Experimental results for 3D bipedal robot walking based on systematic optimization of virtual constraints. , 2016, , .		23

#	ARTICLE	IF	CITATIONS
37	Continuous-time controllers for stabilizing periodic orbits of hybrid systems: Application to an underactuated 3D bipedal robot. , 2014, , .		19
38	Rapid Trajectory optimization Using C-FROST with Illustration on a Cassie-Series Dynamic Walking Biped. , 2019, , .		18
39	LiDARtag: A Real-Time Fiducial Tag System for Point Clouds. IEEE Robotics and Automation Letters, 2021, 6, 4875-4882.	3.3	17
40	Reduced-order framework for exponential stabilization of periodic orbits on parameterized hybrid zero dynamics manifolds: Application to bipedal locomotion. Nonlinear Analysis: Hybrid Systems, 2017, 25, 227-245.	2.1	15
41	Energy-Based Legged Robots Terrain Traversability Modeling via Deep Inverse Reinforcement Learning. IEEE Robotics and Automation Letters, 2022, 7, 8807-8814.	3.3	15
42	Stabilization of 3D underactuated biped robots: Using posture adjustment and gait libraries to reject velocity disturbances. , 2017, , .		12
43	Self-synchronization and self-stabilization of 3D bipedal walking gaits. Robotics and Autonomous Systems, 2018, 100, 43-60.	3.0	12
44	Enhancing the Performance of a Safe Controller Via Supervised Learning for Truck Lateral Control. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .	0.9	12
45	Iterative Robust Stabilization Algorithm for Periodic Orbits of Hybrid Dynamical Systems: Application to Bipedal Running**The work of K. Akbari Hamed was partially supported by the Center for Sensorimotor Neural Engineering (CSNE) that is an NSF Engineering Research Center. The work of J. W. Grizzle was supported by NSF Grants ECCS-1343720 and ECCS-1231171., IFAC-PapersOnLine, 2015, 48, 161-168.	0.5	11
46	Validating Noncooperative Control Designs Through a Lyapunov Approach. IEEE Transactions on Control Systems Technology, 2019, 27, 527-539.	3.2	9
47	Feedback Control Design for Robust Comfortable Sit-to-Stand Motions of 3D Lower-Limb Exoskeletons. IEEE Access, 2021, 9, 122-161.	2.6	9
48	Virtual Constraints and Hybrid Zero Dynamics for Realizing Underactuated Bipedal Locomotion. , 2017, , 1-31.		8
49	Closed-form controlled invariant sets for pedestrian avoidance. , 2017, , .		6
50	Optimal Target Shape for LiDAR Pose Estimation. IEEE Robotics and Automation Letters, 2022, 7, 1238-1245.	3.3	4
51	Correct by construction design of autonomous vehicles through a barrier function method. , 2017, , .		3
52	Versatile Dynamic Motion Generation Framework: Demonstration With a Crutch-Less Exoskeleton on Real-Life Obstacles at the Cybathlon 2020 With a Complete Paraplegic Person. Frontiers in Robotics and AI, 2021, 8, 723780.	2.0	2