Derek A Paley

List of Publications by Year
in descending order

139	4,487	257101 24	118652 62
papers	citations	h-index	g-index

141	141	141	2569
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bilinearization, Reachability, and Optimal Control of Control-Affine Nonlinear Systems: A Koopman Spectral Approach. IEEE Transactions on Automatic Control, 2022, 67, 2715-2728.	3.6	17
2	Multi-Target Detection and Tracking in a Heterogeneous Environment with Multiple Resource-Constrained Sensors. , 2022, , .		0
3	Dynamic Modeling and Simulation of Electric Scooter Interactions With a Pedestrian Crowd Using a Social Force Model. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 16448-16461.	4.7	3
4	Tracking Performance of Model-Based Thruster Control of a Remotely Operated Underwater Vehicle. IEEE Journal of Oceanic Engineering, 2021, 46, 389-401.	2.1	7
5	Non-Gaussian Estimation and Dynamic Output Feedback Using the Gaussian Mixture Kalman Filter. Journal of Guidance, Control, and Dynamics, 2021, 44, 15-24.	1.6	6
6	A 3D underwater robotic collective called Blueswarm. Science Robotics, 2021, 6, .	9.9	3
7	Feedback Control and Parameter Estimation for Lift Maximization of a Pitching Airfoil. Journal of Guidance, Control, and Dynamics, 2021, 44, 587-594.	1.6	2
8	Data-driven estimation using an Echo-State Neural Network equipped with an Ensemble Kalman Filter. , 2021, , .		4
9	UAV State and Parameter Estimation in Wind Using Calibration Trajectories Optimized for Observability. , 2021, 5, 1801-1806.		11
10	Optimal control of a 2D diffusionâ€“advection process with a team of mobile actuators under jointly optimal guidance. Automatica, 2021, 133, 109866.	3.0	5
11	Distributed Control of a Planar Discrete Elastic Rod for Eel-Inspired Underwater Locomotion. , 2021, , 261-279.		1
12	Planar Formation Control of a School of Robotic Fish: Theory and Experiments. Frontiers in Control Engineering, 2021, 2, .	0.4	1
13	Burrowing Locomotion via Crack Propagation of a Bio-inspired Soft Robot. IFAC-PapersOnLine, 2021, 54, 128-133.	0.5	1
14	Mobile Sensor Networks and Control: Adaptive Sampling of Spatiotemporal Processes. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 91-114.	7.5	8
15	Non-Gaussian Estimation of a Potential Flow by an Actuated Lagrangian Sensor Steered to Separating Boundaries by Augmented Observability. IEEE Journal of Oceanic Engineering, 2020, 45, 1203-1218.	2.1	0
16	Optimal control of a 1D diffusion process with a team of mobile actuators under jointly optimal guidance. , 2020, , .		3
17	Output Feedback Control for Lift Maximization of a Pitching Airfoil. , 2020, , .		0
18	Cooperative Mapping and Target Search Over an Unknown Occupancy Graph Using Mutual Information. IEEE Robotics and Automation Letters, 2020, 5, 1071-1078.	3.3	10

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19	Geometric Gait Design for a Starfishâ€Inspired Robot Using a Planar Discrete Elastic Rod Model. Advanced Intelligent Systems, 2020, 2, 2070062.	3.3	2
20	Feedback Control of a Soft Swinging Appendage. , 2020, , .		1
21	Bioinspired pursuit with a swimming robot using feedback control of an internal rotor. Bioinspiration and Biomimetics, 2020, 15, 035005.	1.5	11
22	Geometric Gait Design for a Starfishâ€Inspired Robot Using a Planar Discrete Elastic Rod Model. Advanced Intelligent Systems, 2020, 2, 1900186.	3.3	10
23	Geometric Attitude and Position Control of a Quadrotor in Wind. Journal of Guidance, Control, and Dynamics, 2020, 43, 870-883.	1.6	13
24	Global Bilinearization and Reachability Analysis of Control-Affine Nonlinear Systems. Lecture Notes in Control and Information Sciences, 2020, , 81-98.	0.6	6
25	On Planar Discrete Elastic Rod Models for the Locomotion of Soft Robots. Soft Robotics, 2019, 6, 595-610.	4.6	48
26	Unsteady DMD-Based Flow Field Estimation From Embedded Pressure Sensors in an Actuated Airfoil. , 2019, , .		11
27	The pursuit strategy of predatory bluefish (Pomatomus saltatrix). Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20182934.	1.2	18
28	Probabilistic analytical modelling of predatorâ€“prey interactions in fishes. Journal of the Royal Society Interface, 2019, 16, 20180873.	1.5	11
29	Mosquito-inspired distributed swarming and pursuit for cooperative defense against fast intruders. Autonomous Robots, 2019, 43, 1781-1799.	3.2	14
30	State-feedback control of an internal rotor for propelling and steering a flexible fish-inspired underwater vehicle. , 2019, , .		12
31	Closed-loop control of the position of a single vortex relative to an actuated cylinder. , 2019, , .		1
32	Feedback-Linearizing Control for Velocity and Attitude Tracking of an ROV with Thruster Dynamics Containing Input Dead Zones. , 2019, , .		8
33	Data-Driven Estimation of the Unsteady Flowfield Near an Actuated Airfoil. Journal of Guidance, Control, and Dynamics, 2019, 42, 2279-2287.	1.6	25
34	Geometric control of a quadrotor in wind with flow sensing and thrust constraints: Attitude and position control. , 2019, , .		2
35	Distributed Control of a Planar Discrete Elastic Rod Model for Caterpillar-Inspired Locomotion. , 2019, , .		1
36	Echinoderm-Inspired Tube Feet for Robust Robot Locomotion and Adhesion. IEEE Robotics and Automation Letters, 2018, 3, 2222-2228.	3.3	25

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37	Model-based observer and feedback control design for a rigid Joukowski foil in a KÃ¡rmÃ¡n vortex street. Bioinspiration and Biomimetics, 2018, 13, 035001.	1.5	23
38	Onboard Flow Sensing for Multi-Rotor Pitch Control in Wind. Journal of Guidance, Control, and Dynamics, 2018, 41, 1196-1201.	1.6	5
39	Microfluidic Circuit Dynamics and Control for Caterpillar-Inspired Locomotion in a Soft Robot. , 2018, , .		1
40	Constrained Ulam Dynamic Mode Decomposition: Approximation of the Perron-Frobenius Operator for Deterministic and Stochastic Systems. , 2018, 2, 809-814.		10
41	Non-deterministic Predator-Prey Model with Accelerating Prey. , 2018, , .		0
42	Physics-inspired motion planning for information-theoretic target detection using multiple aerial robots. Autonomous Robots, 2017, 41, 231-241.	3.2	10
43	Robust Lyapunov Control Design for Bioinspired Pursuit With Autonomous Hovercraft. IEEE Transactions on Control Systems Technology, 2017, 25, 509-520.	3.2	5
44	Tip-Vortex Localization for Cross-Stream Position Control of a Multi-Hole Probe Relative to a Stationary Wing in a Free-Jet Wind Tunnel. , 2017, , .		1
45	The AUSS FIREfly: A Distributed Sensing and Co-ordination Platform for First-Year Engineering Education. , 2017, , .		2
46	Multi-target tracking and data association on road networks using unmanned aerial vehicles. , 2017, , .		4
47	Multi-UAS path planning for non-uniform data collection in precision agriculture. , 2017, , .		10
48	Downwash Detection and Avoidance with Small Quadrotor Helicopters. Journal of Guidance, Control, and Dynamics, 2017, 40, 692-701.	1.6	5
49	Mosquito-inspired swarming for decentralized pursuit with autonomous vehicles. , 2017, , .		5
50	Geometric Control of Quadrotor Attitude in Wind With Flow Sensing and Thrust Constraints. , 2017, , .		4
51	Geometric Gait Design for a Starfish-Inspired Robot With Curvature-Controlled Soft Actuators. , 2017, , .		3
52	Observability-based path-planning and flow-relative control of a bioinspired sensor array in a Karman vortex street. , 2017, , .		6
53	Global bilinearization and controllability of control-affine nonlinear systems: A Koopman spectral approach. , 2017, , .		23
54	Competing Swarms of Autonomous Vehicles: Intruders Versus Guardians. , 2017, , .		1

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55	Non-gaussian estimation and observer-based feedback using the Gaussian Mixture Kalman and Extended Kalman Filters. , 2017, , .		3
56	Robotic Fish. Mechanical Engineering, 2016, 138, S2-S5.	0.0	7
57	Wake Sensing and Estimation for Control of Autonomous Aircraft in Formation Flight. Journal of Guidance, Control, and Dynamics, 2016, 39, 32-41.	1.6	10
58	Dynamics of a Rotor-Pendulum With a Small, Stiff Propeller in Wind. , 2016, , .		6
59	Non-Gaussian estimation of a two-vortex flow using a Lagrangian sensor guided by output feedback control. , 2016, , .		2
60	Probabilistic information transmission in a network of coupled oscillators reveals speed-accuracy trade-off in responding to threats. Chaos, 2016, 26, 116311.	1.0	12
61	Performance improvement of IPMC flow sensors with a biologically-inspired cupula structure. Proceedings of SPIE, 2016, , .	0.8	8
62	A flexible, reaction-wheel-driven fish robot: Flow sensing and flow-relative control. , 2016, , .		13
63	Cooperative Bayesian target detection on a real road network using aerial vehicles. , 2016, , .		3
64	Incorporating prior knowledge in observability-based path planning for ocean sampling. Systems and Control Letters, 2016, 97, 169-175.	1.3	5
65	Height Estimation and Control of Rotorcraft in Ground Effect Using Spatially Distributed Pressure Sensing. Journal of the American Helicopter Society, 2016, 61, 1-14.	0.5	4
66	Distributed Flow Sensing Using Bayesian Estimation for a Flexible Fish Robot. , 2015, , .		2
67	Distributed flow estimation and closed-loop control of an underwater vehicle with a multi-modal artificial lateral line. Bioinspiration and Biomimetics, 2015, 10, 025002.	1.5	84
68	Lyapunov stability analysis of a mosquito-inspired swarm model. , 2015, , .		4
69	Flow sensing, estimation and control for rotorcraft in ground effect. , 2015, , .		3
70	Touring invariant-set boundaries of a two-vortex system using streamline control. , 2015, , .		6
71	Distributed flow sensing for closed-loop speed control of a flexible fish robot. Bioinspiration and Biomimetics, 2015, 10, 065001.	1.5	34
72	Bio-inspired pursuit with autonomous hovercraft using Lyapunov-based control. , 2015, , .		2

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73	Onboard Flow Sensing for Downwash Detection and Avoidance with a Small Quadrotor Helicopter. , 2015, , .		26
74	An Empirical Model of Rotorcrafy UAV Downwash for Disturbance Localization and Avoidance. , 2015, , .		27
75	Distributed Multitarget Search and Track Assignment With Consensus-Based Coordination. IEEE Sensors Journal, 2015, 15, 864-875.	2.4	20
76	Active Singularities for Multivehicle Motion Planning in an N-Vortex System. Lecture Notes in Computer Science, 2015, , 334-346.	1.0	2
77	Optimal sensor coordination for multitarget search and track assignment. IEEE Transactions on Aerospace and Electronic Systems, 2014, 50, 2313-2320.	2.6	6
78	Stereoscopic video analysis of Anopheles gambiae behavior in the field: Challenges and opportunities. Acta Tropica, 2014, 132, S80-S85.	0.9	18
79	Multivehicle coverage control for a nonstationary spatiotemporal field. Automatica, 2014, 50, 1381-1390.	3.0	12
80	The effects of flow on schooling Devario aequipinnatus: school structure, startle response and information transmission. Journal of Fish Biology, 2014, 84, 1401-1421.	0.7	41
81	Male motion coordination in anopheline mating swarms. Scientific Reports, 2014, 4, 6318.	1.6	24
82	The spatiotemporal dynamics of rheotactic behavior depends on flow speed and available sensory information. Journal of Experimental Biology, 2013, 216, 4011-24.	0.8	38
83	Dynamic control of autonomous quadrotor flight in an estimated wind field. , 2013, , .		56
84	Distributed Estimation for Motion Coordination in an Unknown Spatially Varying Flowfield. Journal of Guidance, Control, and Dynamics, 2013, 36, 894-898.	1.6	26
85	Observer-Based Feedback Control for Stabilization of Collective Motion. IEEE Transactions on Control Systems Technology, 2013, 21, 1846-1857.	3.2	22
86	Observability-based Optimization of Coordinated Sampling Trajectories for Recursive Estimation of a Strong, Spatially Varying Flowfield. Journal of Intelligent and Robotic Systems: Theory and Applications, 2013, 70, 527-544.	2.0	23
87	Distributed multi-target search and track assignment using consensus-based coordination. , 2013, , .		3
88	Observability-based optimization for flow sensing and control of an underwater vehicle in a uniform flowfield. , 2013, , .		22
89	The Dance of MaleAnopheles gambiaein Wild Mating Swarms. Journal of Medical Entomology, 2013, 50, 552-559.	0.9	32
90	Wake Estimation and Optimal Control for Autonomous Aircraft in Formation Flight. , 2013, , .		4

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91	Reconstructing the flight kinematics of swarming and mating in wild mosquitoes. Journal of the Royal Society Interface, 2012, 9, 2624-2638.	1.5	72
92	Three-dimensional reconstruction of the fast-start swimming kinematics of densely schooling fish. Journal of the Royal Society Interface, 2012, 9, 77-88.	1.5	71
93	Dynamic Altitude Control for Motion Coordination in an Estimated Shear Flow. , 2012, , .		0
94	Distributed optimization for radar mission coordination. , 2012, , .		3
95	Putting the fish in the fish tank: Immersive VR for animal behavior experiments. , 2012, , .		5
96	Optimal Sampling of Nonstationary Spatiotemporal Fields Using a Mobile Sensor Network*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 186-191.	0.4	0
97	Multivehicle Control in a Strong Flowfield with Application to Hurricane Sampling. Journal of Guidance, Control, and Dynamics, 2012, 35, 794-806.	1.6	29
98	Parallel Simulation of Transient Magnetorheological Direct Shear Flows Using Millions of Particles. IEEE Transactions on Magnetics, 2012, 48, 3517-3520.	1.2	11
99	Massively Parallel Simulations of Chain Formation and Restructuring Dynamics in a Magnetorheological Fluid. , 2011, , .		5
100	3D tracking of mating events in wild swarms of the malaria mosquito Anopheles gambiae. , 2011, 2011, 720-3.		10
101	Multi-vehicle Control in a Strong Flowfield with Application to Hurricane Sampling. , 2011, , .		1
102	Distributed Estimation for Motion Coordination in an Unknown Spatiotemporal Flowfield. , 2011, , .		4
103	Backstepping control design for motion coordination of selfâ€propelled vehicles in a flowfield. International Journal of Robust and Nonlinear Control, 2011, 21, 1452-1466.	2.1	22
104	Synchronization on the N-torus with noisy measurements. , 2011, , .		1
105	Observer-based feedback control for stabilization of collective motion. , 2011, , .		0
106	Multi-vehicle control and optimization for spatiotemporal sampling. , 2011, , .		8
107	Motion coordination of planar rigid bodies. , 2011, , .		1
108	Multivehicle Coordination in an Estimated Time-Varying Flowfield. Journal of Guidance, Control, and Dynamics, 2011, 34, 177-191.	1.6	54

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109	Multi-Vehicle Coordination in an Unknown Flowfield. , 2010, , .		1
110	Coordinated control of an underwater glider fleet in an adaptive ocean sampling field experiment in Monterey Bay. Journal of Field Robotics, 2010, 27, 718-740.	3.2	258
111	3D reconstruction of fish schooling kinematics from underwater video. , 2010, , .		12
112	Backstepping control design for motion coordination of self-propelled vehicles. , 2010, , .		5
113	Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind. Journal of Guidance, Control, and Dynamics, 2010, 33, 1946-1951.	1.6	7
114	Critical damping in a kinetic interaction network. , 2010, , .		2
115	A multi-vehicle testbed for underwater motion coordination. , 2010, , .		3
116	Three-Dimensional Motion Coordination in a Spatiotemporal Flowfield. IEEE Transactions on Automatic Control, 2010, 55, 2805-2810.	3.6	22
117	UAV coordination on convex curves in wind: An environmental sampling application. , 2009, , .		10
118	Stabilization of collective motion in a time-invariant flowfield on a rotating sphere. , 2009, , .		9
119	Three-dimensional motion coordination in a time-invariant flowfield. , 2009, , .		10
120	Vision-based estimation of three-dimensional position and pose of multiple underwater vehicles. , 2009, , .		4
121	Stabilization of collective motion on a sphere. Automatica, 2009, 45, 212-216.	3.0	51
122	Reduced-Order Dynamic Modeling and Stabilizing Control of a Micro-Helicopter. , 2009, , .		4
123	Cooperative Control of Unmanned Vehicles in a Time-Varying Flowfield. , 2009, , .		6
124	Coordinated Perimeter Patrol with Minimum-Time Alert Response. , 2009, , .		9
125	Stabilization of Collective Motion in a Time-Invariant Flowfield. Journal of Guidance, Control, and Dynamics, 2009, 32, 771-779.	1.6	71
126	Stabilization of symmetric formations to motion around convex loops. Systems and Control Letters, 2008, 57, 209-215.	1.3	57

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127	Stabilization of Collective Motion in a Uniform and Constant Flow Field. , 2008, , .		7
128	Cooperative Control for Ocean Sampling: The Glider Coordinated Control System. IEEE Transactions on Control Systems Technology, 2008, 16, 735-744.	3.2	201
129	Stabilization of Planar Collective Motion With Limited Communication. IEEE Transactions on Automatic Control, 2008, 53, 706-719.	3.6	373
130	Cooperative control of an autonomous sampling network in an external flow field. , 2008, , .		13
131	Spatial models of bistability in biological collectives. , 2007, , .		11
132	Control of coordinated patterns for ocean sampling. International Journal of Control, 2007, 80, 1186-1199.	1.2	172
133	Collective Motion, Sensor Networks, and Ocean Sampling. Proceedings of the IEEE, 2007, 95, 48-74.	16.4	730
134	Oscillator Models and Collective Motion. IEEE Control Systems, 2007, 27, 89-105.	1.0	185
135	Stabilization of Planar Collective Motion: All-to-All Communication. IEEE Transactions on Automatic Control, 2007, 52, 811-824.	3.6	421
136	Multi-AUV Control and Adaptive Sampling in Monterey Bay. IEEE Journal of Oceanic Engineering, 2006, 31, 935-948.	2.1	364
137	Collective Motion of Self-Propelled Particles: Stabilizing Symmetric Formations on Closed Curves. , 2006, , .		15
138	Group Coordination and Cooperative Control of Steered Particles in the Plane. , 2006, , 217-232.		24
139	Collective Motion and Oscillator Synchronization. Lecture Notes in Control and Information Sciences, 0, , 189-205.	0.6	81