Ella M Atkins

List of Publications by Year
in descending order

117 papers	5,608 citations	331670 21 h-index	85541 71 g-index
119 all docs	119 docs citations	119 times ranked	3325 citing authors

#	Article	IF	Citations
1	Information consensus in multivehicle cooperative control. IEEE Control Systems, 2007, 27, 71-82.	0.8	2,605
2	Distributed multi-vehicle coordinated control via local information exchange. International Journal of Robust and Nonlinear Control, 2007, 17, 1002-1033.	3.7	1,257
3	Emergency Flight Planning Applied to Total Loss of Thrust. Journal of Aircraft, 2006, 43, 1205-1216.	2.4	89
4	Unsupervised Traffic Accident Detection in First-Person Videos. , 2019, , .		89
5	Enhanced Smoothing Technique for Indirect Optimization of Minimum-Fuel Low-Thrust Trajectories. Journal of Guidance, Control, and Dynamics, 2016, 39, 2500-2511.	2.8	81
6	X-HALE: A Very Flexible Unmanned Aerial Vehicle for Nonlinear Aeroelastic Tests. AIAA Journal, 2012, 50, 2820-2833.	2.6	80
7	Optimization and Control of Cyber-Physical Vehicle Systems. Sensors, 2015, 15, 23020-23049.	3.8	80
8	BiTraP: Bi-Directional Pedestrian Trajectory Prediction With Multi-Modal Goal Estimation. IEEE Robotics and Automation Letters, 2021, 6, 1463-1470.	5.1	67
9	Egocentric Vision-based Future Vehicle Localization for Intelligent Driving Assistance Systems. , 2019, , .		60
10	Roof Shape Classification from LiDAR and Satellite Image Data Fusion Using Supervised Learning. Sensors, 2018, 18, 3960.	3.8	43
11	Coupled Cyber–Physical System Modeling and Coregulation of a CubeSat. IEEE Transactions on Robotics, 2015, 31, 443-456.	10.3	38
12	Game-Theoretic Modeling of Multi-Vehicle Interactions at Uncontrolled Intersections. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 1428-1442.	8.0	35
13	A New Clustering Algorithm for Processing GPS-Based Road Anomaly Reports With a Mahalanobis Distance. IEEE Transactions on Intelligent Transportation Systems, 2017, 18, 1980-1988.	8.0	34
14	Shaping low-thrust trajectories with thrust-handling feature. Advances in Space Research, 2018, 61, 879-890.	2.6	34
15	Damaged Airplane Trajectory Planning Based on Flight Envelope and Motion Primitives. Journal of Aircraft, 2014, 51, 1740-1757.	2.4	33
16	Toward Continuous State–Space Regulation of Coupled Cyber–Physical Systems. Proceedings of the IEEE, 2012, 100, 60-74.	21.3	32
17	Cloud aided semi-active suspension control. , 2014, , .		29
18	Human Intent Prediction Using Markov Decision Processes. Journal of Aerospace Information Systems, 2015, 12, 393-397.	1.4	29

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19	Evaluating Risk to People and Property for Aircraft Emergency Landing Planning. Journal of Aerospace Information Systems, 2017, 14, 259-278.	1.4	28
20	Cyber-Physical Challenges for Space Systems. , 2012, , .		26
21	Planning and Resource Allocation for Hard Real-time, Fault-Tolerant Plan Execution. Autonomous Agents and Multi-Agent Systems, 2001, 4, 57-78.	2.1	24
22	Incorporating Resource Safety Verification to Executable Model-based Development for Embedded Systems. , 2008, , .		24
23	Optimal coverage trajectories for a UGV with tradeoffs for energy and time. Autonomous Robots, 2014, 36, 257-271.	4.8	24
24	Characterizing Energy Usage of a Commercially Available Ground Robot: Method and Results. Journal of Field Robotics, 2014, 31, 441-454.	6.0	23
25	Cooperative aerial lift and manipulation (CALM). Aerospace Science and Technology, 2018, 82-83, 105-118.	4.8	23
26	Multi-Mode Guidance for an Independent Multicopter Geofencing System. , 2016, , .		22
27	Emergency Flight Planning for an Energy-Constrained Multicopter. Journal of Intelligent and Robotic Systems: Theory and Applications, 2017, 85, 145-165.	3.4	21
28	Optimization of a Tetrahedral Satellite Formation. Journal of Spacecraft and Rockets, 2005, 42, 699-710.	1.9	20
29	Noise-Minimum Runway-Independent Aircraft Approach Design for Baltimore-Washington International Airport. Journal of Aircraft, 2006, 43, 39-51.	2.4	20
30	Airspace Geofencing and Flight Planning for Low-Altitude, Urban, Small Unmanned Aircraft Systems. Applied Sciences (Switzerland), 2022, 12, 576.	2.5	20
31	Cloud aided safety-based route planning. , 2014, , .		19
32	Envelope-Aware Flight Management for Loss of Control Prevention Given Rudder Jam. Journal of Guidance, Control, and Dynamics, 2017, 40, 1027-1041.	2.8	18
33	Geofence Definition and Deconfliction for UAS Traffic Management. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 5880-5889.	8.0	18
34	Envelopes for Flight Through Stochastic Gusts. Journal of Guidance, Control, and Dynamics, 2013, 36, 1464-1476.	2.8	16
35	Cyberâ€"Physical Optimization for Unmanned Aircraft Systems. Journal of Aerospace Information Systems, 2014, 11, 48-60.	1.4	16
36	Geofencing in Immediate Reaches Airspace for Unmanned Aircraft System Traffic Management. , 2018, , .		16

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37	Multi-Objective Weight Optimization for Trajectory Planning of an Airplane with Structural Damage. Journal of Intelligent and Robotic Systems: Theory and Applications, 2018, 91, 667-690.	3.4	16
38	Paths to Autonomous Vehicle Operations for Urban Air Mobility. , 2019, , .		16
39	Qualitative Failure Analysis for a Small Quadrotor Unmanned Aircraft System. , 2013, , .		15
40	Noise-Sensitive Final Approach Trajectory Optimization for Runway-Independent Aircraft. Journal of Aerospace Computing, Information, and Communication, 2004, 1, 269-287.	0.8	14
41	Hâˆž Filtering for Cloud-Aided Semi-active Suspension with Delayed Road Informationâ—â—This work was supported by Ford Motor Company-The University of Michigan Alliance.. IFAC-PapersOnLine, 2015, 48, 275-280.	0.9	14
42	Road anomaly estimation: Model based pothole detection. , 2015, , .		14
43	Geofence Boundary Violation Detection in 3D Using Triangle Weight Characterization with Adjacency. Journal of Intelligent and Robotic Systems: Theory and Applications, 2019, 95, 239-250.	3.4	14
44	Robust Science-Optimal Spacecraft Control for Circular Orbit Missions. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 923-934.	9.3	14
45	Continuum Deformation of Multi-Agent Systems Under Directed Communication Topologies. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	13
46	Optimal State Estimation for Systems Driven by Jumpâ€"Diffusion Process With Application to Road Anomaly Detection. IEEE Transactions on Control Systems Technology, 2017, 25, 1634-1643.	5.2	13
47	Layered Geofences in Complex Airspace Environments. , 2018, , .		13
48	Unmanned Aircraft System Navigation in the Urban Environment: A Systems Analysis. Journal of Aerospace Information Systems, 2016, 13, 143-160.	1.4	12
49	Safe multi-cluster UAV continuum deformation coordination. Aerospace Science and Technology, 2019, 91, 640-655.	4.8	12
50	Design and Development Methodology for Resilient Cyber-Physical Systems. , 2008, , .		11
51	Verification Guided Refinement of Flight Safety Assessment and Management System for Takeoff. Journal of Aerospace Information Systems, 2016, 13, 357-369.	1.4	11
52	Simultaneous road profile estimation and anomaly detection with an input observer and a jump diffusion process estimator. , 2016, , .		11
53	Comprehensive Risk-based Planning for Small Unmanned Aircraft System Rooftop Landing. , 2018, , .		11
54	Experimental Investigation of Tractor and Pusher Hexacopter Performance. Journal of Aircraft, 2019, 56, 1920-1934.	2.4	11

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55	Fixed-Wing Unmanned Aircraft In-Flight Pitch and Yaw Control Moment Sensing. Journal of Aircraft, 2015, 52, 403-420.	2.4	10
56	Asymptotic Tracking and Robustness of MAS Transitions Under a New Communication Topology. IEEE Transactions on Automation Science and Engineering, 2018, 15, 16-32.	5.2	10
57	Cooperative Aerial Payload Transport Guided by an *In Situ* Human Supervisor. IEEE Transactions on Control Systems Technology, 2019, 27, 1452-1467.	5.2	10
58	Fail-Safe Navigation for Autonomous Urban Multicopter Flight. , 2017, , .		9
59	The Smart Black Box: A Value-Driven High-Bandwidth Automotive Event Data Recorder. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 1484-1496.	8.0	9
60	Flight Safety Assessment and Management for Takeoff Using Deterministic Moore Machines. Journal of Aerospace Information Systems, 2015, 12, 599-615.	1.4	8
61	Markov Decision Process Framework for Flight Safety Assessment and Management. Journal of Guidance, Control, and Dynamics, 2017, 40, 817-830.	2.8	8
62	The Smart Black Box: A Value-Driven Automotive Event Data Recorder. , 2018, , .		8
63	Safe Multiquadcopter System Continuum Deformation Over Moving Frames. IEEE Transactions on Control of Network Systems, 2019, 6, 737-749.	3.7	8
64	Experimental Evaluation of Continuum Deformation with a Five Quadrotor Team. , 2019, , .		8
65	Risk identification and management for safe UAS operation. , 2010, , .		7
66	Scaling of Airplane Dynamic Response to Stochastic Gusts. Journal of Aircraft, 2014, 51, 1554-1566.	2.4	7
67	Trim State Discovery with Physical Constraints. Journal of Aircraft, 2015, 52, 90-106.	2.4	7
68	Optimizing Steady Turns for Gliding Trajectories. Journal of Guidance, Control, and Dynamics, 2016, 39, 2627-2637.	2.8	7
69	Development, implementation, and experimental outdoor evaluation of quadcopter controllers for computationally limited embedded systems. Annual Reviews in Control, 2021, 52, 372-389.	7.9	7
70	Visual Positioning System for an Underwater Space Simulation Environment. Journal of Guidance, Control, and Dynamics, 2006, 29, 858-869.	2.8	6
71	Exploring Non-Aviation Information Sources for Aircraft Emergency Landing Planning. , 2016, , .		6
72	Continuum Deformation of a Multiple Quadcopter Payload Delivery Team without Inter-Agent Communication. , 2018, , .		6

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73	Physics-Based Freely Scalable Continuum Deformation for UAS Traffic Coordination. IEEE Transactions on Control of Network Systems, 2020, 7, 532-544.	3.7	6
74	Urban Metric Maps for Small Unmanned Aircraft Systems Motion Planning. Journal of Aerospace Information Systems, 2022, 19, 37-52.	1.4	6
75	Multi-Objective Spacecraft Trajectory Optimization with Synthetic Agent Oversight. Journal of Aerospace Computing, Information, and Communication, 2005, 2, 4-24.	0.8	5
76	Experimental Characterization of Lift on a Rigid Flapping Wing. Journal of Aircraft, 2013, 50, 1806-1821.	2.4	5
77	Supervisory traction control for a slipping UGV. , 2013, , .		5
78	Safe landing planning for an energy-constrained multicopter. , 2014, , .		5
79	Human Productivity in a Workspace Shared with a Safe Robotic Manipulator. Journal of Aerospace Information Systems, 2014, 11, 1-18.	1.4	5
80	Robust H$<inf>âˆž</inf>$ control for a class of networked uncertain systems with multiple channels subject to Markovian switching. , 2015, , .		5
81	Continuum Deformation of a Multi-Quadcopter System in a Payload Delivery Mission. IFAC-PapersOnLine, 2017, 50, 3455-3462.	0.9	5
82	Polylidar3D-Fast Polygon Extraction from 3D Data. Sensors, 2020, 20, 4819.	3.8	5
83	Generating Airspace Geofence Boundary Layers in Wind. Journal of Aerospace Information Systems, 2020, 17, 113-124.	1.4	5
84	Education in the Crosscutting Sciences of Aerospace and Computing. Journal of Aerospace Information Systems, 2014, 11, 726-737.	1.4	4
85	Nonlinear control of semi-active suspension systems: A Quasi-Linear Control approach. , 2016, , .		4
86	A Data-Driven Approach for Autonomous Motion Planning and Control in Off-Road Driving Scenarios. , 2018, , .		4
87	Polylidar - Polygons From Triangular Meshes. IEEE Robotics and Automation Letters, 2020, 5, 4634-4641.	5.1	4
88	An Autonomous Software Safety System for a Dexterous Space Robot. Journal of Aerospace Computing, Information, and Communication, 2004, 1, 564-579.	0.8	3
89	Satellite Formation Mission Optimization with a Multi-Impulse Design. Journal of Spacecraft and Rockets, 2007, 44, 425-433.	1.9	3
90	Safety Margins for Flight Through Stochastic Gusts. Journal of Guidance, Control, and Dynamics, 2014, 37, 2026-2030.	2.8	3

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91	Energy-Aware Multiflight Planning for an Unattended Seaplane: Flying Fish. Journal of Aerospace Information Systems, 2017, 14, 73-91.	1.4	3
92	Automatic Classification of Roof Shapes for Multicopter Emergency Landing Site Selection. , 2018, , .		3
93	Smart Black Box 2.0: Efficient High-Bandwidth Driving Data Collection Based on Video Anomalies. Algorithms, 2021, 14, 57.	2.1	3
94	A Mass-Conservation Model for Stability Analysis and Finite-Time Estimation of Spread of COVID-19. IEEE Transactions on Computational Social Systems, 2021, 8, 930-937.	4.4	3
95	Statistical Properties and Airspace Capacity for Unmanned Aerial Vehicle Networks Subject to Sense-and-Avoid Safety Protocols. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 5890-5903.	8.0	3
96	Improving Attitude Estimation Using Gaussian-Process-Regression-Based Magnetic Field Maps. Sensors, 2021, 21, 6351.	3.8	3
97	Keeping Ground Robots on the Move Through Battery & Mission Management. Mechanical Engineering, 2014, 136, S1-S6.	0.1	3
98	Automated Curb Recognition and Negotiation for Robotic Wheelchairs. Sensors, 2021, 21, 7810.	3.8	3
99	Cooperative Multilift Slung Load Transportation Using Haptic Admittance Control Guidance. Journal of Guidance, Control, and Dynamics, 2022, 45, 1899-1912.	2.8	3
100	A Modal Operations Paradigm for Robust Vision-based Astronaut Following. Journal of Aerospace Computing, Information, and Communication, 2006, 3, 603-618.	0.8	2
101	Preference-Based Trajectory Generation. Journal of Aerospace Computing, Information, and Communication, 2009, 6, 142-170.	0.8	2
102	Multi-Quadcopter Team Leader Path Planning Using Particle Swarm Optimization. , 2019, , .		2
103	Introduction: Achieving Intelligence in Aerospace Systems. Journal of Aerospace Computing, Information, and Communication, 2007, 4, 751-752.	0.8	1
104	Methods of trim state discovery. , 2010, , .		1
105	Mission-Based Fault Reconfiguration for Spacecraft Applications. Journal of Aerospace Information Systems, 2013, 10, 513-516.	1.4	1
106	Cyber-physical optimization of small unmanned aircraft systems with thermal consideration. , 2016, , .		1
107	Unmanned Vehicle Autonomy for Long-Duration Surveillance Missions. , 2018, , .		1
108	Formal Specification of Continuum Deformation Coordination. , 2019, , .		1

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109	Scalable Vehicle Team Continuum Deformation Coordination With Eigen Decomposition. IEEE Transactions on Automatic Control, 2022, 67, 2514-2521.	5.7	1
110	Multi-Unmanned-Aerial-Vehicle Wildfire Boundary Estimation Using a Semantic Segmentation Neural Network. Journal of Aerospace Information Systems, 2021, 18, 231-249.	1.4	1
111	Volumization and Inverse Volumization for Low-Altitude Airspace Geofencing. , 2021, , .		1
112	H-infinity Filtering for Cloud-Aided Semi-active Suspension with Delayed Information. Advances in Delays and Dynamics, 2017, , 283-297.	0.4	1
113	A graph-theoretic-based method for analyzing conduction problems. Journal of Engineering Mathematics, 2017, 106, 169-201.	1.2	0
114	Unmanned vehicle mission planning given limited sensory information. , 2017, , .		0
115	A Reinforcement Learning Based Adaptive Supervisor for Multiple Model Adaptive Estimation and Control. , 2018, , .		0
116	Mission Implementation of a Geofence System for UAS. , 2021, , .		0
117	Guest Editorial Introduction to the Special Issue on Unmanned Aircraft System Traffic Management. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 5874-5879.	8.0	0