Brian M Argrow

List of Publications by Year
in descending order

108 papers	1,729 citations	361413 20 h-index	345221 36 g-index
111 all docs	111 docs citations	111 times ranked	1054 citing authors

#	Article	IF	Citations
1	Bulk Viscosity: Past to Present. Journal of Thermophysics and Heat Transfer, 1999, 13, 337-342.	1.6	115
2	Ad Hoc UAV Ground Network (AUGNet). , 2004, , .		110
3	Overview of Small Fixed-Wing Unmanned Aircraft for Meteorological Sampling. Journal of Atmospheric and Oceanic Technology, 2015, 32, 97-115.	1.3	108
4	Semiempirical Model for Satellite Energy-Accommodation Coefficients. Journal of Spacecraft and Rockets, 2010, 47, 951-956.	1.9	90
5	The tempest unmanned aircraft system for in situ observations of tornadic supercells: Design and VORTEX2 flight results. Journal of Field Robotics, 2011, 28, 461-483.	6.0	67
6	Semi-Empirical Satellite Accommodation Model for Spherical and Randomly Tumbling Objects. Journal of Spacecraft and Rockets, 2013, 50, 556-571.	1.9	66
7	The Collaborative Coloradoâ€"Nebraska Unmanned Aircraft System Experiment. Bulletin of the American Meteorological Society, 2012, 93, 39-54.	3.3	65
8	Application of Bethe-Zel'dovich-Thompson Fluids in Organic Rankine Cycle Engines. Journal of Propulsion and Power, 2000, 16, 1118-1124.	2.2	63
9	Computational analysis of dense gas shock tube flow. Shock Waves, 1996, 6, 241-248.	1.9	47
10	A Birdâ€™s-Eye View: Development of an Operational ARM Unmanned Aerial Capability for Atmospheric Research in Arctic Alaska. Bulletin of the American Meteorological Society, 2018, 99, 1197-1212.	3.3	46
11	Theory for producing a single-phase rarefaction shock wave in a shock tube. Journal of Fluid Mechanics, 2001, 445, 37-54.	3.4	43
12	Sonic boom minimization revisited. , 1998, , .		39
13	Drag Coefficients of Satellites with Concave Geometries: Comparing Models and Observations. Journal of Spacecraft and Rockets, 2011, 48, 312-325.	1.9	39
14	On the Use of Unmanned Aircraft for Sampling Mesoscale Phenomena in the Preconvective Boundary Layer. Journal of Atmospheric and Oceanic Technology, 2018, 35, 2265-2288.	1.3	39
15	Development of Community, Capabilities, and Understanding through Unmanned Aircraft-Based Atmospheric Research: The LAPSE-RATE Campaign. Bulletin of the American Meteorological Society, 2020, 101, E684-E699.	3.3	38
16	Fourier transform infrared absorption spectroscopy of jetâ€cooled radicals. Review of Scientific Instruments, 1995, 66, 2430-2441.	1.3	34
17	Construction and Validation of a Dense Gas Shock Tube. Journal of Thermophysics and Heat Transfer, 2003, 17, 326-333.	1.6	33
18	UAV Systems for Sensor Dispersal, Telemetry, and Visualization in Hazardous Environments. , 2005, , .		28

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19	Radio Source Localization by a Cooperating UAV Team. , 2005, , .		28
20	The Pilatus unmanned aircraft system for lower atmospheric research. Atmospheric Measurement Techniques, 2016, 9, 1845-1857.	3.1	28
21	Shape Optimization Methodology for Reducing the Sonic Boom Initial Pressure Rise. AIAA Journal, 2007, 45, 1007-1018.	2.6	27
22	Net-Centric Communication and Control for a Heterogeneous Unmanned Aircraft System. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 56, 199-232.	3.4	27
23	Two-dimensional shock tube flow for dense gases. Journal of Fluid Mechanics, 1997, 349, 95-115.	3.4	23
24	Nonclassical Dense Gas Flows for Simple Geometries. AIAA Journal, 1998, 36, 1842-1847.	2.6	23
25	Networked Communication, Command, and Control of an Unmanned Aircraft System. Journal of Aerospace Computing, Information, and Communication, 2008, 5, 84-107.	0.8	21
26	Weather Hazard Risk Quantification for sUAS Safety Risk Management. Journal of Atmospheric and Oceanic Technology, 2020, 37, 1251-1268.	1.3	21
27	Linear dependence of the bulk viscosity on shock wave thickness. Physics of Fluids, 1994, 6, 3203-3205.	4.0	20
28	Sampling Severe Local Storms and Related Phenomena: Using Unmanned Aircraft Systems. IEEE Robotics and Automation Magazine, 2012, 19, 85-95.	2.0	19
29	Aerodynamic performance of an osculating-cones waverider at high altitudes. , 2001, , .		18
30	Data generated during the 2018 LAPSE-RATE campaign: an introduction and overview. Earth System Science Data, 2020, 12, 3357-3366.	9.9	18
31	Mission Performance of the Tempest Unmanned Aircraft System in Supercell Storms. Journal of Aircraft, 2012, 49, 1821-1830.	2.4	17
32	Advancing Unmanned Aerial Capabilities for Atmospheric Research. Bulletin of the American Meteorological Society, 2019, 100, ES105-ES108.	3.3	17
33	A Distributed Avionics Package for Small UAVs. , 2005, , .		16
34	An Energy-Aware Airborne Dynamic Data-Driven Application System for Persistent Sampling and Surveillance. Procedia Computer Science, 2013, 18, 2008-2017.	2.0	15
35	Networked UAV Command, Control and Communication. , 2006, , .		14
36	Intercomparison of Unmanned Aircraftborne and Mobile Mesonet Atmospheric Sensors. Journal of Atmospheric and Oceanic Technology, 2016, 33, 1569-1582.	1.3	14

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37	Entropy production in finite-difference schemes. AIAA Journal, 1993, 31, 210-211.	2.6	12
38	Evaluation of Unmanned Aircraft Systems for Severe Storm Sampling Using Hardware-in-the-Loop Simulations. Journal of Aerospace Computing, Information, and Communication, 2011, 8, 269-294.	0.8	12
39	Field observation of tornadic supercells by multiple autonomous fixedâ€wing unmanned aircraft. Journal of Field Robotics, 2020, 37, 1077-1093.	6.0	12
40	Measurements from mobile surface vehicles during the Lower Atmospheric Profiling Studies at Elevation â€" a Remotely-piloted Aircraft Team Experiment (LAPSE-RATE). Earth System Science Data, 2021, 13, 155-169.	9.9	12
41	Radio Leashing of an Unmanned Aircraft. , 2005, , .		10
42	Experiments Using Small Unmanned Aircraft to Augment a Mobile Ad Hoc Network. , 0, , 695-718.		10
43	Design and validation of a system for targeted observations of tornadic supercells using unmanned aircraft. , 2010, , .		10
44	Wind Tunnel Results for a Distributed Flush Airdata System. Journal of Atmospheric and Oceanic Technology, 2017, 34, 1519-1528.	1.3	10
45	Guidelines and Best Practices for FAA Certificate of Authorization Applications for Small Unmanned Aircraft. , 2011, , .		9
46	Aerodynamic Analysis Based on Challenging Minisatellite Payload Satellite Lift-to-Drag Measurements. Journal of Spacecraft and Rockets, 2013, 50, 1162-1170.	1.9	9
47	Development and Flight Test Results of a Small UAS Distributed Flush Airdata System. Journal of Atmospheric and Oceanic Technology, 2018, 35, 1127-1140.	1.3	9
48	Subsonic aerodynamics of an osculating cones waverider. , 1997, , .		8
49	Distributed Amospheric Sensing Using Small UAS and Doppler Radar. , 2009, , .		8
50	Measurements from the University of Colorado RAAVEN Uncrewed Aircraft System during ATOMIC. Earth System Science Data, 2022, 14, 19-31.	9.9	8
51	Shape Optimization with F-Function Balancing for Reducing the Sonic Boom Initial Shock Pressure Rise. International Journal of Aeroacoustics, 2004, 3, 361-377.	1.3	7
52	Lobe Balancing Design Method to Create Frozen Sonic Booms Using Aircraft Components. Journal of Aircraft, 2012, 49, 1878-1893.	2.4	7
53	Error Sensitivity Analysis of Small UAS Wind-Sensing Systems. , 2017, , .		7
54	Development and Deployment of Air-Launched Drifters from Small UAS. Sensors, 2019, 19, 2149.	3.8	7

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55	Sonic boom mitigation via shape optimization using an adjoint method and application to a supersonic fighter aircraft. European Journal of Computational Mechanics, 2008, 17, 217-243.	0.6	6
56	Evaluation of UAS Concepts of Operation for Severe Storm Penetration using Hardware-in-the-Loop Simulations. , 2010, , .		6
57	Entropy Production in Nonsteady General Coordinates. AIAA Journal, 1987, 25, 1629-1631.	2.6	5
58	A computational analysis of the transonic flow field of two-dimensional minimum length nozzles. , 1989, , .		5
59	Calculation of supersonic minimum length nozzles for equilibrium flow. Inverse Problems in Science and Engineering, 1999, 7, 65-95.	0.5	5
60	Measuring Absolute Thermospheric Densities And Accommodation Coefficients Using Paddlewheel Satellites: Past Findings, Present Uses, And Future Mission Concepts. Journal of the Astronautical Sciences, 2011, 58, 531-549.	1.5	5
61	Comparison of Sonic Booms from Modified Linear Theory to Flight Test Data. , 2012, , .		5
62	Energy efficient UAS flight planning for characterizing features of supercell thunderstorms. , 2014, , .		5
63	Development of Wind Sensing from Small UAS with Distributed Pressure Sensors. , 2016, , .		5
64	Machine Self-confidence in Autonomous Systems via Meta-analysis of Decision Processes. Advances in Intelligent Systems and Computing, 2020, , 213-223.	0.6	5
65	University of Colorado and Black Swift Technologies RPAS-based measurements of the lower atmosphere during LAPSE-RATE. Earth System Science Data, 2021, 13, 2515-2528.	9.9	5
66	Simulations of nonclassical dense gas dynamics. , 2001, , .		4
67	Real-Time Participant Feedback from the Symposium for Civilian Applications of Unmanned Aircraft Systems. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 54, 87-103.	3.4	4
68	Unmanned aircraft systems for communication and atmospheric sensing missions. , 2013, , .		4
69	A Low-Cost System for Wind Field Estimation Through Sensor Networks and Aircraft Design. , 2015, , .		4
70	A Shape Optimization Methodology with F-Function Lobe Balancing for Mitigating the Sonic Boom. , 2002, , .		3
71	The Tempest UAS: The VORTEX2 Supercell Thunderstorm Penetrator. , 2011, , .		3
72	Rigid-Body Dynamics in Free-Molecular and Transition Flow. Journal of Spacecraft and Rockets, 2014, 51, 239-252.	1.9	3

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73	Nonlinear Dynamics of Objects in Transition Flow During Atmospheric Entry. Journal of Spacecraft and Rockets, 2014, 51, 855-872.	1.9	3
74	Volumetric geometry for DSMC and the Voldipar code. Computers and Fluids, 2015, 121, 114-132.	2.5	3
75	A Dispersed Autonomy Architecture for Information-Gathering Drone Swarms. , 2020, , .		3
76	Nonclassical dense gas flows for simple geometries. AIAA Journal, 1998, 36, 1842-1847.	2.6	3
77	TORNADOCHASER: A REMOTELY-PILOTED UAV FOR IN SITU METEOROLOGICAL MEASUREMENTS. , 2002, , .		2
78	UAS for In Situ Sensing of an Atmospheric Airmass Boundary. , 2007, , .		2
79	Methodology for Conducting Scaled Sonic-Boom Flight Tests Using Unmanned Aircraft Systems. Journal of Aircraft, 2012, 49, 1234-1244.	2.4	2
80	Modified Linear Theory Sonic Booms Compared to Experimental and Numerical Results. Journal of Aircraft, 2015, 52, 1821-1837.	2.4	2
81	Covariance Analysis of Sensors for Wind Field Estimation by Small Unmanned Aircraft. , 2015, , .		2
82	A calibration system for low-velocity flows at stratospheric conditions. , 2020, , .		2
83	Low-Speed DSMC Simulations of Hotwire Anemometers at High-Altitude Conditions. Fluids, 2021, 6, 20.	1.7	2
84	A Low-Cost Balloon System for High-Cadence, In-Situ Stratospheric Turbulence Measurements. , 2021, , .		2
85	Proactive Teaching And Learning In The Aerospace Engineering Curriculum 2000. , 0, , .		2
86	Construction and operation of a dense gas shock tube. , 2001, , .		1
87	Vertical Integration of UAV Senior Projects in the Curriculum 2000. , 2002, , .		1
88	A Low Cost, Rapid Construction Unmanned Aircraft Design. , 2007, , .		1
89	Design and Flight Testing of a 15% Dynamically Scaled HL-20 Vehicle Model. , 2012, , .		1
90	Toward an Autonomous Airborne Scientist for Studying Severe Local Storms (Invited). , 2016, , .		1

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91	Flight Results from a Small UAS Distributed Flush Airdata System. , 2017, , .		1
92	Aircraft Geometry Effects on a Distributed Flush Airdata System. , 2018, , .		1
93	Numerical Calibration of a Low-Speed sUAS Flush Air Data System. Journal of Atmospheric and Oceanic Technology, 2019, 36, 1577-1590.	1.3	1
94	Experimental and Numerical Calibration of Hotwire Anemometers for the Study of Stratospheric Turbulence. , 2021, , .		1
95	Nonclassical dense gas flows for simple geometries. , 1997, , .		0
96	Application of Bethe-Zel'dovich-Thompson fluids in organic Rankine cycle engines. , 1999, , .		0
97	RECUV the University of Colorado's Research and Engineering Center for Unmanned Vehicles. , 2007, , .		0
98	Design Methods to Create Frozen Sonic Booms via Lobe Balancing using Aircraft Components. , 2011, , .		0
99	Optical Flow Techniques for Wind-Velocity Sensing on a Small Unmanned Aircraft System. , 2015, , .		0
100	A Certification Strategy for Small Unmanned Aircraft Performing Nomadic Missions in the U.S. National Airspace System. , 2015, , 2177-2198.		0
101	Aerobraking in the Cislunar Economy. , 2017, , .		0
102	Unsteady Heat Transfer for Pressure Vessels in Atmospheric Flight at Orbital Velocities. Journal of Thermophysics and Heat Transfer, 2019, 33, 1037-1054.	1.6	0
103	Analytical Approach for Aero-Optical and Atmospheric Effects in Supersonic Flow Fields. , 2020, , .		0
104	Feasibility of Semi-Passive Surface Accommodation Control in Rarefied Flows. , 2013, , .		0
105	Unmanned Aircraft System Design. , 2016, , 159-171.		0
106	Correction: Analytical Approach for Aero-Optical and Atmospheric Effects in Supersonic Flow Fields. , 2020, , .		0
107	Real-Time Participant Feedback from the Symposium for Civilian Applications of Unmanned Aircraft Systems. , 2008, , 87-103.		0
108	Voxelized Photon Monte Carlo Radiation Modeling of Hypersonic Continuum Flows. , 2022, , .		0