

# Jonathan Poggie

## List of Publications by Year in descending order

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124  
papers

1,729  
citations

331538

21  
h-index

345118

36  
g-index

124  
all docs

124  
docs citations

124  
times ranked

579  
citing authors

#	ARTICLE	IF	CITATIONS
1	Simulating military conflict with a continuous flow model. Journal of the Operational Research Society, 2022, 73, 273-284.	2.1	0
2	Detached Eddy Simulation of Blunt-Fin-Induced Shock-Wave/Boundary-Layer Interaction. AIAA Journal, 2022, 60, 2097-2114.	1.5	7
3	Aerodynamic Heating in the Gap Between a Missile Body and a Control Fin. Journal of Spacecraft and Rockets, 2022, 59, 1111-1124.	1.3	5
4	Computational Study of Transition on a Flared Cone Using Random Forcing. , 2022, , .		0
5	Simulation of a High Reynolds Number Compressible Turbulent Boundary Layer Developing in the Presence of a Sinusoidal Plane. , 2022, , .		1
6	Dynamic Mode Decomposition of a Highly Confined Shock-Wave/Boundary-Layer Interaction. , 2021, , .		2
7	Preliminary Computational Study of Transition on a Flared Cone Using Random Forcing. , 2021, , .		0
8	A Preliminary Study of Roughness Effects on a Compressible Turbulent Boundary Layer. , 2021, , .		0
9	Large-scale unsteadiness in a compression ramp flow confined by sidewalls. Physical Review Fluids, 2021, 6, .	1.0	11
10	Unsteady Aspects of Shock-Wave / Boundary-Layer Interaction Resulting from Control Surface Deflection. , 2021, , .		1
11	Unsteadiness of Shock-Wave/Boundary-Layer Interaction with Sidewalls. , 2020, , .		1
12	Effects of Freestream Acoustic Disturbances on Hypersonic Boundary Layer Stability. , 2020, , .		1
13	Detached Eddy Simulation of Supersonic Wing-Elevon Cove Boundary-Layer Ingestion. , 2020, , .		4
14	Unsteady characteristics of compressible reattaching shear layers. Physics of Fluids, 2020, 32, 066103.	1.6	7
15	Computation of Backwards-Facing Step-Ramp Induced Shock-Wave Boundary-Layer Interaction. , 2020, , .		1
16	Response of a turbulent boundary layer to rapid freestream acceleration. Physics of Fluids, 2020, 32, .	1.6	9
17	Effect of Forcing on a Supersonic Compression Ramp Flow. AIAA Journal, 2019, 57, 3765-3772.	1.5	12
18	Unsteadiness in a Compressible Reattaching Shear Layer. , 2019, , .		3

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19	Challenges in numerical simulation of nanosecond-pulse discharges. Journal Physics D: Applied Physics, 2019, 52, 304002.	1.3	6
20	Statistical Analysis of Unsteadiness in a Compressible Reattaching Flow. , 2019, , .		0
21	Effect of Local Field Approximation in Simulations of Gas Discharges. , 2019, , .		0
22	Stability of Cylindrical and Conical Hypersonic Boundary Layers. , 2019, , .		0
23	Selective upstream influence on the unsteadiness of a separated turbulent compression ramp flow. Physics of Fluids, 2019, 31, .	1.6	58
24	Simulation of Unstart in Hypersonic Flow with a Dual-Mode Scramjet Model. , 2019, , .		2
25	Flow structure and unsteadiness in a highly confined shock-wave“boundary-layer interaction. Physical Review Fluids, 2019, 4, .	1.0	29
26	Effects of Power Deposition on the Aerodynamic Forces on a Slender Body. AIAA Journal, 2018, 56, 2911-2917.	1.5	8
27	A positivity-preserving high order discontinuous Galerkin scheme for convection“diffusion equations. Journal of Computational Physics, 2018, 366, 120-143.	1.9	15
28	HIFIRE-5b Heat Flux and Boundary-Layer Transition. Journal of Spacecraft and Rockets, 2018, 55, 1315-1328.	1.3	19
29	Effects of curvature in high-speed inlets. , 2018, , .		0
30	Flow Control of Swept Shock-Wave/Boundary-Layer Interaction Using Plasma Actuators. Journal of Spacecraft and Rockets, 2018, 55, 1198-1207.	1.3	19
31	HIFIRE-5b Flow Computations and Attitude Determination via Comparison with Flight Data. Journal of Spacecraft and Rockets, 2018, 55, 1356-1368.	1.3	9
32	Numerical Simulation of Sidewall Influence on Supersonic Compression Ramp Interactions. , 2018, , .		0
33	Turbulence Structure and Large-Scale Unsteadiness in Shock-Wave / Boundary Layer Interaction. , 2017, , .		1
34	Detached-Eddy Simulation of a Supersonic Reattaching Shear Layer. AIAA Journal, 2017, 55, 3722-3733.	1.5	26
35	Multi-scale interactions in a compressible boundary layer. Journal of Turbulence, 2017, 18, 760-780.	0.5	9
36	Supersonic Flow Control of Swept Shock Wave / Turbulent Boundary Layer Interactions using Plasma Actuators. , 2017, , .		3

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37	Laminar and Turbulent Flow Calculations for the HIFIRE-5b Flight Test. , 2017, , .		10
38	HIFIRE-5b Heat Flux and Boundary-Layer Transition. , 2017, , .		21
39	Computations of Turbulent Flow over a Sharp Fin at Mach 5. Journal of Thermophysics and Heat Transfer, 2016, 30, 394-402.	0.9	11
40	Supersonic Corner Flow Predictions Using the Quadratic Constitutive Relation. AIAA Journal, 2016, 54, 2077-2088.	1.5	9
41	Causal relationship between large outer structures and small-scale near-wall turbulence in a compressible boundary layer at Mach=2.3. , 2016, , .		0
42	Large-scale unsteadiness in a compressible, turbulent reattaching shear layer. Experiments in Fluids, 2015, 56, 1.	1.1	7
43	Compressible Turbulent Boundary Layer Simulations: Resolution Effects and Turbulence Modeling. , 2015, , .		8
44	Resolution effects in compressible, turbulent boundary layer simulations. Computers and Fluids, 2015, 120, 57-69.	1.3	102
45	Multi-fluid modelling of pulsed discharges for flow control applications. International Journal of Computational Fluid Dynamics, 2015, 29, 180-191.	0.5	8
46	Supersonic Corner Flow Predictions using the Quadratic Constitutive Relation. , 2015, , .		3
47	Spectral Characteristics of Separation Shock Unsteadiness. AIAA Journal, 2015, 53, 200-214.	1.5	50
48	Spectral Scaling in a Supersonic Reattaching Shear Layer. , 2015, , .		0
49	Hypersonic Flow over a Cylinder with a Nanosecond Pulse Electrical Discharge. Journal of Thermophysics and Heat Transfer, 2014, 28, 18-26.	0.9	21
50	Implicit Large-Eddy-Simulation of Compressible Flow. , 2014, , .		0
51	Computational Analysis of Shock Wave Turbulent Boundary Layer Interaction. , 2014, , .		3
52	Large-Scale Structures in Implicit Large-Eddy Simulation of Compressible Turbulent Flow. , 2014, , .		7
53	Detached-Eddy Simulation of a Reattaching Shear Layer in Compressible Turbulent Flow. , 2014, , .		0
54	Plasma Control of a Turbulent Shock Boundary-Layer Interaction. AIAA Journal, 2013, 51, 1789-1804.	1.5	80

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55	Control of High-Angle-of-Attack Reentry Flow with Plasma Actuators. Journal of Spacecraft and Rockets, 2013, 50, 337-346.	1.3	9
56	Numerical simulation of nanosecond-pulse electrical discharges. Plasma Sources Science and Technology, 2013, 22, 015001.	1.3	71
57	On the validation of fluid plasma model for pulsed DBD plasma actuator simulations against full kinetic approach. , 2013, , .		1
58	Numerical Simulation of a Nanosecond-Pulse Discharge in Mach 5 Flow. , 2013, , .		0
59	Spectral Characteristics of Separation Shock Unsteadiness. , 2013, , .		3
60	Computational Study of Impregnated Ablator for Improved Magnetohydrodynamic Heat Shield. Journal of Spacecraft and Rockets, 2013, 50, 927-936.	1.3	25
61	Large-Eddy Simulations of Separated Supersonic Flow with Plasma Control. , 2013, , .		11
62	Control of separated flow in a reflected shock interaction using a magnetically-accelerated surface discharge. Physics of Fluids, 2012, 24, .	1.6	20
63	Numerical Simulation of Nanosecond-Pulse Electrical Discharges. , 2012, , .		12
64	Computational and Experimental Analysis of Mach 5 Air Flow over a Cylinder with a Nanosecond Pulse Discharge. , 2012, , .		9
65	Hypersonic Flow Computations for an Elliptic Cone at High Angle of Incidence. Journal of Spacecraft and Rockets, 2012, 49, 496-506.	1.3	3
66	Exploration of Plasma Control for Supersonic Turbulent Flow over a Compression Ramp. , 2012, , .		3
67	Numerical Investigation of Oblique Shock-Wave/Turbulent Boundary-Layer Interaction Control Using Plasma Actuators. , 2011, , .		0
68	Numerical Investigation of Shock-wave/Boundary-Layer Interaction Control Using Plasma Actuators. , 2011, , .		4
69	Exploration of MHD Flow Control for a Hypersonic Blunt Elliptic Cone with an Impregnated Ablator. , 2011, , .		4
70	Use of Impregnated Ablator for Improved Magnetohydrodynamic-Heat Shield Concept. , 2011, , .		2
71	High-Speed Flow Control with Electrical Discharges. , 2011, , .		1
72	Closed-Loop Stall Control System. Journal of Aircraft, 2010, 47, 1747-1755.	1.7	25

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73	Numerical Study of Magnetoaerodynamic Flow Around a Hemisphere. Journal of Spacecraft and Rockets, 2010, 47, 816-827.	1.3	30
74	Role of Charged Particle Inertia in Pulsed Electrical Discharges. , 2010, , .		8
75	Numerical Study of Magnetoaerodynamic Flow Around a Hemisphere. , 2010, , .		3
76	Numerical Study of a MHD-Heat Shield. , 2010, , .		3
77	High-Order Numerical Methods for Electrical Discharge Modeling. , 2010, , .		9
78	Numerical Study of Electromagnetic Aerodynamic Control of Hypersonic Vehicles. , 2009, , .		4
79	High-Order Compact Difference Methods for Glow Discharge Modeling. , 2009, , .		10
80	Three Dimensional Simulations of Hypersonic MHD Flow Control. , 2009, , .		6
81	Compact Difference Methods for Discharge Modeling in Aerodynamics. , 2009, , .		5
82	Numerical Study of Plasma-Assisted Aerodynamic Control for Hypersonic Vehicles. Journal of Spacecraft and Rockets, 2009, 46, 568-576.	1.3	42
83	Numerical Simulation of Direct Current Glow Discharges for High-Speed Flow Control. Journal of Propulsion and Power, 2008, 24, 916-922.	1.3	23
84	Control of Shock-Wave / Boundary-Layer Interaction Using Volumetric Energy Deposition. , 2008, , .		3
85	Numerical Study of Energy Deposition Requirements for Aerodynamic Control of Hypersonic Vehicles. , 2008, , .		8
86	Discharge Modeling for Flow Control Applications. , 2008, , .		5
87	Numerical Study of Plasma-Assisted Aerodynamic Control for Hypersonic Vehicles. , 2008, , .		4
88	Numerical Simulation of DC and RF Glow Discharges. , 2007, , .		6
89	Plasma-Based Control of Shock-Wave / Boundary-Layer Interaction. , 2006, , .		8
90	Plasma-Based Hypersonic Flow Control. , 2006, , .		13

#	ARTICLE	IF	CITATIONS
91	A PARALLELIZED 3D FLOATING RANDOM-WALK ALGORITHM FOR THE SOLUTION OF THE NONLINEAR POISSON-BOLTZMANN EQUATION. <i>Progress in Electromagnetics Research</i> , 2006, 57, 237-252.	1.6	9
92	A two-dimensional stochastic algorithm for the solution of the non-linear Poisson-Boltzmann equation: validation with finite-difference benchmarks. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 66, 72-84.	1.5	2
93	Experimental evidence for Plotkin model of shock unsteadiness in separated flow. <i>Physics of Fluids</i> , 2005, 17, 018107.	1.6	31
94	Transition from the constant ion mobility regime to the ion-atom charge-exchange regime for bounded collisional plasmas. <i>Physics of Plasmas</i> , 2005, 12, 023502.	0.7	7
95	Computational Studies of High-Speed Flow Control with Weakly-Ionized Plasma. , 2005, , .		9
96	A Meshless Stochastic Algorithm for the Solution of the Nonlinear Poisson-Boltzmann Equation in the Context of Plasma Discharge Modeling: 1D Analytical Benchmark. , 2005, , .		1
97	Plasma-Sheath Transition in the Magnetized Plasma-Wall Problem for Collisionless Ions. <i>IEEE Transactions on Plasma Science</i> , 2004, 32, 2217-2226.	0.6	48
98	Quantitative visualization of compressible turbulent shear flows using condensate-enhanced Rayleigh scattering. <i>Experiments in Fluids</i> , 2004, 37, 438-454.	1.1	83
99	Numerical Exploration of Flow Control with Glow Discharges. , 2004, , .		17
100	Modeling low pressure collisional plasma sheath with space-charge effect. <i>Physics of Plasmas</i> , 2003, 10, 2578-2585.	0.7	39
101	Implicit Technique for Three-Dimensional Turbulent Magnetoaerodynamics. <i>AIAA Journal</i> , 2003, 41, 2179-2191.	1.5	17
102	Large-Scale Structures in a Compressible Mixing Layer over a Cavity. <i>AIAA Journal</i> , 2003, 41, 2410-2419.	1.5	12
103	Electrode boundary conditions in magnetogasdynamic flow control. , 2002, , .		13
104	Elements of a numerical procedure for 3-D MGD flow control analysis. , 2002, , .		25
105	Magnetic control of flow past a blunt body: Numerical validation and exploration. <i>Physics of Fluids</i> , 2002, 14, 1720-1731.	1.6	114
106	Plasma Sheath Modeling in the Presence of Collisions. , 2002, , 673.		0
107	An implicit technique for 3-D turbulent MGD with the generalized Ohm's law. , 2001, , .		29
108	Shock unsteadiness in a reattaching shear layer. <i>Journal of Fluid Mechanics</i> , 2001, 429, 155-185.	1.4	47

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109	Effect of Total Temperature on Boundary-Layer Stability at Mach 6. AIAA Journal, 2000, 38, 1754-1755.	1.5	7
110	Modeling the Propagation of a Shock Wave Through a Glow Discharge. AIAA Journal, 2000, 38, 1411-1418.	1.5	10
111	Shock unsteadiness in a reattaching shear layer. , 2000, , .		1
112	Simulation of magnetogasdynamic flow control techniques. , 2000, , .		33
113	Traveling Instability Waves in a Mach 8 Flow over an Elliptic Cone. AIAA Journal, 2000, 38, 251-258.	1.5	44
114	Traveling instability waves in a Mach 8 flow over an elliptic cone. AIAA Journal, 2000, 38, 251-258.	1.5	3
115	Modeling the propagation of a shock wave through a glow discharge. AIAA Journal, 2000, 38, 1411-1418.	1.5	0
116	Effect of total temperature on boundary-layer stability at Mach 6. AIAA Journal, 2000, 38, 1754-1755.	1.5	0
117	Laminar-Turbulent Transition in a Mach 8 Elliptic Cone Flow. AIAA Journal, 1999, 37, 1080-1087.	1.5	76
118	Effect of total temperature on boundary layer stability at Mach 6. , 1999, , .		5
119	Laminar-turbulent transition in a Mach 8 elliptic cone flow. AIAA Journal, 1999, 37, 1080-1087.	1.5	2
120	Wavelet Analysis of Wall-Pressure Fluctuations in a Supersonic Blunt-Fin Flow. AIAA Journal, 1997, 35, 1597-1603.	1.5	29
121	Wavelet analysis of wall-pressure fluctuations in a supersonic blunt-fin flow. AIAA Journal, 1997, 35, 1597-1603.	1.5	3
122	Quantitative visualization of supersonic flow using Rayleigh scattering. , 1996, , .		4
123	The dynamics and control of fluctuating pressure loads in the reattachment region of a supersonic free shear layer. , 1992, , .		6
124	Unsteady Aspects of Shock-Wave/Boundary-Layer Interaction Resulting from Control Surface Deflection. AIAA Journal, 0, , 1-11.	1.5	1