Clarence Rowley

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Spectral analysis of nonlinear flows. Journal of Fluid Mechanics, 2009, 641, 115-127.	3.4	1,592
2	A Data–Driven Approximation of the Koopman Operator: Extending Dynamic Mode Decomposition. Journal of Nonlinear Science, 2015, 25, 1307-1346.	2.1	1,044
3	On dynamic mode decomposition: Theory and applications. Journal of Computational Dynamics, 2014, 1, 391-421.	1.1	1,023
4	Modal Analysis of Fluid Flows: An Overview. AIAA Journal, 2017, 55, 4013-4041.	2.6	1,020
5	MODEL REDUCTION FOR FLUIDS, USING BALANCED PROPER ORTHOGONAL DECOMPOSITION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2005, 15, 997-1013.	1.7	702
6	Model reduction for compressible flows using POD and Galerkin projection. Physica D: Nonlinear Phenomena, 2004, 189, 115-129.	2.8	589
7	Variants of Dynamic Mode Decomposition: Boundary Condition, Koopman, and Fourier Analyses. Journal of Nonlinear Science, 2012, 22, 887-915.	2.1	540
8	Model Reduction for Flow Analysis and Control. Annual Review of Fluid Mechanics, 2017, 49, 387-417.	25.0	460
9	On self-sustained oscillations in two-dimensional compressible flow over rectangular cavities. Journal of Fluid Mechanics, 2002, 455, 315-346.	3.4	412
10	DYNAMICS AND CONTROL OF HIGH-REYNOLDS-NUMBER FLOW OVER OPEN CAVITIES. Annual Review of Fluid Mechanics, 2006, 38, 251-276.	25.0	323
11	Detection of Lagrangian coherent structures in three-dimensional turbulence. Journal of Fluid Mechanics, 2007, 572, 111-120.	3.4	289
12	Maximum Power Point Tracking for Photovoltaic Optimization Using Ripple-Based Extremum Seeking Control. IEEE Transactions on Power Electronics, 2010, 25, 2531-2540.	7.9	270
13	Active control of flow-induced cavity oscillations. Progress in Aerospace Sciences, 2008, 44, 479-502.	12.1	227
14	De-biasing the dynamic mode decomposition for applied Koopman spectral analysis of noisy datasets. Theoretical and Computational Fluid Dynamics, 2017, 31, 349-368.	2.2	216
15	Characterizing and correcting for the effect of sensor noise in the dynamic mode decomposition. Experiments in Fluids, 2016, 57, 1.	2.4	207
16	Locomotion of Articulated Bodies in a Perfect Fluid. Journal of Nonlinear Science, 2005, 15, 255-289.	2.1	195
17	Reduced-order models for control of fluids using the eigensystem realization algorithm. Theoretical and Computational Fluid Dynamics, 2011, 25, 233-247.	2.2	177
18	A kernel-based method for data-driven koopman spectral analysis. Journal of Computational Dynamics, 2015, 2, 247-265.	1.1	176

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19	Dynamic mode decomposition for large and streaming datasets. Physics of Fluids, 2014, 26, .	4.0	170
20	Linearly Recurrent Autoencoder Networks for Learning Dynamics. SIAM Journal on Applied Dynamical Systems, 2019, 18, 558-593.	1.6	157
21	Scaling the propulsive performance of heaving and pitching foils. Journal of Fluid Mechanics, 2017, 822, 386-397.	3.4	153
22	Reconstruction equations and the Karhunen–Loève expansion for systems with symmetry. Physica D: Nonlinear Phenomena, 2000, 142, 1-19.	2.8	139
23	The unsteady three-dimensional wake produced by a trapezoidal pitching panel. Journal of Fluid Mechanics, 2011, 685, 117-145.	3.4	123
24	Low-frequency dynamics in a shock-induced separated flow. Journal of Fluid Mechanics, 2016, 807, 441-477.	3.4	123
25	Modeling of transitional channel flow using balanced proper orthogonal decomposition. Physics of Fluids, 2008, 20, .	4.0	117
26	Fast computation of finite-time Lyapunov exponent fields for unsteady flows. Chaos, 2010, 20, 017503.	2.5	113
27	Feedback control of unstable steady states of flow past a flat plate using reduced-order estimators. Journal of Fluid Mechanics, 2010, 645, 447-478.	3.4	103
28	Online Dynamic Mode Decomposition for Time-Varying Systems. SIAM Journal on Applied Dynamical Systems, 2019, 18, 1586-1609.	1.6	102
29	Linear models for control of cavity flow oscillations. Journal of Fluid Mechanics, 2006, 547, 317.	3.4	96
30	Extending Data-Driven Koopman Analysis to Actuated Systems. IFAC-PapersOnLine, 2016, 49, 704-709.	0.9	93
31	Reduced-order unsteady aerodynamic models at low Reynolds numbers. Journal of Fluid Mechanics, 2013, 724, 203-233.	3.4	87
32	Reduction and reconstruction for self-similar dynamical systems. Nonlinearity, 2003, 16, 1257-1275.	1.4	86
33	Spectral analysis of fluid flows using sub-Nyquist-rate PIV data. Experiments in Fluids, 2014, 55, 1.	2.4	85
34	Empirical state-space representations for Theodorsen's lift model. Journal of Fluids and Structures, 2013, 38, 174-186.	3.4	78
35	Motion Planning for an Articulated Body in a Perfect Planar Fluid. SIAM Journal on Applied Dynamical Systems, 2006, 5, 650-669	1.6	75
36	<i>H</i> ₂ optimal actuator and sensor placement in the linearised complex Ginzburg–Landau system. Journal of Fluid Mechanics, 2011, 681, 241-260.	3.4	66

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37	Integration of non-time-resolved PIV and time-resolved velocity point sensors for dynamic estimation of velocity fields. Experiments in Fluids, 2013, 54, 1.	2.4	66
38	Discretely Nonreflecting Boundary Conditions for Linear Hyperbolic Systems. Journal of Computational Physics, 2000, 157, 500-538.	3.8	65
39	State-space model identification and feedback control of unsteady aerodynamic forces. Journal of Fluids and Structures, 2014, 50, 253-270.	3.4	62
40	Algorithm 945. ACM Transactions on Mathematical Software, 2014, 40, 1-23.	2.9	60
41	Feedback control of instabilities in the two-dimensional Blasius boundary layer: The role of sensors and actuators. Physics of Fluids, 2013, 25, .	4.0	59
42	Feedback control of flow resonances using balanced reduced-order models. Journal of Sound and Vibration, 2011, 330, 1567-1581.	3.9	57
43	Using hyperbolic Lagrangian coherent structures to investigate vortices in bioinspired fluid flows. Chaos, 2010, 20, 017510.	2.5	56
44	An improved algorithm for balanced POD through an analytic treatment of impulse response tails. Journal of Computational Physics, 2012, 231, 5317-5333.	3.8	53
45	Clarifying the relationship between efficiency and resonance for flexible inertial swimmers. Journal of Fluid Mechanics, 2018, 853, 271-300.	3.4	52
46	Model Reduction of the Nonlinear Complex Ginzburg–Landau Equation. SIAM Journal on Applied Dynamical Systems, 2010, 9, 1284-1302.	1.6	43
47	Data-Driven Model Predictive Control using Interpolated Koopman Generators. SIAM Journal on Applied Dynamical Systems, 2020, 19, 2162-2193.	1.6	43
48	Overview of results from the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2009, 49, 104016.	3.5	41
49	Data fusion via intrinsic dynamic variables: An application of data-driven Koopman spectral analysis. Europhysics Letters, 2015, 109, 40007.	2.0	38
50	Vortex dynamics in a pipe T-junction: Recirculation and sensitivity. Physics of Fluids, 2015, 27, .	4.0	38
51	Koopman Operators for Estimation and Control of Dynamical Systems. Annual Review of Control, Robotics, and Autonomous Systems, 2021, 4, 59-87.	11.8	37
52	Feedback control of slowly-varying transient growth by an array of plasma actuators. Physics of Fluids, 2014, 26, 024102.	4.0	36
53	POD based models of self-sustained oscillations in the flow past an open cavity. , 2000, , .		35
54	Feedback control of cavity flow oscillations using simple linear models. Journal of Fluid Mechanics, 2012, 709, 223-248.	3.4	35

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55	Uncertainty Quantification for Airfoil Icing Using Polynomial Chaos Expansions. Journal of Aircraft, 2015, 52, 1404-1411.	2.4	35
56	Dynamical models for control of cavity oscillations. , 2001, , .		34
57	Low-dimensional models of a temporally evolving free shear layer. Journal of Fluid Mechanics, 2009, 618, 113-134.	3.4	34
58	Strike point control for the National Spherical Torus Experiment (NSTX). Nuclear Fusion, 2010, 50, 105010.	3.5	32
59	Probabilistic Estimates of Transient Climate Sensitivity Subject to Uncertainty in Forcing and Natural Variability. Journal of Climate, 2011, 24, 5521-5537.	3.2	31
60	Adaptive separation control of a laminar boundary layer using online dynamic mode decomposition. Journal of Fluid Mechanics, 2020, 903, .	3.4	31
61	Unsteady High-Angle-of-Attack Aerodynamic Models of a Generic Jet Transport. Journal of Aircraft, 2015, 52, 890-895.	2.4	29
62	Snapshot-Based Balanced Truncation for Linear Time-Periodic Systems. IEEE Transactions on Automatic Control, 2010, 55, 469-473.	5.7	28
63	Riccati-less approach for optimal control and estimation: an application to two-dimensional boundary layers. Journal of Fluid Mechanics, 2013, 731, 394-417.	3.4	28
64	Identifying finite-time coherent sets from limited quantities of Lagrangian data. Chaos, 2015, 25, 087408.	2.5	28
65	Parameter-Varying Aerodynamics Models for Aggressive Pitching-Response Prediction. AIAA Journal, 2017, 55, 693-701.	2.6	28
66	Low-Dimensional Models for Control of Leading-Edge Vortices: Equilibria and Linearized Models. , 2007, , .		27
67	Long-time uncertainty propagation using generalized polynomial chaos and flow map composition. Journal of Computational Physics, 2014, 274, 783-802.	3.8	26
68	Distributed flexibility in inertial swimmers. Journal of Fluid Mechanics, 2020, 888, .	3.4	26
69	Reduced-Order Modeling of Channel Flow Using Traveling POD and Balanced POD. , 2006, , .		23
70	Normalized Coprime Robust Stability and Performance Guarantees for Reduced-Order Controllers. IEEE Transactions on Automatic Control, 2013, 58, 1068-1073.	5.7	23
71	Models and Control of Fish-Like Locomotion. Experimental Mechanics, 2010, 50, 1355-1360.	2.0	22
72	Improving Separation Control with Noise-Robust Variants of Dynamic Mode Decomposition. , 2016, , .		22

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73	Vortex breakdown, linear global instability and sensitivity of pipe bifurcation flows. Journal of Fluid Mechanics, 2017, 815, 257-294.	3.4	22
74	Analysis of amplification mechanisms and cross-frequency interactions in nonlinear flows via the harmonic resolvent. Journal of Fluid Mechanics, 2020, 900, .	3.4	21
75	Low-Dimensional Models for Feedback Stabilization of Unstable Steady States. , 2008, , .		19
76	Modeling the Unsteady Aerodynamic Forces on Small-Scale Wings. , 2009, , .		19
77	Low-Dimensional State-Space Representations for Classical Unsteady Aerodynamic Models. , 2011, , .		19
78	A Data-Driven Modeling Framework for Predicting Forces and Pressures on a Rapidly Pitching Airfoil. , 2015, , .		19
79	Control of Forced and Self-Sustained Oscillations in the Flow Past a Cavity. , 2003, , .		18
80	Lift Enhancement for Low-Aspect-Ratio Wings with Periodic Excitation. AIAA Journal, 2010, 48, 1785-1790.	2.6	18
81	Plasma modelling results and shape control improvements for NSTX. Nuclear Fusion, 2011, 51, 113024.	3.5	18
82	Cavity Flow Control Simulations and Experiments. , 2005, , .		17
83	Reduced-order models for flow control: balanced models and Koopman modes. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 43-50.	0.2	17
84	Unsteady Aerodynamic Forces on Small-Scale Wings: Experiments, Simulations, and Models. , 2008, , .		15
85	Koopman spectral analysis of separated flow over a finite-thickness flat plate with elliptical leading edge. , 2011, , .		15
86	Connections between resonance and nonlinearity in swimming performance of a flexible heaving plate. Journal of Fluid Mechanics, 2020, 888, .	3.4	15
87	Control of a canonical separated flow. , 2013, , .		14
88	Recent Progress in Closed-Loop Control of Cavity Tones. , 2006, , .		13
89	Maximum power point tracking for photovoltaic optimization using extremum seeking. , 2009, , .		12
90	Simultaneous feedback control of plasma rotation and stored energy on NSTX-U using neoclassical toroidal viscosity and neutral beam injection. Physics of Plasmas, 2017, 24, 056101.	1.9	12

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91	Optimal back-extrapolation method for estimating plasma volume in humans using the indocyanine green dilution method. Theoretical Biology and Medical Modelling, 2014, 11, 33.	2.1	11
92	Unsteady Aerodynamic Models for Agile Flight at Low Reynolds Number. , 2010, , .		10
93	Overview of physics results from NSTX. Nuclear Fusion, 2011, 51, 094011.	3.5	10
94	Experimental Implementation of Modal Approaches for Autonomous Reattachment of Separated Flows. , 2018, , .		10
95	Correction: Modal Analysis of Fluid Flows: An Overview. AIAA Journal, 2020, 58, AU9-AU9.	2.6	9
96	Supersonic Cavity Response to Open-Loop Forcing. , 2007, , 230-243.		8
97	Closed-Loop Control of Leading Edge Vorticity on a 3D Wing: Simulations and Low-Dimensional Models. , 2008, , .		7
98	Feedback Control of Transitional Channel Flow using Balanced Proper Orthogonal Decomposition. , 2008, , .		7
99	Fluid flow control applications of ℋ <inf>2</inf> optimal actuator and sensor placement. , 2014, , .		7
100	Reactive control of isolated unsteady streaks inÂaÂlaminar boundary layer. Journal of Fluid Mechanics, 2016, 795, 808-846.	3.4	7
101	Template-Based Stabilization of Relative Equilibria in Systems with Continuous Symmetry. Journal of Nonlinear Science, 2007, 17, 109-143.	2.1	6
102	Lieâ€Poisson integrators: A Hamiltonian, variational approach. International Journal for Numerical Methods in Engineering, 2010, 82, 1609-1644.	2.8	6
103	Reduced-order model based feedback control of the modified Hasegawa-Wakatani model. Physics of Plasmas, 2013, 20, 042501.	1.9	6
104	MODEL REDUCTION FOR FLUIDS, USING BALANCED PROPER ORTHOGONAL DECOMPOSITION. World Scientific Series on Nonlinear Science, Series B, 2006, , 301-317.	0.2	6
105	Low-Dimensional Models of a Temporally Evolving Free Shear Layer. , 2006, , .		5
106	Identifying Dynamic Modes of Separated Flow Subject to ZNMF-Based Control from Surface Pressure Measurements. , 2017, , .		5
107	Analysis of the dynamics of subharmonic flow structures via the harmonic resolvent: Application to vortex pairing in an axisymmetric jet. Physical Review Fluids, 2022, 7, .	2.5	5
108	Integration of non-time-resolved PIV and time-resolved velocity point sensors for dynamic estimation		4

of time-resolved velocity fields. , 2012, , .

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109	An efficient approximation of the Kalman filter for multiple systems coupled via low-dimensional stochastic input. Automatica, 2020, 117, 108972.	5.0	4
110	Feedback Control of High-Lift State for A Low-Aspect-Ratio Wing. , 2010, , .		3
111	Data-Driven Low-Dimensional Modeling and Uncertainty Quantification for Airfoil Icing. , 2015, , .		3
112	Reduced Order Estimation of the Speckle Electric Field History for Space-based Coronagraphs. Astrophysical Journal, 2019, 881, 126.	4.5	3
113	Lock-On to a High-Lift State with Oscillatory Forcing in a Three-Dimensional Wake Flow. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 81-93.	0.3	3
114	Optimizing Oblique Projections for Nonlinear Systems using Trajectories. SIAM Journal of Scientific Computing, 2022, 44, A1681-A1702.	2.8	3
115	Reduced-order models of linearized channel flow using balanced truncation. , 2006, , .		2
116	Low-dimensional Linearized Models for Systems with Periodic Orbits, with Application to the Ginzburg-Landau Equation. , 2008, , .		2
117	An adaptive-covariance-rank algorithm for the unscented Kalman filter. , 2010, , .		2
118	Lift Enhancement of High Angle of Attack Airfoils Using Periodic Pitching. , 2016, , .		2
119	Excess dNTPs Trigger Oscillatory Surface Flow in the Early Drosophila Embryo. Biophysical Journal, 2020, 118, 2349-2353.	0.5	2
120	Template-based stabilization of relative equilibria. , 2006, , .		1
121	Linear Unsteady Aerodynamic Models from Wind Tunnel Measurements. , 2011, , .		1
122	Unsteady Aerodynamic Response Modeling: A Parameter-Varying Approach. , 2015, , .		1
123	Low-Order Models for Control of Fluids: Balanced Models and the Koopman Operator. , 2016, , 60-67.		1
124	Three-Dimensional Wake of a Biologically Inspired Propulsor. , 2009, , .		0
125	Reduced-order models of linearized channel flow using balanced truncation. , 2006, , .		0