

Tamer A Zaki

List of Publications by Year in descending order

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94
papers

2,894
citations

172207

29
h-index

189595

50
g-index

94
all docs

94
docs citations

94
times ranked

1247
citing authors

#	ARTICLE	IF	CITATIONS
1	Mode interaction and the bypass route to transition. <i>Journal of Fluid Mechanics</i> , 2005, 531, 85-111.	1.4	184
2	From Streaks to Spots and on to Turbulence: Exploring the Dynamics of Boundary Layer Transition. <i>Flow, Turbulence and Combustion</i> , 2013, 91, 451-473.	1.4	132
3	Direct numerical simulations of transition in a compressor cascade: the influence of free-stream turbulence. <i>Journal of Fluid Mechanics</i> , 2010, 665, 57-98.	1.4	118
4	Effect of wall heating on turbulent boundary layers with temperature-dependent viscosity. <i>Journal of Fluid Mechanics</i> , 2013, 726, 196-225.	1.4	104
5	Conditional sampling of transitional boundary layers in pressure gradients. <i>Journal of Fluid Mechanics</i> , 2013, 728, 306-339.	1.4	100
6	Stability of zero-pressure-gradient boundary layer distorted by unsteady Klebanoff streaks. <i>Journal of Fluid Mechanics</i> , 2011, 681, 116-153.	1.4	96
7	Streak instabilities in boundary layers beneath free-stream turbulence. <i>Journal of Fluid Mechanics</i> , 2014, 741, 280-315.	1.4	94
8	DeepM&Mnet: Inferring the electroconvection multiphysics fields based on operator approximation by neural networks. <i>Journal of Computational Physics</i> , 2021, 436, 110296.	1.9	92
9	Turbulence and skin friction modification in channel flow with streamwise-aligned superhydrophobic surface texture. <i>Physics of Fluids</i> , 2014, 26, .	1.6	90
10	Continuous mode transition and the effects of pressure gradient. <i>Journal of Fluid Mechanics</i> , 2006, 563, 357.	1.4	88
11	On shear sheltering and the structure of vortical modes in single- and two-fluid boundary layers. <i>Journal of Fluid Mechanics</i> , 2009, 626, 111-147.	1.4	86
12	Large Eddy Simulation of Transitional Separated Flow over a Flat Plate and a Compressor Blade. <i>Flow, Turbulence and Combustion</i> , 2012, 88, 19-44.	1.4	85
13	Inner-outer interactions of large-scale structures in turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2016, 790, 128-157.	1.4	79
14	Linear stability analysis of channel flow of viscoelastic Oldroyd-B and FENE-P fluids. <i>Journal of Fluid Mechanics</i> , 2013, 737, 249-279.	1.4	67
15	Boundary-layer transition by interaction of discrete and continuous modes. <i>Journal of Fluid Mechanics</i> , 2008, 604, 199-233.	1.4	62
16	Receptivity, instability and breakdown of Görtler flow. <i>Journal of Fluid Mechanics</i> , 2011, 682, 362-396.	1.4	61
17	Signature of large-scale motions on turbulent/non-turbulent interface in boundary layers. <i>Journal of Fluid Mechanics</i> , 2017, 819, 165-187.	1.4	61
18	DeepM&Mnet for hypersonics: Predicting the coupled flow and finite-rate chemistry behind a normal shock using neural-network approximation of operators. <i>Journal of Computational Physics</i> , 2021, 447, 110698.	1.9	55

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19	Direct Computations of Boundary Layers Distorted by Migrating Wakes in a Linear Compressor Cascade. <i>Flow, Turbulence and Combustion</i> , 2009, 83, 307-322.	1.4	41
20	Effect of Reynolds Number on Turbulent Drag Reduction by Superhydrophobic Surface Textures. <i>Flow, Turbulence and Combustion</i> , 2015, 95, 277-300.	1.4	41
21	The equivalence between volume averaging and method of planes definitions of the pressure tensor at a plane. <i>Journal of Chemical Physics</i> , 2011, 135, 024512.	1.2	37
22	Floquet analysis of secondary instability of boundary layers distorted by Klebanoff streaks and Tollmien-Schlichting waves. <i>Physics of Fluids</i> , 2008, 20, .	1.6	36
23	Stability analysis of separated flows subject to control by zero-net-mass-flux jet. <i>Physics of Fluids</i> , 2015, 27, .	1.6	36
24	Simulations of natural transition in viscoelastic channel flow. <i>Journal of Fluid Mechanics</i> , 2017, 820, 232-262.	1.4	35
25	Streak evolution in viscoelastic Couette flow. <i>Journal of Fluid Mechanics</i> , 2014, 742, 520-551.	1.4	34
26	Turbulence in intermittent transitional boundary layers and in turbulence spots. <i>Journal of Fluid Mechanics</i> , 2019, 860, 350-383.	1.4	33
27	The dynamics of spanwise vorticity perturbations in homogeneous viscoelastic shear flow. <i>Journal of Fluid Mechanics</i> , 2015, 777, 327-363.	1.4	31
28	Geometric decomposition of the conformation tensor in viscoelastic turbulence. <i>Journal of Fluid Mechanics</i> , 2018, 842, 395-427.	1.4	31
29	Control-volume representation of molecular dynamics. <i>Physical Review E</i> , 2012, 85, 056705.	0.8	30
30	Linear and nonlinear evolution of a localized disturbance in polymeric channel flow. <i>Journal of Fluid Mechanics</i> , 2014, 760, 278-303.	1.4	30
31	Simulations of rib-roughened rough-to-smooth turbulent channel flows. <i>Journal of Fluid Mechanics</i> , 2018, 843, 419-449.	1.4	30
32	Two-point stress-strain-rate correlation structure and non-local eddy viscosity in turbulent flows. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	1.4	28
33	Modal and non-modal stability of boundary layers forced by spanwise wall oscillations. <i>Journal of Fluid Mechanics</i> , 2015, 778, 389-427.	1.4	27
34	Discrete adjoint of fractional-step incompressible Navier-Stokes solver in curvilinear coordinates and application to data assimilation. <i>Journal of Computational Physics</i> , 2019, 396, 427-450.	1.9	27
35	Application of a self-organizing map to identify the turbulent-boundary-layer interface in a transitional flow. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	27
36	State estimation in turbulent channel flow from limited observations. <i>Journal of Fluid Mechanics</i> , 2021, 917, .	1.4	25

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37	Kriging-enhanced ensemble variational data assimilation for scalar-source identification in turbulent environments. <i>Journal of Computational Physics</i> , 2019, 398, 108856.	1.9	23
38	Spatial reconstruction of steady scalar sources from remote measurements in turbulent flow. <i>Journal of Fluid Mechanics</i> , 2019, 870, 316-352.	1.4	23
39	Absolute instability in viscoelastic mixing layers. <i>Physics of Fluids</i> , 2014, 26, 014103.	1.6	22
40	Conditional statistics and flow structures in turbulent boundary layers buffeted by free-stream disturbances. <i>Journal of Fluid Mechanics</i> , 2019, 866, 526-566.	1.4	21
41	Spectral Universality of Elastoinertial Turbulence. <i>Physical Review Letters</i> , 2021, 127, 074501.	2.9	21
42	Streak instability in viscoelastic Couette flow. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	20
43	The influence of harmonic wall motion on transitional boundary layers. <i>Journal of Fluid Mechanics</i> , 2014, 760, 63-94.	1.4	19
44	Nonlinearly most dangerous disturbance for high-speed boundary-layer transition. <i>Journal of Fluid Mechanics</i> , 2019, 876, 87-121.	1.4	19
45	Evolutional deep neural network. <i>Physical Review E</i> , 2021, 104, 045303.	0.8	19
46	The Effect of wake Turbulence Intensity on Transition in a Compressor Cascade. <i>Flow, Turbulence and Combustion</i> , 2014, 93, 555-576.	1.4	17
47	Absolute/convective instability of planar viscoelastic jets. <i>Physics of Fluids</i> , 2015, 27, .	1.6	17
48	Turbulent thermal boundary layers with temperature-dependent viscosity. <i>International Journal of Heat and Fluid Flow</i> , 2014, 49, 43-52.	1.1	15
49	Data-enabled prediction of streak breakdown in pressure-gradient boundary layers. <i>Journal of Fluid Mechanics</i> , 2016, 801, 43-64.	1.4	15
50	Perturbative expansions of the conformation tensor in viscoelastic flows. <i>Journal of Fluid Mechanics</i> , 2019, 858, 377-406.	1.4	15
51	Sensitivity of high-speed boundary-layer stability to base-flow distortion. <i>Journal of Fluid Mechanics</i> , 2019, 859, 476-515.	1.4	15
52	Ensemble-variational assimilation of statistical data in large-eddy simulation. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	15
53	Linear and nonlinear instability waves in spatially developing two-phase mixing layers. <i>Physics of Fluids</i> , 2010, 22, .	1.6	14
54	The method of planes pressure tensor for a spherical subvolume. <i>Journal of Chemical Physics</i> , 2014, 140, 054506.	1.2	14

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55	Detection algorithm for turbulent interfaces and large-scale structures in intermittent flows. <i>Computers and Fluids</i> , 2018, 175, 142-158.	1.3	14
56	Stochastic Lagrangian dynamics of vorticity. Part 1. General theory for viscous, incompressible fluids. <i>Journal of Fluid Mechanics</i> , 2020, 901, .	1.4	14
57	Direct Numerical Simulation of By-Pass and Separation-Induced Transition in a Linear Compressor Cascade. , 2006, , 1421.		13
58	Viscoelastic shear flow over a wavy surface. <i>Journal of Fluid Mechanics</i> , 2016, 801, 392-429.	1.4	13
59	Flow estimation of boundary layers using DNS-based wall shear information. <i>International Journal of Control</i> , 2011, 84, 1310-1325.	1.2	12
60	Transition induced by linear and nonlinear perturbation growth in flow past a compressor blade. <i>Journal of Fluid Mechanics</i> , 2017, 820, 604-632.	1.4	12
61	“Phase diagram” for viscoelastic Poiseuille flow over a wavy surface. <i>Physics of Fluids</i> , 2018, 30, .	1.6	12
62	The effect of cube-roughened walls on the response of rough-to-smooth (RTS) turbulent channel flows. <i>International Journal of Heat and Fluid Flow</i> , 2018, 72, 174-185.	1.1	12
63	Low-frequency selectivity in flat-plate boundary layer with elliptic leading edge. <i>Journal of Fluid Mechanics</i> , 2019, 866, 239-262.	1.4	12
64	Observation-infused simulations of high-speed boundary-layer transition. <i>Journal of Fluid Mechanics</i> , 2021, 916, .	1.4	12
65	From limited observations to the state of turbulence: Fundamental difficulties of flow reconstruction. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	12
66	A Lagrangian relaxation towards equilibrium wall model for large eddy simulation. <i>Journal of Fluid Mechanics</i> , 2022, 934, .	1.4	12
67	What is observable from wall data in turbulent channel flow?. <i>Journal of Fluid Mechanics</i> , 2022, 941, .	1.4	12
68	Turbulent flow over a liquid layer revisited: multi-equation turbulence modelling. <i>Journal of Fluid Mechanics</i> , 2011, 683, 357-394.	1.4	11
69	An exact representation of the nonlinear triad interaction terms in spectral space. <i>Journal of Fluid Mechanics</i> , 2014, 748, 175-188.	1.4	10
70	Reconstruction of Scalar Source Intensity Based on Sensor Signal in Turbulent Channel Flow. <i>Flow, Turbulence and Combustion</i> , 2016, 97, 1211-1233.	1.4	10
71	Stochastic Lagrangian dynamics of vorticity. Part 2. Application to near-wall channel-flow turbulence. <i>Journal of Fluid Mechanics</i> , 2020, 901, .	1.4	10
72	Optimal heat flux for delaying transition to turbulence in a high-speed boundary layer. <i>Journal of Fluid Mechanics</i> , 2021, 916, .	1.4	10

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73	On the relationship between the wall-shear-stress and transient-growth disturbances in a laminar boundary layer. <i>Physics of Fluids</i> , 2010, 22, .	1.6	9
74	A nonlinear PSE method for two-fluid shear flows with complex interfacial topology. <i>Journal of Computational Physics</i> , 2011, 230, 6756-6777.	1.9	9
75	The mean conformation tensor in viscoelastic turbulence. <i>Journal of Fluid Mechanics</i> , 2019, 865, 363-380.	1.4	9
76	Inertioelastic Poiseuille flow over a wavy surface. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	9
77	Synchronization of turbulence in channel flow. <i>Journal of Fluid Mechanics</i> , 2022, 943, .	1.4	9
78	High-Reynolds-number fractal signature of nascent turbulence during transition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 3461-3468.	3.3	8
79	A localized momentum constraint for non-equilibrium molecular dynamics simulations. <i>Journal of Chemical Physics</i> , 2015, 142, 074110.	1.2	7
80	Dilute suspension of neutrally buoyant particles in viscoelastic turbulent channel flow. <i>Journal of Fluid Mechanics</i> , 2019, 875, 286-320.	1.4	7
81	Identifying Turbulent Spots in Transitional Boundary Layers. <i>Journal of Turbomachinery</i> , 2013, 135, .	0.9	6
82	The effect of a low-viscosity near-wall film on bypass transition in boundary layers. <i>Journal of Fluid Mechanics</i> , 2015, 772, 330-360.	1.4	6
83	Viscoelasticity and the dynamics of concentrated particle suspension in channel flow. <i>Journal of Fluid Mechanics</i> , 2020, 901, .	1.4	6
84	The dynamics of settling particles in vertical channel flows: gravity, lift and particle clusters. <i>Journal of Fluid Mechanics</i> , 2021, 918, .	1.4	6
85	Spatiotemporal characterization of turbulent channel flow with a hyperelastic compliant wall. <i>Journal of Fluid Mechanics</i> , 2022, 942, .	1.4	6
86	Instability waves and transition in adverse-pressure-gradient boundary layers. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	5
87	Wavy Taylor vortices in molecular dynamics simulation of cylindrical Couette flow. <i>Physical Review E</i> , 2016, 93, 043107.	0.8	4
88	Turbulent Heat-Transfer Enhancement in Boundary Layers Exposed to Free-Stream Turbulence. <i>Flow, Turbulence and Combustion</i> , 2020, 104, 381-402.	1.4	4
89	Large eddy simulation of transitional channel flow using a machine learning classifier to distinguish laminar and turbulent regions. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	4
90	Origin of enhanced skin friction at the onset of boundary-layer transition. <i>Journal of Fluid Mechanics</i> , 2022, 941, .	1.4	4

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91	Data compression for turbulence databases using spatiotemporal subsampling and local resimulation. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	3
92	Concave-wall turbulent boundary layers without and with free-stream turbulence. <i>Journal of Fluid Mechanics</i> , 2021, 915, .	1.4	2
93	Disturbance amplification in boundary layers over thin wall films. <i>Physics of Fluids</i> , 2016, 28, .	1.6	1
94	Bypass Transition in Three-dimensional Time-dependent Boundary Layers. <i>Procedia IUTAM</i> , 2015, 14, 274-281.	1.2	0