Jack Edwards

List of Publications by Year
in descending order

69 papers	3,120 citations	172207 29 h-index	233125 45 g-index
69 all docs	69 docs citations	69 times ranked	1239 citing authors

#	Article	IF	Citations
1	A low-diffusion flux-splitting scheme for Navier-Stokes calculations. Computers and Fluids, 1997, 26, 635-659.	1.3	428
2	An immersed boundary method for complex incompressible flows. Journal of Computational Physics, 2007, 224, 757-784.	1.9	281
3	Low-Diffusion Flux-Splitting Methods for Flows at All Speeds. AIAA Journal, 1998, 36, 1610-1617.	1.5	233
4	Discrete-vortex method with novel shedding criterion for unsteady aerofoil flows with intermittent leading-edge vortex shedding. Journal of Fluid Mechanics, 2014, 751, 500-538.	1.4	206
5	Hybrid Simulation Approach for Cavity Flows: Blending, Algorithm, and Boundary Treatment Issues. AIAA Journal, 2003, 41, 1463-1480.	1.5	147
6	Low-Diffusion Flux-Splitting Methods for Real Fluid Flows with Phase Transitions. AIAA Journal, 2000, 38, 1624-1633.	1.5	120
7	An unsteady airfoil theory applied to pitching motions validated against experiment and computation. Theoretical and Computational Fluid Dynamics, 2013, 27, 843-864.	0.9	90
8	A Study of Gas-Phase Mercury Speciation Using Detailed Chemical Kinetics. Journal of the Air and Waste Management Association, 2001, 51, 869-877.	0.9	82
9	Large Eddy/Reynolds-Averaged Navier-Stokes Simulation of a Mach 5 Compression-Corner Interaction. AIAA Journal, 2008, 46, 977-991.	1.5	81
10	Investigations of Lift-Based Pitch-Plunge Equivalence for Airfoils at Low Reynolds Numbers. AIAA Journal, 2011, 49, 1511-1524.	1.5	73
11	Large eddy simulation and zonal modeling of human-induced contaminant transport. Indoor Air, 2008, 18, 233-249.	2.0	71
12	Inflow Boundary Conditions for Hybrid Large Eddy/Reynolds Averaged Navier-Stokes Simulations. AIAA Journal, 2003, 41, 1481-1489.	1.5	70
13	An investigation of interface-sharpening schemes for multi-phase mixture flows. Journal of Computational Physics, 2009, 228, 5628-5649.	1.9	69
14	Large-Eddy/Reynolds-Averaged Navier–Stokes Simulations of Reactive Flow in Dual-Mode Scramjet Combustor. Journal of Propulsion and Power, 2014, 30, 558-575.	1.3	63
15	Compressible Boundary-Layer Predictions at High Reynolds Number Using Hybrid LES/RANS Methods. AIAA Journal, 2009, 47, 2179-2193.	1.5	62
16	Large-eddy/Reynolds-averaged Navier–Stokes simulation of cavity-stabilized ethylene combustion. Combustion and Flame, 2015, 162, 1176-1192.	2.8	62
17	Large-eddy/Reynolds-averaged Navier–Stokes simulation of a supersonic reacting wall jet. Combustion and Flame, 2012, 159, 1127-1138.	2.8	56
18	Compressible-Flow Simulations Using a New Large-Eddy Simulation/Reynolds-Averaged Navier-Stokes Model. AIAA Journal, 2011, 49, 2194-2209.	1.5	53

#	ARTICLE	IF	CITATIONS
19	Turbulence/chemistry interactions in a ramp-stabilized supersonic hydrogen–air diffusion flame. Combustion and Flame, 2016, 174, 152-165.	2.8	53
20	All-Speed Time-Accurate Underwater Projectile Calculations Using a Preconditioning Algorithm. Journal of Fluids Engineering, Transactions of the ASME, 2006, 128, 284-296.	0.8	50
21	Numerical simulations of shock/boundary layer interactions using time-dependent modeling techniques: A survey of recent results. Progress in Aerospace Sciences, 2008, 44, 447-465.	6.3	49
22	Simulation of Shock/Boundary-Layer Interactions with Bleed Using Immersed-Boundary Methods. Journal of Propulsion and Power, 2010, 26, 203-214.	1.3	47
23	Hybrid Large-Eddy/Reynolds-Averaged Navier–Stokes Simulations of Flow Through a Model Scramjet. AIAA Journal, 2014, 52, 1417-1429.	1.5	42
24	Hybrid Large-Eddy / Reynolds-Averaged Navier-Stokes Simulation of Shock-Separated Flows. Journal of Spacecraft and Rockets, 2004, 41, 897-906.	1.3	41
25	Blending Functions in Hybrid Large-Eddy/Reynolds-Averaged Navier-Stokes Simulations. AIAA Journal, 2004, 42, 2508-2515.	1.5	38
26	Leading-edge flow criticality as a governing factor in leading-edge vortex initiation in unsteady airfoil flows. Theoretical and Computational Fluid Dynamics, 2018, 32, 109-136.	0.9	38
27	Human-Induced Particle Re-Suspension in a Room. Aerosol Science and Technology, 2010, 44, 216-229.	1.5	35
28	A low-diffusion flux-splitting scheme for Navier-Stokes calculations. , 1995, , .		34
29	Variation of leading-edge suction during stall for unsteady aerofoil motions. Journal of Fluid Mechanics, 2020, 900, .	1.4	32
30	An Implicit Multigrid Algorithm for Computing Hypersonic, Chemically Reacting Viscous Flows. Journal of Computational Physics, 1996, 123, 84-95.	1.9	31
31	Collaborative Experimental and Computational Study of a Dual-Mode Scramjet Combustor. Journal of Propulsion and Power, 2014, 30, 530-538.	1.3	31
32	Development of a Premixed Combustion Capability for Dual-Mode Scramjet Experiments. Journal of Propulsion and Power, 2018, 34, 438-448.	1.3	28
33	Investigation of Subgrid Closure Models for Finite-Rate Scramjet Combustion. , 2013, , .		27
34	Towards unified CFD simulations of real fluid flows. , 2001, , .		24
35	Computation vs. Experiment for High-Frequency Low-Reynolds Number Airfoil Pitch and Plunge. , 2008, , .		24
36	OpenACC acceleration of an unstructured CFD solver based on a reconstructed discontinuous Galerkin method for compressible flows. International Journal for Numerical Methods in Fluids, 2015, 78, 123-139.	0.9	21

#	Article	IF	Citations
37	Numerical speed of sound and its application to schemes for all speeds. , 1999, , .		18
38	Multi-Wall Recycling / Rescaling Method for Inflow Turbulence Generation. , 2010, , .		16
39	Large Eddy Simulation of Particle Re-suspension During a Footstep. Aerosol Science and Technology, 2012, 46, 767-780.	1.5	13
40	Mach 6 Wake Flow Simulations Using a Large-Eddy Simulation/Reynolds-Averaged Navier–Stokes Model. Journal of Spacecraft and Rockets, 2014, 51, 1329-1348.	1.3	13
41	Computation vs. Experiment for High-Frequency Low-Reynolds Number Airfoil Plunge. International Journal of Micro Air Vehicles, 2009, 1, 99-119.	1.0	12
42	Flow criticality governs leading-edge-vortex initiation on finite wings in unsteady flow. Journal of Fluid Mechanics, 2021, 910, .	1.4	12
43	Numerical implementation of a modified Liou-Steffen upwind scheme. AIAA Journal, 1994, 32, 2120-2122.	1.5	11
44	Direct Measurement of Combustion Efficiency of a Dual-Mode Scramjet via TDLAT and SPIV (Invited). , 2015, , .		11
45	Hybrid Large Eddy Simulation/Reynolds-Averaged Navier–Stokes Analysis of a Premixed Ethylene-Fueled Dual-Mode Scramjet Combustor. AIAA Journal, 2021, 59, 2440-2456.	1.5	11
46	Numerical simulation of stable and unstable ram-mode operation of an axisymmetric ethylene-fueled inlet-isolator-combustor configuration. Combustion and Flame, 2022, 242, 112157.	2.8	11
47	Development of a RANS and LES/RANS Flow Solver for High-Speed Engine Flowpath Simulations. , 2015, , .		9
48	LES Model Assessment for High Speed Combustion. , 2016, , .		9
49	Turbulence / Chemistry Interactions in a Ramp-Stabilized Supersonic Hydrogen-Air Diffusion Flame. , 2014, , .		8
50	Large-Eddy Simulation/Reynolds-Averaged Navier–Stokes Simulations of High-Speed Mixing Processes. AIAA Journal, 2014, 52, 1486-1501.	1.5	7
51	Low-Order Modeling of Airfoils with Massively Separated Flow and Leading-Edge Vortex Shedding. , 2018, , .		7
52	A Time-Lag Approach for Prediction of Trailing Edge Separation in Unsteady Flow. , 2014, , .		6
53	A fine-grained block ILU scheme on regular structures for GPGPUs. Computers and Fluids, 2015, 119, 149-161.	1.3	6
54	Hybrid Large Eddy/Reynolds-Averaged Navier-Stokes Simulation of Mach 8.3 Flow over a Flat Plate. , 2005, , .		5

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55	A simple incompressible flux splitting for sharp free surface capturing. International Journal for Numerical Methods in Fluids, 2012, 69, 1661-1678.	0.9	5
56	Theoretical Analysis of Perching and Hovering Maneuvers. , 2013, , .		5
57	LES Model Assessment for High Speed Combustion using Mesh-Sequenced Realizations. , 2015, , .		5
58	Initiation of Leading-Edge-Vortex Formation on Finite Wings in Unsteady Flow. , 2015, , .		5
59	Least Squares Minimization Closure Models for LES of Turbulent Combustion. Flow, Turbulence and Combustion, 2019, 102, 699-733.	1.4	5
60	GPU Port of A Parallel Incompressible Navier-Stokes Solver based on OpenACC and MVAPICH2. , 2014, , .		4
61	Application of Data-Driven SGS Turbulent Combustion Models to the Volvo Experiment. , 2017, , .		3
62	Reflections on the early development of the â€œAUSM familyâ€•of Riemann solvers. Shock Waves, 2019, 29, 601-609.	1.0	3
63	Numerical Simulation of CUBRC Wake Flow Experiments Using a Hybrid LES/RANS Approach. , 2013, , .		2
64	Performance Assessment of Multi-block LES Simulations using Directive-based GPU Computation in a Cluster Environment. , 2014, , .		2
65	Mesh-Sequenced Realizations for Evaluation of Subgrid-Scale Models for Turbulent Combustion. AIAA Journal, 2020, 58, 4878-4892.	1.5	2
66	AUSM-family Schemes for Multiphase Flows at All Speeds. , 2003, , 517-543.		1
67	Optimization of A Fine-grained BILU by CUDA Inter-block Synchronization. , 2015, , .		1
68	Advanced Optimizations of An Implicit Navier-Stokes Solver on GPGPU. , 2015, , .		0
69	Predicting and Accelerating Chemistry in High Speed Reacting Flows. , 2016, , .		0