Neil D Sandham

List of Publications by Year in Descending Order

82 papers	3,407 citations	32 h-index	57 g-index
84 ext. papers	4,094 ext. citations	3 avg, IF	5.79 L-index

#	Paper	IF	Citations
82	On the performance of WENO/TENO schemes to resolve turbulence in DNS/LES of high-speed compressible flows. *International Journal for Numerical Methods in Fluids*, **2021**, 93, 176-196	1.9	5
81	Assessment of Low-Dissipative Shock-Capturing Schemes for the Compressible Taylor Green Vortex. *AIAA Journal*, **2021**, 59, 533-545	2.1	4
80	Direct numerical simulation of compressible turbulence in a counter-flow channel configuration. *Physical Review Fluids*, **2021**, 6,	2.8	2
79	OpenSBLI: Automated code-generation for heterogeneous computing architectures applied to compressible fluid dynamics on structured grids. *Computer Physics Communications*, **2021**, 267, 108063	4.2	3
78	The effect of flow confinement on laminar shock-wave/boundary-layer interactions. *Journal of Fluid Mechanics*, **2020**, 897,	3.7	6
77	Transition mechanisms in cross-flow-dominated hypersonic flows with free-stream acoustic noise. *Journal of Fluid Mechanics*, **2020**, 896,	3.7	1
76	Shockwave/Boundary-Layer Interactions in Transitional Rectangular Duct Flows. *ERCOFTAC Series*, **2020**, 271-276	0.1	1
75	Wide domain simulations of flow over an unswept laminar wing section undergoing transonic buffet. *Physical Review Fluids*, **2020**, 5,	2.8	1
74	LES Study of the Three-Dimensional Behaviour of Unswept Wing Sections at Buffet Conditions. *ERCOFTAC Series*, **2020**, 329-334	0.1	1
73	Modal Analysis of a Laminar-Flow Airfoil under Buffet Conditions at Re = 500,000. *Flow, Turbulence and Combustion*, **2020**, 104, 509-532	2.5	4
72	Shock-Wave/Boundary-Layer Interactions in Transitional Rectangular Duct Flows. *Flow, Turbulence and Combustion*, **2020**, 105, 649-670	2.5	5
71	Two-dimensional unsteadiness map of oblique shock wave/boundary layer interaction with sidewalls. *Journal of Fluid Mechanics*, **2019**, 871,	3.7	6
70	Large Eddy simulation of a heaving wing on the Cusp of transition to turbulence. *Computers and Fluids*, **2019**, 184, 64-77	2.8	4
69	Assessment of low-dissipative shock-capturing schemes for transitional and turbulent shock interactions **2019**,		5
68	Turbulence structures and statistics of a supersonic turbulent boundary layer subjected to concave surface curvature. *Journal of Fluid Mechanics*, **2019**, 865, 60-99	3.7	25
67	DNS Study of Roughness-Induced Transition at Mach 6 **2019**,		1
66	Direct Numerical Simulations of Transonic Flow Around an Airfoil at Moderate Reynolds Numbers. *AIAA Journal*, **2019**, 57, 597-607	2.1	12

65	Receptivity to Freestream Acoustic Noise in Hypersonic Flow over a Generic Forebody. *Journal of Spacecraft and Rockets*, **2019**, 56, 447-457	1.5	2
64	Performance evaluation of explicit finite difference algorithms with varying amounts of computational and memory intensity. *Journal of Computational Science*, **2019**, 36, 100565	3.4	3
63	Shock-wave/boundary-layer interactions in the automatic source-code generation framework OpenSBLI. *Computers and Fluids*, **2018**, 173, 17-21	2.8	12
62	Direct numerical simulation of turbulent channel flow over a surrogate for Nikuradse-type roughness. *Journal of Fluid Mechanics*, **2018**, 837,	3.7	30
61	Combined free-stream disturbance measurements and receptivity studies in hypersonic wind tunnels by means of a slender wedge probe and direct numerical simulation. *Journal of Fluid Mechanics*, **2018**, 842, 495-531	3.7	10
60	The Influence of Different Wake Profiles on Losses in a Low Pressure Turbine Cascade. *International Journal of Turbomachinery, Propulsion and Power*, **2018**, 3, 10	1	10
59	An error indicator for finite difference methods using spectral techniques with application to aerofoil simulation. *Computers and Fluids*, **2018**, 168, 67-72	2.8	7
58	Fluid–structure coupling mechanism and its aerodynamic effect on membrane aerofoils. *Journal of Fluid Mechanics*, **2018**, 848, 1127-1156	3.7	13
57	Unsteady behaviour in direct numerical solutions of transonic flow around an airfoil. **2018**,		2
56	OpenSBLI: A framework for the automated derivation and parallel execution of finite difference solvers on a range of computer architectures. *Journal of Computational Science*, **2017**, 18, 12-23	3.4	24
55	Surface correlations of hydrodynamic drag for transitionally rough engineering surfaces. *Journal of Turbulence*, **2017**, 18, 138-169	2.1	32
54	Surface-sampled simulations of turbulent flow at high Reynolds number. *International Journal for Numerical Methods in Fluids*, **2017**, 85, 525-537	1.9	7
53	Reynolds-number dependence of the near-wall flow over irregular rough surfaces. *Journal of Fluid Mechanics*, **2017**, 810, 196-224	3.7	36
52	Linear Stability Prediction of Vortex Structures on High Pressure Turbine Blades. *International Journal of Turbomachinery, Propulsion and Power*, **2017**, 2, 8	1	8
51	Recovery of a supersonic turbulent boundary layer after an expansion corner. *Physics of Fluids*, **2017**, 29, 076103	4.4	18
50	Acoustic Leading-Edge Receptivity for Supersonic/Hypersonic Flows over a Blunt Wedge. *AIAA Journal*, **2017**, 55, 4234-4244	2.1	12
49	Block-structured compressible Navier–Stokes solution using the OPS high-level abstraction. *International Journal of Computational Fluid Dynamics*, **2016**, 30, 450-454	1.2	9
48	Numerical Simulations of Transition due to Isolated Roughness Elements at Mach 6. *AIAA Journal*, **2016**, 54, 53-65	2.1	13

47	Direct Numerical Simulations of a High-Pressure Turbine Vane. *Journal of Turbomachinery*, **2016**, 138,	1.8	50
46	Instability and low-frequency unsteadiness in a shock-induced laminar separation bubble. *Journal of Fluid Mechanics*, **2016**, 798, 5-26	3.7	25
45	Enhanced instability of supersonic boundary layer using passive acoustic feedback. *Physics of Fluids*, **2016**, 28, 024103	4.4	1
44	Effects of Compressibility and Shock-Wave Interactions on Turbulent Shear Flows. *Flow, Turbulence and Combustion*, **2016**, 97, 1-25	2.5	21
43	Numerical study of oblique shock-wave/boundary-layer interaction considering sidewall effects. *Journal of Fluid Mechanics*, **2015**, 767, 526-561	3.7	64
42	Influence of boundary-layer disturbances on the instability of a roughness wake in a high-speed boundary layer. *Journal of Fluid Mechanics*, **2015**, 763, 136-165	3.7	21
41	Direct numerical simulation of turbulent flow over a rough surface based on a surface scan. *Computers and Fluids*, **2015**, 116, 129-147	2.8	50
40	Forced response of a laminar shock-induced separation bubble. *Physics of Fluids*, **2014**, 26, 093601	4.4	34
39	Transitional shock-wave/boundary-layer interactions in hypersonic flow. *Journal of Fluid Mechanics*, **2014**, 752, 349-382	3.7	70
38	Change in drag, apparent slip and optimum air layer thickness for laminar flow over an idealised superhydrophobic surface. *Journal of Fluid Mechanics*, **2013**, 727, 488-508	3.7	73
37	Laminar–turbulent transition induced by a discrete roughness element in a supersonic boundary layer. *Journal of Fluid Mechanics*, **2013**, 735, 613-646	3.7	105
36	Simulations of laminar flow past a superhydrophobic sphere with drag reduction and separation delay. *Physics of Fluids*, **2013**, 25, 043601	4.4	47
35	Stability and Unsteadiness in a 2D Laminar Shock-Induced Separation Bubble **2013**,		3
34	Parametric forcing approach to rough-wall turbulent channel flow. *Journal of Fluid Mechanics*, **2012**, 712, 169-202	3.7	39
33	A vorticity stretching diagnostic for turbulent and transitional flows. *Theoretical and Computational Fluid Dynamics*, **2012**, 26, 485-499	2.3	4
32	Influence of an anisotropic slip-length boundary condition on turbulent channel flow. *Physics of Fluids*, **2012**, 24, 055111	4.4	61
31	Low-order stochastic modelling of low-frequency motions in reflected shock-wave/boundary-layer interactions. *Journal of Fluid Mechanics*, **2011**, 671, 417-465	3.7	126
30	Stability and receptivity characteristics of a laminar separation bubble on an aerofoil. *Journal of Fluid Mechanics*, **2010**, 648, 257-296	3.7	117

29	Compressibility Effects on Boundary-Layer Transition Induced by an Isolated Roughness Element. *AIAA Journal*, **2010**, 48, 2818-2830	2.1	40
28	Direct numerical simulation of breakdown to turbulence in a Mach 6 boundary layer over a porous surface. *Physics of Fluids*, **2010**, 22, 094105	4.4	23
27	Linear and nonlinear mechanisms of sound radiation by instability waves in subsonic jets. *Journal of Fluid Mechanics*, **2010**, 658, 509-538	3.7	57
26	Direct numerical simulation of the early development of a turbulent mixing layer downstream of a splitter plate. *Journal of Turbulence*, **2009**, 10, N1	2.1	43
25	Large-eddy simulation of low-frequency unsteadiness in a turbulent shock-induced separation bubble. *Theoretical and Computational Fluid Dynamics*, **2009**, 23, 79-107	2.3	297
24	Direct numerical simulation of turbulent flow past a trailing edge and the associated noise generation. *Journal of Fluid Mechanics*, **2008**, 596, 353-385	3.7	75
23	Direct numerical simulations of forced and unforced separation bubbles on an airfoil at incidence. *Journal of Fluid Mechanics*, **2008**, 602, 175-207	3.7	255
22	Transitional separation bubbles and unsteady aspects of aerofoil stall. *Aeronautical Journal*, **2008**, 112, 395-404	0.9	39
21	Nonlinear interaction model of subsonic jet noise. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2008**, 366, 2745-60	3	42
20	The effect of Mach number on unstable disturbances in shock/boundary-layer interactions. *Physics of Fluids*, **2007**, 19, 054104	4.4	32
19	Numerical Simulation of Flow over a Rough Bed. *Journal of Hydraulic Engineering*, **2007**, 133, 386-398	1.8	53
18	Wall Pressure and Shear Stress Spectra from Direct Simulations of Channel Flow. *AIAA Journal*, **2006**, 44, 1541-1549	2.1	152
17	Sound radiation from a turbulent boundary layer. *Physics of Fluids*, **2006**, 18, 098101	4.4	14
16	Effect of Mach number on the structure of turbulent spots. *Journal of Fluid Mechanics*, **2006**, 566, 225	3.7	51
15	Nonlinear mechanisms of sound generation in a perturbed parallel jet flow. *Journal of Fluid Mechanics*, **2006**, 565, 1	3.7	46
14	Nonreflecting Zonal Characteristic Boundary Condition for Direct Numerical Simulation of Aerodynamic Sound. *AIAA Journal*, **2006**, 44, 402-405	2.1	113
13	ON THE RESPONSE OF SHOCK-INDUCED SEPARATION BUBBLE TO SMALL AMPLITUDE DISTURBANCES. *Modern Physics Letters B*, **2005**, 19, 1495-1498	1.6	7
12	Sound radiation in turbulent channel flows. *Journal of Fluid Mechanics*, **2003**, 475, 269-302	3.7	46

11	Embedded direct numerical simulation for aeronautical CFD. *Aeronautical Journal*, **2001**, 105, 193-198	0.9	2
10	Developments in turbulence research: a review based on the 1999 Programme of the Isaac Newton Institute, Cambridge. *Journal of Fluid Mechanics*, **2001**, 436, 353-391	3.7	31
9	Direct numerical simulation of short laminar separation bubbles with turbulent reattachment. *Journal of Fluid Mechanics*, **2000**, 403, 223-250	3.7	113
8	Direct numerical simulation of short laminar separation bubbles with turbulent reattachment. *Journal of Fluid Mechanics*, **2000**, 410, 1-28	3.7	250
7	Simulation and Modelling of a Skewed Turbulent Channel Flow. *Flow, Turbulence and Combustion*, **2000**, 65, 83-109	2.5	9
6	Instability of vortical and acoustic modes in supersonic round jets. *Physics of Fluids*, **1997**, 9, 1003-1013	4.4	22
5	Direct Numerical Simulation of Supersonic Jet Flow. *Journal of Engineering Mathematics*, **1997**, 32, 121-142	1.2	7
4	Compressible mixing layer growth rate and turbulence characteristics. *Journal of Fluid Mechanics*, **1996**, 320, 235	3.7	231
3	The effect of compressibility on vortex pairing. *Physics of Fluids*, **1994**, 6, 1063-1072	4.4	16
2	The late stages of transition to turbulence in channel flow. *Journal of Fluid Mechanics*, **1992**, 245, 319	3.7	96
1	Shock Train Response to High-Frequency Backpressure Forcing. *AIAA Journal*,1-12	2.1	0