Matteo Bernardini

List of Publications by Year
in descending order

63 papers	2,550 citations	172207 29 h-index	189595 50 g-index
63 all docs	63 docs citations	63 times ranked	1218 citing authors

#	Article	IF	Citations
1	Turbulence in supersonic boundary layers at moderate Reynolds number. Journal of Fluid Mechanics, 2011, 688, 120-168.	1.4	255
2	Velocity statistics in turbulent channel flow up to. Journal of Fluid Mechanics, 2014, 742, 171-191.	1.4	189
3	Characterization of coherent vortical structures in a supersonic turbulent boundary layer. Journal of Fluid Mechanics, 2008, 613, 205-231.	1.4	138
4	Direct numerical simulation of transonic shock/boundary layer interaction under conditions of incipient separation. Journal of Fluid Mechanics, 2010, 657, 361-393.	1.4	132
5	Passive scalars in turbulent channel flow at high Reynolds number. Journal of Fluid Mechanics, 2016, 788, 614-639.	1.4	115
6	Wall pressure fluctuations beneath supersonic turbulent boundary layers. Physics of Fluids, 2011, 23, .	1.6	108
7	Inner/outer layer interactions in turbulent boundary layers: A refined measure for the large-scale amplitude modulation mechanism. Physics of Fluids, 2011, 23, .	1.6	105
8	Direct Numerical Simulation Database for Impinging Shock Wave/Turbulent Boundary-Layer Interaction. AIAA Journal, 2011, 49, 1307-1312.	1.5	101
9	Turbulence statistics in Couette flow at high Reynolds number. Journal of Fluid Mechanics, 2014, 758, 327-343.	1.4	91
10	Probing high-Reynolds-number effects in numerical boundary layers. Physics of Fluids, 2013, 25, .	1.6	87
11	Stability and modal analysis of shock/boundary layer interactions. Theoretical and Computational Fluid Dynamics, 2017, 31, 33-50.	0.9	86
12	Heat transfer and wall temperature effects in shock wave turbulent boundary layer interactions. Physical Review Fluids, 2016, 1, .	1.0	65
13	STREAmS: A high-fidelity accelerated solver for direct numerical simulation of compressible turbulent flows. Computer Physics Communications, 2021, 263, 107906.	3.0	63
14	Mixed convection in turbulent channels with unstable stratification. Journal of Fluid Mechanics, 2017, 821, 482-516.	1.4	62
15	On the estimation of wall pressure coherence using time-resolved tomographic PIV. Experiments in Fluids, 2013, 54, 1.	1.1	60
16	Poiseuille and Couette flows in the transitional and fully turbulent regime. Journal of Fluid Mechanics, 2015, 770, 424-441.	1.4	52
17	The wall pressure signature of transonic shock/boundary layer interaction. Journal of Fluid Mechanics, 2011, 671, 288-312.	1.4	50
18	Compressibility effects on roughness-induced boundary layer transition. International Journal of Heat and Fluid Flow, 2012, 35, 45-51.	1.1	50

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19	GPU accelerated flow solver for direct numerical simulation of turbulent flows. Journal of Computational Physics, 2013, 235, 129-142.	1.9	49
20	Effects of a nonadiabatic wall on supersonic shock/boundary-layer interactions. Physical Review Fluids, 2018, 3, .	1.0	49
21	Large-scale motions and inner/outer layer interactions in turbulent Couetteâ€“Poiseuille flows. Journal of Fluid Mechanics, 2011, 680, 534-563.	1.4	46
22	Reynolds number scaling of inertial particle statistics in turbulent channel flows. Journal of Fluid Mechanics, 2014, 758, .	1.4	44
23	On the suitability of the immersed boundary method for the simulation of high-Reynolds-number separated turbulent flows. Computers and Fluids, 2016, 130, 84-93.	1.3	41
24	Wall pressure coherence in supersonic turbulent boundary layers. Journal of Fluid Mechanics, 2013, 732, 445-456.	1.4	38
25	A general strategy for the optimization of Rungeâ€“Kutta schemes for wave propagation phenomena. Journal of Computational Physics, 2009, 228, 4182-4199.	1.9	37
26	On the dynamical relevance of coherent vortical structures in turbulent boundary layers. Journal of Fluid Mechanics, 2010, 648, 325-349.	1.4	37
27	Parameterization of Boundary-Layer Transition Induced by Isolated Roughness Elements. AIAA Journal, 2014, 52, 2261-2269.	1.5	37
28	Effects of a nonadiabatic wall on hypersonic shock/boundary-layer interactions. Physical Review Fluids, 2020, 5, .	1.0	37
29	Turbulent channel flow simulations in convecting reference frames. Journal of Computational Physics, 2013, 232, 1-6.	1.9	36
30	The effect of large-scale turbulent structures on particle dispersion in wall-bounded flows. International Journal of Multiphase Flow, 2013, 51, 55-64.	1.6	25
31	Detached-Eddy Simulation of Shock Unsteadiness in an Overexpanded Planar Nozzle. AIAA Journal, 2017, 55, 2016-2028.	1.5	22
32	Dependence of the Drag Over Super Hydrophobic and Liquid Infused Surfaces on the Textured Surface and Weber Number. Flow, Turbulence and Combustion, 2018, 100, 945-960.	1.4	21
33	Computational analysis of impinging shock-wave boundary layer interaction under conditions of incipient separation. Shock Waves, 2009, 19, 487-497.	1.0	20
34	Early evolution of the compressible mixing layer issued from two turbulent streams. Journal of Fluid Mechanics, 2015, 777, 196-218.	1.4	20
35	Numerical Investigation of Transitional Shock-Wave/Boundary-Layer Interaction in Supersonic Regime. AIAA Journal, 2018, 56, 2712-2724.	1.5	20
36	Optimal transient growth in compressible turbulent boundary layers. Journal of Fluid Mechanics, 2015, 770, 124-155.	1.4	19

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37	Characterization of Unsteadiness in an Overexpanded Planar Nozzle. AIAA Journal, 2019, 57, 239-251.	1.5	16
38	Unified wall-resolved and wall-modeled method for large-eddy simulations of compressible wall-bounded flows. Physical Review Fluids, 2021, 6, .	1.0	16
39	The fluid dynamics of rolling wheels at low Reynolds number. Journal of Fluid Mechanics, 2012, 706, 496-533.	1.4	13
40	A minimal flow unit for the study of turbulence with passive scalars. Journal of Turbulence, 2014, 15, 731-751.	0.5	13
41	A two-way coupling method for the study of aeroelastic effects in large wind turbines. Renewable Energy, 2022, 190, 971-992.	4.3	13
42	Scrutiny of buffet mechanisms in transonic flow. International Journal of Numerical Methods for Heat and Fluid Flow, 2018, 28, 1031-1046.	1.6	12
43	Flow dynamics and wall-pressure signatures in a high-Reynolds-number overexpanded nozzle with free shock separation. Journal of Fluid Mechanics, 2020, 895, .	1.4	12
44	Direct numerical simulation of supersonic turbulent flows over rough surfaces. Journal of Fluid Mechanics, 2022, 942, .	1.4	12
45	Large-Eddy Simulation of Vortex Shedding and Pressure Oscillations in Solid Rocket Motors. AIAA Journal, 2020, 58, 5191-5201.	1.5	11
46	Reprint of: Wall pressure fluctuations in transonic shock/boundary layer interaction. Procedia IUTAM, 2010, 1, 303-311.	1.2	3
47	Optimised prefactored compact schemes for linear wave propagation phenomena. Journal of Computational Physics, 2017, 328, 66-85.	1.9	3
48	Investigating the effects of non-adiabatic walls on shock/boundary-layer interaction at low Reynolds number using direct numerical simulations. , 2018, , .		3
49	High-Reynolds-number effects on turbulent scalings in compressible channel flow. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 489-490.	0.2	2
50	Numerical Analysis of Side-loads Reduction in a Sub-scale Dual-bell Rocket Nozzle. Flow, Turbulence and Combustion, 2021, 107, 551-574.	1.4	2
51	WP-2 Basic Investigation of Transition Effect. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2021, , 129-225.	0.2	2
52	A straightforward strategy to unify WR/WMLES approaches for compressible wall-bounded flows. , 2022, , .		2
53	Wall pressure fluctuations in transonic shock/boundary layer interaction. Procedia Engineering, 2010, 6, 303-311.	1.2	1
54	The structure of turbulence in transonic shock wave/boundary layer interaction. International Journal of Engineering Systems Modelling and Simulation, 2011, 3, 53.	0.2	1

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55	Multi-variate Statistics of the Wall Pressure Field beneath Supersonic Turbulent Boundary Layers. , 2012, , .		1
56	Assessment of detached eddy simulation of a separated flow in a planar nozzle. , 2018, , .		1
57	Using large-eddy simulations to design a new hypersonic shock/boundary-layer interaction experiment. , 2019, , .		1
58	Implicit Large-Eddy Simulation of Solid Rocket Motors using the Immersed Boundary Method. , 2021, , .		1
59	Turbulent drag reduction over liquid-infused textured surfaces: effect of the interface dynamics. Journal of Turbulence, 2021, 22, 681-712.	0.5	1
60	WP-1 Reference Cases of Laminar and Turbulent Interactions. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2021, , 25-127.	0.2	1
61	The Structure of Turbulence in Poiseuille and Couette Flow at Computationally High Reynolds Number. , 2016, , 321-329.		0
62	A Minimal Flow Unit for Turbulence, Combustion, and Astrophysics. , 2017, , 433-450.		0
63	Wall-modelled and wall-resolved Large-Eddy Simulations of shock-wave/boundary layer interaction. , 2022, , .		0