SÃ©bastien Deck

List of Publications by Year
in descending order

108 papers	5,998 citations	136950 32 h-index	76900 74 g-index
112 all docs	112 docs citations	112 times ranked	1918 citing authors

#	Article	IF	Citations
1	A New Version of Detached-eddy Simulation, Resistant to Ambiguous Grid Densities. Theoretical and Computational Fluid Dynamics, 2006, 20, 181-195.	2.2	1,908
2	Recent improvements in the Zonal Detached Eddy Simulation (ZDES) formulation. Theoretical and Computational Fluid Dynamics, 2012, 26, 523-550.	2.2	302
3	Numerical Simulation of Transonic Buffet over a Supercritical Airfoil. AIAA Journal, 2005, 43, 1556-1566.	2.6	297
4	Zonal-Detached-Eddy Simulation of the Flow Around a High-Lift Configuration. AIAA Journal, 2005, 43, 2372-2384.	2.6	256
5	Experimental Study of Shock Oscillation over a Transonic Supercritical Profile. AIAA Journal, 2009, 47, 1985-1994.	2.6	209
6	Generation of synthetic turbulent inflow data for large eddy simulation of spatially evolving wall-bounded flows. Physics of Fluids, 2009, 21, .	4.0	138
7	Experimental Study of Supersonic Inlet Buzz. AIAA Journal, 2006, 44, 2354-2365.	2.6	127
8	Zonal Detached Eddy Simulation of a Controlled Propulsive Jet. AIAA Journal, 2007, 45, 2458-2473.	2.6	125
9	Unsteadiness of an axisymmetric separating-reattaching flow: Numerical investigation. Physics of Fluids, 2007, 19, 065103.	4.0	121
10	Development and application of Spalartâ€“Allmaras one equation turbulence model to three-dimensional supersonic complex configurations. Aerospace Science and Technology, 2002, 6, 171-183.	4.8	120
11	A theoretical decomposition of mean skin friction generation into physical phenomena across the boundary layer. Journal of Fluid Mechanics, 2016, 790, 339-367.	3.4	106
12	Numerical simulation of the compressible mixing layer past an axisymmetric trailing edge. Journal of Fluid Mechanics, 2007, 591, 215-253.	3.4	103
13	Large eddy simulation for aerodynamics: status and perspectives. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2849-2860.	3.4	101
14	Delayed Detached-Eddy Simulation and Analysis of Supersonic Inlet Buzz. AIAA Journal, 2008, 46, 118-131.	2.6	98
15	Numerical investigation of the flow dynamics past a three-element aerofoil. Journal of Fluid Mechanics, 2013, 732, 401-444.	3.4	94
16	Large-scale contribution to mean wall shear stress in high-Reynolds-number flat-plate boundary layers up to 13650. Journal of Fluid Mechanics, 2014, 743, 202-248.	3.4	92
17	Flow dynamics past a simplified wing body junction. Physics of Fluids, 2010, 22, .	4.0	85
18	Reynolds-Averaged Navier-Stokes/Large-Eddy Simulations of Supersonic Base Flow. AIAA Journal, 2006, 44, 2578-2590.	2.6	74

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19	Zonal Detached Eddy Simulation of a spatially developing flat plate turbulent boundary layer. Computers and Fluids, 2011, 48, 1-15.	2.5	71
20	Time-Frequency Analysis and Detection of Supersonic Inlet Buzz. AIAA Journal, 2007, 45, 2273-2284.	2.6	70
21	On the dynamics of axisymmetric turbulent separating/reattaching flows. Physics of Fluids, 2009, 21, .	4.0	66
22	Unsteady Side Loads in a Thrust-Optimized Contour Nozzle at Hysteresis Regime. AIAA Journal, 2004, 42, 1878-1888.	2.6	63
23	A dynamic forcing method for unsteady turbulent inflow conditions. Journal of Computational Physics, 2011, 230, 8647-8663.	3.8	57
24	Numerical Simulation of Side Loads in an Ideal Truncated Nozzle. Journal of Propulsion and Power, 2002, 18, 261-269.	2.2	52
25	High-fidelity simulations of unsteady civil aircraft aerodynamics: stakes and perspectives. Application of zonal detached eddy simulation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130325.	3.4	52
26	Numerical Study of Mixing Enhancement in a Supersonic Round Jet. AIAA Journal, 2007, 45, 1675-1687.	2.6	49
27	Zonal detached eddy simulation (ZDES) of a spatially developing flat plate turbulent boundary layer over the Reynolds number range 3â€‰150 â©½ ReÌ‚ â©½ 14â€‰000. Physics of Fluids, 2014, 26, .	4.0	49
28	Towards an enhanced protection of attached boundary layers in hybrid RANS/LES methods. Journal of Computational Physics, 2020, 400, 108970.	3.8	48
29	Control of the antisymmetric mode (mâ€‰=â€‰1) for high Reynolds axisymmetric turbulent separating/reattaching flows. Physics of Fluids, 2011, 23, .	4.0	41
30	Delayed detached eddy simulation of the end-effect regime and side-loads in an overexpanded nozzle flow. Shock Waves, 2009, 19, 239-249.	1.9	40
31	Zonal-Detached-Eddy Simulation of Projectiles in the Subsonic and Transonic Regimes. AIAA Journal, 2007, 45, 1606-1619.	2.6	38
32	On the scale-dependent turbulent convection velocity in a spatially developing flat plate turbulent boundary layer at Reynolds number. Journal of Fluid Mechanics, 2015, 775, 105-148.	3.4	35
33	Zonal-Detached Eddy Simulation of Transonic Buffet on a Civil Aircraft Type Configuration. , 2008, , .		29
34	Assessment of Reynolds stresses tensor reconstruction methods for synthetic turbulent inflow conditions. Application to hybrid RANS/LES methods. International Journal of Heat and Fluid Flow, 2013, 42, 68-78.	2.4	29
35	A rapid and low noise switch from RANS to WMLES on curvilinear grids with compressible flow solvers. Journal of Computational Physics, 2018, 363, 231-255.	3.8	29
36	Improvement of Delayed-Detached Eddy Simulation Applied to Separated Flow over Missile Fin. AIAA Journal, 2009, 47, 345-360.	2.6	28

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37	An Experimental Study of Shock Oscillation over a Transonic Supercritical Profile. , 2005, , .		27
38	Large-Eddy Simulation of Transonic Buffet over a Supercritical Airfoil. ERCOFTAC Series, 2010, , 549-554.	0.1	27
39	Zonal Immersed Boundary Conditions: Application to a High-Reynolds-Number Afterbody Flow. AIAA Journal, 2014, 52, 2782-2794.	2.6	26
40	Zonal Detached Eddy Simulation of the Flow Around a Simplified Launcher Afterbody. AIAA Journal, 2014, 52, 1967-1979.	2.6	25
41	Zonal Detached-Eddy Simulation Applied to the Tip-Clearance Flow in an Axial Compressor. AIAA Journal, 2016, 54, 2377-2391.	2.6	25
42	Improvements in Zonal Detached Eddy Simulation for Wall Modeled Large Eddy Simulation. AIAA Journal, 2015, 53, 3499-3504.	2.6	24
43	A DES method applied to a Backward Facing Step reactive flow. Comptes Rendus - Mecanique, 2009, 337, 340-351.	2.1	22
44	Experimental and Numerical Investigation of a Wing-Body Junction Flow. AIAA Journal, 2012, 50, 2711-2719.	2.6	21
45	Zonal Detached-Eddy Simulations of a Dual-Stream Jet. AIAA Journal, 2016, 54, 3176-3190.	2.6	21
46	Zonal-Detached Eddy Simulation of Transonic Buffet on a Civil Aircraft Type Configuration. , 2008, , 182-191.		20
47	Turbulence modelling applied to space launcher configurations. Journal of Turbulence, 2002, 3, N57.	1.4	17
48	Numerical Investigation of the Robustness of an Axisymmetric Separating/Reattaching Flow to an External Perturbation Using ZDES. Flow, Turbulence and Combustion, 2013, 91, 697-715.	2.6	16
49	Investigation of a Nonlinear Reynolds-Averaged Navierâ€“Stokes Closure for Corner Flows. AIAA Journal, 2016, 54, 386-398.	2.6	16
50	Numerical simulations and physical analysis of an overexpanded reactive gas flow in a planar nozzle. Combustion and Flame, 2012, 159, 2856-2871.	5.2	15
51	Zonal Detached-Eddy Simulation of an Airfoil in Poststall Condition. AIAA Journal, 2013, 51, 1919-1931.	2.6	15
52	On the coupling of a zonal body-fitted/immersed boundary method with ZDES: Application to the interactions on a realistic space launcher afterbody flow. Computers and Fluids, 2018, 176, 338-352.	2.5	15
53	Shock patterns in a slightly underexpanded sonic jet controlled by radial injections. Physics of Fluids, 2007, 19, 048104.	4.0	14
54	Large scale dynamics of a high Reynolds number axisymmetric separating/reattaching flow. Physics of Fluids, 2019, 31, .	4.0	14

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55	Objectives, approach, and scope for the AVT-183 diamond-wing investigations. Aerospace Science and Technology, 2016, 57, 2-17.	4.8	13
56	Numerical and Theoretical Considerations for the Design of the AVT-183 Diamond-Wing Experimental Investigations (Invited). , 2015, , .		10
57	Advanced simulations of turbulent boundary layers under pressure-gradient conditions. Physics of Fluids, 2019, 31, 115111.	4.0	10
58	Zonal-Detached Eddy Simulation of a Civil Aircraft Engine Jet Configuration. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 147-156.	0.3	10
59	Numerical Simulations of Projectile Base Flow. , 2006, , .		9
60	Advanced Experimental and Numerical Investigations of an Aircraft Powerplant Configuration. , 2010, , .		9
61	Numerical Investigation of the Flow around a Three-Element High-Lift Airfoil Using Two Zonal Hybrid RANS/LES Methods: ZDES and NLDE. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2012, , 345-355.	0.3	8
62	Application of the Scale-Adaptive Simulation to a Hot Jet in Cross Flow. AIAA Journal, 2013, 51, 674-685.	2.6	8
63	Effects of upstream perturbations on the solution of the laminar and fully turbulent boundary layer equations with pressure gradients. Physics of Fluids, 2019, 31, .	4.0	8
64	On the Use of Stimulated Detached Eddy Simulation (SDES) for Spatially Developing Boundary Layers. , 2008, , 67-76.		8
65	From pressure fluctuations to dynamic loads on axisymmetric step flows with minimal number of kulites. Computers and Fluids, 2010, 39, 747-755.	2.5	7
66	Numerical simulation of magnus force control for projectiles configurations. Computers and Fluids, 2009, 38, 965-968.	2.5	6
67	A Combined Experimental, RANS and LES Investigation of a Wing Body Junction Flow. , 2010, , .		6
68	Zonal Detached Eddy Simulation (ZDES) of the flow around the AVT-183 diamond wing configuration. Aerospace Science and Technology, 2016, 57, 43-51.	4.8	6
69	Validation of correlations-based transition modeling strategies applied to the Spalart-Allmaras turbulence model for the computation of separation-induced transition. Aerospace Science and Technology, 2021, 119, 107045.	4.8	6
70	RANS-LES Simulations of Supersonic Base Flow. , 2006, , .		5
71	On the estimation of unsteady aerodynamic forces and wall spectral content with immersed boundary conditions. Computers and Fluids, 2020, 201, 104471.	2.5	5
72	On the coupling of wall-model immersed boundary conditions and curvilinear body-fitted grids for the simulation of complex geometries. Computers and Fluids, 2021, 226, 104996.	2.5	5

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73	Detached-Eddy Simulation of Transonic Buffet over a Supercritical Airfoil. , 2004, , .		4
74	Delayed Detached-Eddy Simulation of Supersonic Inlet Buzz. , 2007, , .		4
75	Delayed Detached-Eddy Simulation of Supersonic Inlet Buzz. , 2008, , 242-251.		4
76	Zonal-Detached-Eddy-Simulation of a Two-Dimensional and Axisymmetric Separating/Reattaching Flow. , 2008, , .		4
77	Delayed Detached Eddy Simulation of a Premixed Methan Air Flame behind a Backward Facing Step. , 2008, , .		4
78	Numerical workflow for scale-resolving computations of space launcher afterbody flows with and without jets. Computers and Fluids, 2021, 226, 104994.	2.5	4
79	On the Interface Positioning in a Zonal Detached Eddy Simulation (ZDES) of a Spatially Developing Flat Plate Turbulent Boundary Layer. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 203-213.	0.3	4
80	Outer layer turbulence dynamics in a high-Reynolds-number boundary layer up to recovering from mild separation. Journal of Fluid Mechanics, 2022, 942, .	3.4	4
81	Recent improvements in the formulation of mode III of ZDES (Zonal Detached Eddy Simulation) for WMLES use at $Re_heta > 10^4$. , 2015, , .		3
82	Zonal Detached Eddy Simulations of a Dual-Stream Jet: Turbulence Rate Sensitivity. AIAA Journal, 2017, 55, 2503-2521.	2.6	3
83	Sensitivity to inflow conditions of a dual-stream nozzle. , 2014, , .		2
84	On the Convection Velocity of Wall-Bounded Turbulence Resolved by ZDES Mode III at $$Re_heta = 13 000$$ R e Î¸ = 13000. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2018, , 325-336.	0.3	2
85	Zonal Detached Eddy Simulation (ZDES) study of a 3D curved duct. , 2012, , .		2
86	A comprehensive framework for high fidelity computations of two-species compressible turbulent flows. Journal of Computational Physics, 2022, 462, 111222.	3.8	2
87	Experimental-Numerical Investigation of Mixing Enhancement in Under-expanded Jet. , 2006, , .		1
88	On the Control of Turbulent Axisymmetric Separating/Reattaching Flows Using Zonal Detached Eddy Simulation. , 2010, , .		1
89	Zonal Detached Eddy Simulation (ZDES) of an airfoil in post-stall condition. , 2012, , .		1
90	On the use of Zonal Immersed Boundary Conditions on a high Reynolds number afterbody flow with a serrated skirt using ZDES. , 2014, , .		1

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91	Aerothermal Prediction of Multiple Hot Jets in Crossflow for Aircraft Applications. AIAA Journal, 2014, 52, 1035-1046.	2.6	1
92	Towards a Physical Scale Decomposition of Mean Skin Friction Generation in the Turbulent Boundary Layer. Springer Proceedings in Physics, 2017, , 59-65.	0.2	1
93	Towards the Prediction of Fluctuating Wall Quantities Using Immersed Boundary Conditions. , 2019, , .		1
94	On the Resolution of Mean Skin Friction by Hybrid RANS/LES Simulations at High Reynolds Numbers. ERCOFTAC Series, 2019, , 367-372.	0.1	1
95	Numerical Simulations of a Massively Separated Reactive Flow Using a DDES Approach for Turbulence Modelling. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 303-310.	0.3	1
96	ZDES accounting for transition of the OA209 airfoil in poststall conditions. , 2022, , .		1
97	Comparative study of linear and non-linear RANS models for corner flows. , 2014, , .		0
98	On the WMLES use of ZDES in compressible flows. , 2019, , .		0
99	Assessment of ZDES for WMLES of turbulent boundary layers with pressure gradient and mild flow separation. , 2021, , .		0
100	Assessment of ZDES for WMLES of turbulent boundary layers with pressure gradient and mild flow separation. , 2021, , .		0
101	On the Dynamics of High Reynolds Number Turbulent Axisymmetric and Plane Separating/Reattaching Flows. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 393-400.	0.3	0
102	Three-dimensional Analysis of the Fluctuating Pressure Field of a Space Launcher Afterbody with Boosters using ZDES. , 2013, , .		0
103	Combining ZDES with Immersed Boundary Conditions Technique for the Treatment of Complex Geometries. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 175-185.	0.3	0
104	Spectral Assessment of the Turbulent Convection Velocity in a Spatially Developing Flat Plate Turbulent Boundary Layer at Reynolds Number $$Re_heta = 13,000$$ R e Î¸ = 13 000. ERCOFTAC Series, 2016, , 379-389.	0.1	0
105	On the Coupling of a Zonal Body-Fitted/Immersed Boundary Method with ZDES: Application to the Interactions on a Realistic Space Launcher Afterbody Flow. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2018, , 263-270.	0.3	0
106	Effect of Upstream Turbulence on Single and Dual-Stream Jets. Assessment of Zonal Detached Eddy Simulation (ZDES). Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2018, , 79-89.	0.3	0
107	Advanced Numerical Strategy for the Prediction of Unsteady Flow Aerodynamics Around Complex Geometries. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2020, , 181-191.	0.3	0
108	A Rapid and Low Noise RANS-to-WMLES Condition in Curvilinear Compressible ZDES Simulations. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2020, , 85-95.	0.3	0