

Johan Larsson

List of Publications by Year in descending order

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67
papers

3,289
citations

218677

26
h-index

189892

50
g-index

68
all docs

68
docs citations

68
times ranked

1500
citing authors

#	ARTICLE	IF	CITATIONS
1	Wall-modeling in large eddy simulation: Length scales, grid resolution, and accuracy. <i>Physics of Fluids</i> , 2012, 24, .	4.0	360
2	Assessment of high-resolution methods for numerical simulations of compressible turbulence with shock waves. <i>Journal of Computational Physics</i> , 2010, 229, 1213-1237.	3.8	315
3	Large eddy simulation with modeled wall-stress: recent progress and future directions. <i>Mechanical Engineering Reviews</i> , 2016, 3, 15-00418-15-00418.	4.7	290
4	Mean velocity scaling for compressible wall turbulence with heat transfer. <i>Physics of Fluids</i> , 2016, 28, .	4.0	198
5	Direct numerical simulation of canonical shock/turbulence interaction. <i>Physics of Fluids</i> , 2009, 21, .	4.0	179
6	Parallel domain connectivity algorithm for unsteady flow computations using overlapping and adaptive grids. <i>Journal of Computational Physics</i> , 2010, 229, 4703-4723.	3.8	132
7	Reynolds- and Mach-number effects in canonical shock-turbulence interaction. <i>Journal of Fluid Mechanics</i> , 2013, 717, 293-321.	3.4	124
8	Dynamic non-equilibrium wall-modeling for large eddy simulation at high Reynolds numbers. <i>Physics of Fluids</i> , 2013, 25, .	4.0	117
9	Exploiting active subspaces to quantify uncertainty in the numerical simulation of the HyShot II scramjet. <i>Journal of Computational Physics</i> , 2015, 302, 1-20.	3.8	109
10	Confinement effects in shock wave/turbulent boundary layer interactions through wall-modelled large-eddy simulations. <i>Journal of Fluid Mechanics</i> , 2014, 758, 5-62.	3.4	108
11	Suitability of artificial bulk viscosity for large-eddy simulation of turbulent flows with shocks. <i>Journal of Computational Physics</i> , 2009, 228, 7368-7374.	3.8	99
12	Incipient thermal choking and stable shock-train formation in the heat-release region of a scramjet combustor. Part II: Large eddy simulations. <i>Combustion and Flame</i> , 2015, 162, 907-920.	5.2	96
13	Improving Low-Frequency Characteristics of Recycling/Rescaling Inflow Turbulence Generation. <i>AIAA Journal</i> , 2011, 49, 582-597.	2.6	89
14	Stability and modal analysis of shock/boundary layer interactions. <i>Theoretical and Computational Fluid Dynamics</i> , 2017, 31, 33-50.	2.2	86
15	Modeling of structural uncertainties in Reynolds-averaged Navier-Stokes closures. <i>Physics of Fluids</i> , 2013, 25, .	4.0	85
16	Subgrid-scale modeling for implicit large eddy simulation of compressible flows and shock-turbulence interaction. <i>Physics of Fluids</i> , 2014, 26, .	4.0	83
17	Incipient thermal choking and stable shock-train formation in the heat-release region of a scramjet combustor. Part I: Shock-tunnel experiments. <i>Combustion and Flame</i> , 2015, 162, 921-931.	5.2	79
18	Effects of a nonadiabatic wall on supersonic shock/boundary-layer interactions. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	49

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19	Nonlinear effects in the combined Rayleigh-Taylor/Kelvin-Helmholtz instability. <i>Physics of Fluids</i> , 2011, 23, .	4.0	46
20	Data-driven compressibility transformation for turbulent wall layers. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	45
21	Aeroacoustic Investigation of an Open Cavity at Low Mach Number. <i>AIAA Journal</i> , 2004, 42, 2462-2473.	2.6	44
22	Turbulent energy flux generated by shock/homogeneous-turbulence interaction. <i>Journal of Fluid Mechanics</i> , 2016, 796, 113-157.	3.4	43
23	Stability criteria for hybrid difference methods. <i>Journal of Computational Physics</i> , 2008, 227, 2886-2898.	3.8	37
24	Effects of a nonadiabatic wall on hypersonic shock/boundary-layer interactions. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	37
25	Large eddy simulation of high-lift devices. , 2013, , .		30
26	The prospect of using large eddy and detached eddy simulations in engineering design, and the research required to get there. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130329.	3.4	30
27	The deviation from parallel shear flow as an indicator of linear eddy-viscosity model inaccuracy. <i>Physics of Fluids</i> , 2014, 26, .	4.0	28
28	A co-located incompressible Navier-Stokes solver with exact mass, momentum and kinetic energy conservation in the inviscid limit. <i>Journal of Computational Physics</i> , 2010, 229, 4425-4430.	3.8	27
29	Anisotropic grid-adaptation in large eddy simulations. <i>Computers and Fluids</i> , 2017, 156, 146-161.	2.5	27
30	Solving the compressible Navier-Stokes equations on up to 1.97 million cores and 4.1 trillion grid points. , 2013, , .		25
31	The artificial buffer layer and the effects of forcing in hybrid LES/RANS. <i>International Journal of Heat and Fluid Flow</i> , 2007, 28, 1443-1459.	2.4	24
32	Shock-turbulence interaction: What we know and what we can learn from peta-scale simulations. <i>Journal of Physics: Conference Series</i> , 2009, 180, 012032.	0.4	19
33	Thermodynamic fluctuations in canonical shock-turbulence interaction: effect of shock strength. <i>Theoretical and Computational Fluid Dynamics</i> , 2018, 32, 629-654.	2.2	19
34	Feedback-controlled forcing in hybrid LES/RANS. <i>International Journal of Computational Fluid Dynamics</i> , 2006, 20, 687-699.	1.2	17
35	Conditional semicoarsening multigrid algorithm for the Poisson equation on anisotropic grids. <i>Journal of Computational Physics</i> , 2005, 208, 368-383.	3.8	16
36	Kovaszny Mode Decomposition of Velocity-Temperature Correlation in Canonical Shock-Turbulence Interaction. <i>Flow, Turbulence and Combustion</i> , 2016, 97, 787-810.	2.6	14

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37	Blending technique for compressible inflow turbulence: Algorithm localization and accuracy assessment. <i>Journal of Computational Physics</i> , 2009, 228, 933-937.	3.8	12
38	Effect of Shock-Capturing Errors on Turbulence Statistics. <i>AIAA Journal</i> , 2010, 48, 1554-1557.	2.6	12
39	Crossflow effects on shock wave/turbulent boundary layer interactions. <i>Theoretical and Computational Fluid Dynamics</i> , 2022, 36, 327-344.	2.2	12
40	HLPW-4/GMGW-3: Wall-Modeled LES and Lattice-Boltzmann Technology Focus Group Workshop Summary. , 2022, , .		12
41	Large eddy simulation of the HyShot II scramjet combustor using a supersonic flamelet model. , 2012, , .		10
42	Towards systematic grid selection in LES: Identifying the optimal spatial resolution by minimizing the solution sensitivity. <i>Computers and Fluids</i> , 2020, 201, 104488.	2.5	10
43	Parametric numerical study of passive scalar mixing in shock turbulence interaction. <i>Journal of Fluid Mechanics</i> , 2020, 895, .	3.4	10
44	Large-Eddy Simulations of Idealized Shock/Boundary-Layer Interactions with Crossflow. <i>AIAA Journal</i> , 2022, 60, 2767-2779.	2.6	10
45	Assessment of Grid Anisotropy Effects on Large-Eddy-Simulation Models with Different Length Scales. <i>AIAA Journal</i> , 2020, 58, 4522-4533.	2.6	9
46	Computational issues and algorithm assessment for shock/turbulence interaction problems. <i>Journal of Physics: Conference Series</i> , 2007, 78, 012014.	0.4	8
47	Wall-Modeled Large Eddy Simulation of the McDonnell-Douglas 30P/30N High-Lift Airfoil in Near-Stall Conditions. , 2012, , .		6
48	Simple Inflow Sponge for Faster Turbulent Boundary-Layer Development. <i>AIAA Journal</i> , 2021, 59, 4271-4273.	2.6	6
49	On implicit turbulence modeling for LES of compressible flows. <i>Springer Proceedings in Physics</i> , 2009, , 873-875.	0.2	6
50	Simulation of aeroacoustic resonance in a deep cavity with grazing flow using a pressure-based solver. <i>International Journal of Computational Fluid Dynamics</i> , 2008, 22, 39-47.	1.2	5
51	A Non-Equilibrium Wall-Model for LES of Shock/Boundary Layer Interaction at High Reynolds Number. , 2012, , .		5
52	Grid-adaptation for chaotic multi-scale simulations as a verification-driven inverse problem. , 2018, , .		5
53	Modular Method for Estimation of Velocity and Temperature Profiles in High-Speed Boundary Layers. <i>AIAA Journal</i> , 2022, 60, 5165-5172.	2.6	4
54	Analysis and Correction of Errors Generated by Slowly Moving Shocks. , 2011, , .		3

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55	Anisotropic grid-adaptation in large eddy simulations of wall-bounded and free shear flows. , 2017, , .		3
56	Investigating the effects of non-adiabatic walls on shock/boundary-layer interaction at low Reynolds number using direct numerical simulations. , 2018, , .		3
57	The Germano identity error and the residual of the LES governing equation. Journal of Computational Physics, 2021, 443, 110544.	3.8	3
58	Numerical errors generated by WENO-based interface-capturing schemes in multifluid computations. , 2011, , .		2
59	DNS of a flat-plate supersonic boundary layer using the discontinuous Galerkin spectral element method. , 2014, , .		2
60	Toward petascale shock/turbulence computations. Journal of Physics: Conference Series, 2008, 125, 012045.	0.4	1
61	Using large-eddy simulations to design a new hypersonic shock/boundary-layer interaction experiment. , 2019, , .		1
62	Adaptive Determination of the Optimal Exchange Location in Wall-Modeled Large-Eddy Simulation. AIAA Journal, 0, , 1-12.	2.6	1
63	Grid Sufficiency in Large Eddy Simulations as a Hypothesis Test. International Journal of Computational Fluid Dynamics, 2022, 36, 260-264.	1.2	1
64	Aero Acoustic Investigation of an Open Cavity at Low Mach Number. , 2003, , .		0
65	Study of unsteady shock motion in shock/turbulence interaction. , 2014, , .		0
66	Adaptive Determination of the Wall Modeled Region in WMLES. , 2020, , .		0
67	Mesh convergence for turbulent combustion. Discrete and Continuous Dynamical Systems, 2016, 36, 4383-4402.	0.9	0