

Robert D Moser

List of Publications by Year in descending order

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89
papers

14,401
citations

109321

35
h-index

66911

78
g-index

90
all docs

90
docs citations

90
times ranked

4958
citing authors

#	ARTICLE	IF	CITATIONS
1	Active model split hybrid RANS/LES. <i>Physical Review Fluids</i> , 2022, 7, .	2.5	7
2	An Active Model-Split for Hybrid RANS/LES of Compressible Flows. , 2022, , .		0
3	Bayesian Inference of Fire Evolution Within a Compartment Using Heat Flux Measurements. <i>Fire Technology</i> , 2021, 57, 2887-2903.	3.0	7
4	Statistical Properties of Subgrid-Scale Turbulence Models. <i>Annual Review of Fluid Mechanics</i> , 2021, 53, 255-286.	25.0	58
5	Effects of resolution inhomogeneity in large-eddy simulation. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	9
6	Numerical dispersion effects on the energy cascade in large-eddy simulation. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	4
7	Near-wall patch representation of wall-bounded turbulence. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	3.4	8
8	Large eddy simulation of compressible, shaped-hole film cooling. <i>International Journal of Heat and Mass Transfer</i> , 2019, 140, 498-517.	4.8	32
9	Spectral analysis of the budget equation in turbulent channel flows at high Reynolds number. <i>Journal of Fluid Mechanics</i> , 2019, 860, 886-938.	3.4	102
10	Towards a Predictive Hybrid RANS/LES Framework. , 2019, , .		4
11	Resolution-induced anisotropy in large-eddy simulations. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	18
12	Extreme-scale motions in turbulent plane Couette flows. <i>Journal of Fluid Mechanics</i> , 2018, 842, 128-145.	3.4	64
13	Representing Model Inadequacy: A Stochastic Operator Approach. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2018, 6, 457-496.	2.0	27
14	Implicit LES for Shaped-Hole Film Cooling Flow. , 2017, , .		12
15	The Parallel C++ Statistical Library for Bayesian Inference: QUESO. , 2017, , 1829-1865.		4
16	Temporal slow-growth formulation for direct numerical simulation of compressible wall-bounded flows. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	4
17	Correlation of pressure fluctuations in turbulent wall layers. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	21
18	Scaling of Lyapunov exponents in homogeneous isotropic turbulence. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	33

#	ARTICLE	IF	CITATIONS
19	Validation of Physical Models in the Presence of Uncertainty. , 2017, , 129-156.		0
20	A Web services accessible database of turbulent channel flow and its use for testing a new integral wall model for LES. Journal of Turbulence, 2016, 17, 181-215.	1.4	135
21	Direct numerical simulation of turbulent channel flow up to. Journal of Fluid Mechanics, 2015, 774, 395-415.	3.4	899
22	Validation of Physical Models in the Presence of Uncertainty. , 2015, , 1-28.		0
23	Probabilistic Approach to NASA Langley Research Center Multidisciplinary Uncertainty Quantification Challenge Problem. Journal of Aerospace Information Systems, 2015, 12, 170-188.	1.4	12
24	Validating predictions of unobserved quantities. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 1310-1335.	6.6	50
25	A discontinuous Petrov-Galerkin methodology for adaptive solutions to the incompressible Navier-Stokes equations. Journal of Computational Physics, 2015, 301, 456-483.	3.8	33
26	Experiences from Leadership Computing in Simulations of Turbulent Fluid Flows. Computing in Science and Engineering, 2014, 16, 24-31.	1.2	27
27	Estimating uncertainties in statistics computed from direct numerical simulation. Physics of Fluids, 2014, 26, .	4.0	104
28	Two-point statistics for turbulent boundary layers and channels at Reynolds numbers up to $\hat{\tau}^+ \approx 2000$. Physics of Fluids, 2014, 26, .	4.0	190
29	A DPG method for steady viscous compressible flow. Computers and Fluids, 2014, 98, 69-90.	2.5	32
30	Petascale direct numerical simulation of turbulent channel flow on up to 786K cores. , 2013, , .		45
31	Simulation of Rapidly Maneuvering Airfoils with Synthetic Jet Actuators. AIAA Journal, 2013, 51, 1883-1897.	2.6	9
32	One-point statistics for turbulent wall-bounded flows at Reynolds numbers up to $\hat{\tau}^+ \approx 2000$. Physics of Fluids, 2013, 25, .	4.0	311
33	Accounting for uncertainty in the analysis of overlap layer mean velocity models. Physics of Fluids, 2012, 24, .	4.0	12
34	Conservative integral form of the incompressible Navier-Stokes equations for a rapidly pitching airfoil. Journal of Computational Physics, 2012, 231, 6268-6289.	3.8	1
35	Effects of Trailing-Edge Synthetic Jet Actuation on an Airfoil. AIAA Journal, 2011, 49, 1763-1777.	2.6	12
36	Numerical Study of Impulse Actuation for Stall Control. , 2011, , .		2

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37	Bayesian uncertainty quantification applied to RANS turbulence models. Journal of Physics: Conference Series, 2011, 318, 042032.	0.4	78
38	Bayesian uncertainty analysis with applications to turbulence modeling. Reliability Engineering and System Safety, 2011, 96, 1137-1149.	8.9	193
39	Direct simulation of a zero-pressure-gradient turbulent boundary layer up to $Re_{\tau} = 6650$. Journal of Physics: Conference Series, 2011, 318, 022023.	0.4	9
40	Hybrid OpenMP-MPI Turbulent Boundary Layer Code Over 32k Cores. Lecture Notes in Computer Science, 2011, , 218-227.	1.3	3
41	Modeling Multi-point Correlations in Wall-Bounded Turbulence. ERCOFTAC Series, 2011, , 29-37.	0.1	0
42	Patient-specific isogeometric fluid-structure interaction analysis of thoracic aortic blood flow due to implantation of the Jarvik 2000 left ventricular assist device. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3534-3550.	6.6	347
43	Theoretically based optimal large-eddy simulation. Physics of Fluids, 2009, 21, .	4.0	26
44	Special issue on large-eddy simulation of complex flows. Theoretical and Computational Fluid Dynamics, 2008, 22, 155-155.	2.2	0
45	A fixed-mesh method for incompressible flow-structure systems with finite solid deformations. Journal of Computational Physics, 2008, 227, 3114-3140.	3.8	133
46	Representing anisotropy of two-point second-order turbulence velocity correlations using structure tensors. Physics of Fluids, 2008, 20, .	4.0	10
47	Direct numerical simulation of turbulence in injection-driven plane channel flows. Physics of Fluids, 2008, 20, .	4.0	34
48	A filtered-wall formulation for large-eddy simulation of wall-bounded turbulence. Physics of Fluids, 2008, 20, .	4.0	9
49	An inertial range model for the three-point third-order velocity correlation. Physics of Fluids, 2007, 19, 105111.	4.0	4
50	What are we learning from simulating wall turbulence?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 715-732.	3.4	76
51	Two-point similarity in temporally evolving plane wakes. Journal of Fluid Mechanics, 2007, 577, 287-307.	3.4	12
52	Flow Visualization of Superbursts and of the Log-Layer in a DNS at $Re_{\tau} = 6650$. LaTeX.td!TeX -- AMS-LaTeX! % MathType!MTEF!2!1!+- % feaaeaart1ev0aaatCvAUfeBSjuyZL2yd9gzLbvyNv2CaerbbjxAHX % garmWu51MyVXgatuuDJXwAK1uy0HwmaeHbfv3ySLgzG0uy0Hgip5wz % aebbnrfifHhDYfgasaachH8qrps0lbbf9q8WrFfeuY-Hhbbf9v8qqaq % Fr0xc9pk0xbba9q8WqFfea0-yrORYxir-Jbba9q8aq0-yq-He9q8qq % Q8frFve9Fve9Ff0dmeaabaqaciGacaGaaeq	2.6	3
53	Filtering the Wall as a Solution to the Wall-Modeling Problem. , 2007, , 117-126.		1
54	On the validity of the continuum approximation in high Reynolds number turbulence. Physics of Fluids, 2006, 18, 078105.	4.0	8

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55	Self-similar vortex clusters in the turbulent logarithmic region. <i>Journal of Fluid Mechanics</i> , 2006, 561, 329.	3.4	312
56	Relative Periodic Solutions of the Complex Ginzburg–Landau Equation. <i>SIAM Journal on Applied Dynamical Systems</i> , 2005, 4, 1042-1075.	1.6	14
57	Validity of quasnormal approximation in turbulent channel flow. <i>Physics of Fluids</i> , 2005, 17, 055106.	4.0	12
58	Simulation Strategy of Turbulent Internal Flow in Solid Rocket Motor. <i>Journal of Propulsion and Power</i> , 2005, 21, 251-263.	2.2	22
59	Finite-volume optimal large-eddy simulation of isotropic turbulence. <i>Physics of Fluids</i> , 2004, 16, 2255-2271.	4.0	34
60	Compressible Wall-Injection Flows in Laminar, Transitional, and Turbulent Regimes: Numerical Prediction. <i>Journal of Spacecraft and Rockets</i> , 2004, 41, 915-924.	1.9	57
61	Optimal large-eddy simulation results for isotropic turbulence. <i>Journal of Fluid Mechanics</i> , 2004, 521, 273-294.	3.4	18
62	Scaling of the energy spectra of turbulent channels. <i>Journal of Fluid Mechanics</i> , 2004, 500, 135-144.	3.4	574
63	Optimal large-eddy simulation of forced Burgers equation. <i>Physics of Fluids</i> , 2002, 14, 4344-4351.	4.0	28
64	The Numerical Decomposition of Turbulent Fluctuations in a Compressible Boundary Layer. <i>Theoretical and Computational Fluid Dynamics</i> , 2001, 15, 35-63.	2.2	3
65	A Critical Evaluation of the Resolution Properties of B-Spline and Compact Finite Difference Methods. <i>Journal of Computational Physics</i> , 2001, 174, 510-551.	3.8	49
66	Breakdown of continuity in large-eddy simulation. <i>Physics of Fluids</i> , 2001, 13, 1524-1527.	4.0	11
67	Direct numerical simulation of a supersonic turbulent boundary layer at Mach 2.5. <i>Journal of Fluid Mechanics</i> , 2000, 414, 1-33.	3.4	303
68	Large-eddy simulations - Where are we and what can we expect?. <i>AIAA Journal</i> , 2000, 38, 605-612.	2.6	30
69	Direct numerical simulation of turbulent channel flow up to $Re_{\tau}^* = 590$. <i>Physics of Fluids</i> , 1999, 11, 943-945.	4.0	2,184
70	Optimal LES formulations for isotropic turbulence. <i>Journal of Fluid Mechanics</i> , 1999, 398, 321-346.	3.4	176
71	Two-Dimensional Mesh Embedding for B-spline Methods. <i>Journal of Computational Physics</i> , 1998, 145, 471-488.	3.8	28
72	Self-similarity of time-evolving plane wakes. <i>Journal of Fluid Mechanics</i> , 1998, 367, 255-289.	3.4	97

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73	Zonal Embedded Grids for Numerical Simulations of Wall-Bounded Turbulent Flows. Journal of Computational Physics, 1996, 127, 412-423.	3.8	160
74	A numerical study of turbulent supersonic isothermal-wall channel flow. Journal of Fluid Mechanics, 1995, 305, 159-183.	3.4	410
75	Kolmogorov inertial range spectra for inhomogeneous turbulence. Physics of Fluids, 1994, 6, 794-801.	4.0	28
76	The evolution of a plane mixing layer with spanwise nonuniform forcing. Physics of Fluids, 1994, 6, 381-396.	4.0	34
77	Direct simulation of a self-similar turbulent mixing layer. Physics of Fluids, 1994, 6, 903-923.	4.0	387
78	The three-dimensional evolution of a plane mixing layer: pairing and transition to turbulence. Journal of Fluid Mechanics, 1993, 247, 275-320.	3.4	282
79	Spanwise scale selection in plane mixing layers. Journal of Fluid Mechanics, 1993, 247, 321-337.	3.4	42
80	Coherent structures in a simulated turbulent mixing layer. Fluid Mechanics and Its Applications, 1993, , 415-428.	0.2	3
81	The three-dimensional evolution of a plane mixing layer: the Kelvin-Helmholtz rollup. Journal of Fluid Mechanics, 1992, 243, 183.	3.4	298
82	Short-time Lyapunov exponent analysis and the transition to chaos in Taylor-Couette flow. Journal of Fluid Mechanics, 1991, 233, 83-118.	3.4	45
83	Spectral methods for the Navier-Stokes equations with one infinite and two periodic directions. Journal of Computational Physics, 1991, 96, 297-324.	3.8	549
84	Mixing transition and the cascade to small scales in a plane mixing layer. Physics of Fluids A, Fluid Dynamics, 1991, 3, 1128-1134.	1.6	128
85	On the secondary instability in plane Poiseuille flow. Physics of Fluids A, Fluid Dynamics, 1989, 1, 775-777.	1.6	19
86	Characteristic-eddy decomposition of turbulence in a channel. Journal of Fluid Mechanics, 1989, 200, 471-509.	3.4	364
87	The effects of curvature in wall-bounded turbulent flows. Journal of Fluid Mechanics, 1987, 175, 479.	3.4	204
88	Turbulence statistics in fully developed channel flow at low Reynolds number. Journal of Fluid Mechanics, 1987, 177, 133-166.	3.4	4,099
89	A spectral numerical method for the Navier-Stokes equations with applications to Taylor-Couette flow. Journal of Computational Physics, 1983, 52, 524-544.	3.8	161