

Sharath S Girimaji

List of Publications by Year in descending order

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58
papers

2,359
citations

236612

25
h-index

205818

48
g-index

60
all docs

60
docs citations

60
times ranked

1175
citing authors

#	ARTICLE	IF	CITATIONS
1	Partially-Averaged Navier-Stokes Model for Turbulence: A Reynolds-Averaged Navier-Stokes to Direct Numerical Simulation Bridging Method. Journal of Applied Mechanics, Transactions ASME, 2006, 73, 413-421.	1.1	393
2	DNS and LES of decaying isotropic turbulence with and without frame rotation using lattice Boltzmann method. Journal of Computational Physics, 2005, 209, 599-616.	1.9	218
3	LES of turbulent square jet flow using an MRT lattice Boltzmann model. Computers and Fluids, 2006, 35, 957-965.	1.3	159
4	Analysis and modeling of subgrid scalar mixing using numerical data. Physics of Fluids, 1996, 8, 1224-1236.	1.6	114
5	Fully explicit and self-consistent algebraic Reynolds stress model. Theoretical and Computational Fluid Dynamics, 1996, 8, 387-402.	0.9	108
6	Partially Averaged Navier-Stokes Method for Turbulence: Fixed Point Analysis and Comparison With Unsteady Partially Averaged Navier-Stokes. Journal of Applied Mechanics, Transactions ASME, 2006, 73, 422-429.	1.1	105
7	Lattice Boltzmann simulations of decaying homogeneous isotropic turbulence. Physical Review E, 2005, 71, 016708.	0.8	87
8	Velocity gradient invariants and local flow-field topology in compressible turbulence. Journal of Turbulence, 2010, 11, N2.	0.5	76
9	On the modeling of scalar diffusion in isotropic turbulence. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2529-2537.	1.6	72
10	Velocity-Gradient Dynamics in Turbulence: Effect of Viscosity and Forcing. Theoretical and Computational Fluid Dynamics, 2003, 16, 421-432.	0.9	67
11	Partially Averaged Navier-Stokes (PANS) Method for Turbulence Simulations: Flow Past a Circular Cylinder. Journal of Fluids Engineering, Transactions of the ASME, 2010, 132, .	0.8	65
12	A Galilean invariant explicit algebraic Reynolds stress model for turbulent curved flows. Physics of Fluids, 1997, 9, 1067-1077.	1.6	60
13	Partially Averaged Navier-Stokes (PANS) Method for Turbulence Simulations—Flow Past a Square Cylinder. Journal of Fluids Engineering, Transactions of the ASME, 2010, 132, .	0.8	55
14	Near-field turbulent simulations of rectangular jets using lattice Boltzmann method. Physics of Fluids, 2005, 17, 125106.	1.6	50
15	Pressure-strain correlation modelling of complex turbulent flows. Journal of Fluid Mechanics, 2000, 422, 91-123.	1.4	46
16	Direct numerical simulations of homogeneous turbulence subject to periodic shear. Journal of Fluid Mechanics, 2006, 566, 117.	1.4	38
17	Closure modeling in bridging regions of variable-resolution (VR) turbulence computations. Journal of Turbulence, 2013, 14, 72-98.	0.5	36
18	Intercomponent energy transfer in incompressible homogeneous turbulence: multi-point physics and amenability to one-point closures. Journal of Fluid Mechanics, 2013, 731, 639-681.	1.4	35

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19	Suppression mechanism of Kelvin-Helmholtz instability in compressible fluid flows. <i>Physical Review E</i> , 2016, 93, 041102.	0.8	33
20	Effect of compressibility on turbulent velocity gradients and small-scale structure. <i>Journal of Turbulence</i> , 2009, 10, N9.	0.5	32
21	Pressure-Strain Correlation Modeling: Towards Achieving Consistency with Rapid Distortion Theory. <i>Flow, Turbulence and Combustion</i> , 2010, 85, 593-619.	1.4	31
22	Boltzmann-BGK approach to simulating weakly compressible 3D turbulence: comparison between lattice Boltzmann and gas kinetic methods. <i>Journal of Turbulence</i> , 2007, 8, N46.	0.5	29
23	A new perspective on realizability of turbulence models. <i>Journal of Fluid Mechanics</i> , 2004, 512, .	1.4	28
24	On the realizability of pressure-strain closures. <i>Journal of Fluid Mechanics</i> , 2014, 755, 535-560.	1.4	28
25	Boltzmann Kinetic Equation for Filtered Fluid Turbulence. <i>Physical Review Letters</i> , 2007, 99, 034501.	2.9	27
26	Lattice Boltzmann DNS of decaying compressible isotropic turbulence with temperature fluctuations. <i>International Journal of Computational Fluid Dynamics</i> , 2006, 20, 401-413.	0.5	23
27	Influence of flow topology and dilatation on scalar mixing in compressible turbulence. <i>Journal of Fluid Mechanics</i> , 2016, 793, 633-655.	1.4	23
28	Stabilizing action of pressure in homogeneous compressible shear flows: effect of Mach number and perturbation obliqueness. <i>Journal of Fluid Mechanics</i> , 2014, 760, 540-566.	1.4	22
29	Extension of Boussinesq turbulence constitutive relation for bridging methods. <i>Journal of Turbulence</i> , 2007, 8, N31.	0.5	18
30	Toward second-moment closure modelling of compressible shear flows. <i>Journal of Fluid Mechanics</i> , 2013, 733, 325-369.	1.4	18
31	Velocity gradient dynamics in compressible turbulence: Characterization of pressure-Hessian tensor. <i>Physics of Fluids</i> , 2013, 25, .	1.6	16
32	Influence of orientation on the evolution of small perturbations in compressible shear layers with inflection points. <i>Physical Review E</i> , 2017, 95, 033112.	0.8	16
33	On the Reynolds number dependence of velocity-gradient structure and dynamics. <i>Journal of Fluid Mechanics</i> , 2019, 861, 163-179.	1.4	16
34	Explicit algebraic Reynolds stress model (EARSM) for compressible shear flows. <i>Theoretical and Computational Fluid Dynamics</i> , 2014, 28, 171-196.	0.9	15
35	Characterizing velocity fluctuations in partially resolved turbulence simulations. <i>Physics of Fluids</i> , 2014, 26, .	1.6	15
36	Unified Gas Kinetic Scheme and Direct Simulation Monte Carlo Computations of High-Speed Lid-Driven Microcavity Flows. <i>Communications in Computational Physics</i> , 2015, 17, 1127-1150.	0.7	15

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37	A study of multiscale mixing. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 1802-1809.	1.6	13
38	Non-equilibrium thermal transport and entropy analyses in rarefied cavity flows. <i>Journal of Fluid Mechanics</i> , 2019, 864, 995-1025.	1.4	13
39	Hydrodynamic stability of three-dimensional homogeneous flow topologies. <i>Physical Review E</i> , 2015, 92, 053001.	0.8	12
40	Small perturbation evolution in compressible Poiseuille flow: pressure-velocity interactions and obliqueness effects. <i>Journal of Fluid Mechanics</i> , 2017, 814, 249-276.	1.4	12
41	Study of axis-switching and stability of laminar rectangular jets using lattice Boltzmann method. <i>Computers and Mathematics With Applications</i> , 2008, 55, 1611-1619.	1.4	10
42	On the Invariance of Compressible Navier-Stokes and Energy Equations Subject to Density-Weighted Filtering. <i>Flow, Turbulence and Combustion</i> , 2010, 85, 383-396.	1.4	10
43	Instability of Poiseuille flow at extreme Mach numbers: Linear analysis and simulations. <i>Physical Review E</i> , 2014, 89, 043001.	0.8	10
44	Pressure-strain energy redistribution in compressible turbulence: return-to-isotropy versus kinetic-potential energy equipartition. <i>Physica Scripta</i> , 2016, 91, 084006.	1.2	10
45	Mechanisms of canonical Kelvin-Helmholtz instability suppression in magnetohydrodynamic flows. <i>Physics of Fluids</i> , 2019, 31, .	1.6	10
46	Nonlinear evolution of perturbations in high Mach number wall-bounded flow: Pressure-dilatation effects. <i>Physics of Fluids</i> , 2020, 32, .	1.6	10
47	Fully Explicit and Self-Consistent Algebraic Reynolds Stress Model. <i>Theoretical and Computational Fluid Dynamics</i> , 1996, 8, 387-402.	0.9	10
48	Flow-thermodynamics interactions in decaying anisotropic compressible turbulence with imposed temperature fluctuations. <i>Theoretical and Computational Fluid Dynamics</i> , 2013, 27, 115-131.	0.9	9
49	Modeling Turbulent Scalar Mixing as Enhanced Diffusion. <i>Combustion Science and Technology</i> , 1994, 97, 85-98.	1.2	8
50	Lower-Dimensional Manifold (Algebraic) Representation of Reynolds Stress Closure Equations. <i>Theoretical and Computational Fluid Dynamics</i> , 2001, 14, 259-281.	0.9	8
51	Velocity-gradient dynamics in compressible turbulence: influence of Mach number and dilatation rate. <i>Journal of Turbulence</i> , 2012, 13, N8.	0.5	7
52	Magneto-Gas Kinetic Method for Nonideal Magnetohydrodynamics Flows: Verification Protocol and Plasma Jet Simulations. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2015, 137, .	0.8	6
53	Magnetic Field Effects on Axis-Switching and Instabilities in Rectangular Plasma Jets. <i>Flow, Turbulence and Combustion</i> , 2009, 82, 375-390.	1.4	3
54	The effect of magnetic field on perturbation evolution in homogeneously sheared flows. <i>Journal of Fluid Mechanics</i> , 2019, 858, 852-880.	1.4	3

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55	Magnetohydrodynamic Turbulence Decay Under the Influence of Uniform or Random Magnetic Fields. Journal of Fluids Engineering, Transactions of the ASME, 2011, 133, .	0.8	2
56	Characterization of Flow-Magnetic Field Interactions in Magneto-Hydrodynamic Turbulence. Journal of Computational and Nonlinear Dynamics, 2013, 8, .	0.7	2
57	Preconditions and limitations of the postulate of scalar-dissipationâ€™conductivity independence in a variable conductivity medium. Physical Review E, 2011, 84, 046318.	0.8	1
58	Local vortex line topology and geometry in turbulence. Journal of Fluid Mechanics, 2021, 924, .	1.4	1