Sutanu Sarkar

List of Publications by Year
in descending order

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120	6,673	101496	62565
papers	citations	36	80
		h-index	g-index

122	122	122	3305
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modelling the pressureâ€“strain correlation of turbulence: an invariant dynamical systems approach. Journal of Fluid Mechanics, 1991, 227, 245-272.	1.4	1,320
2	The analysis and modelling of dilatational terms in compressible turbulence. Journal of Fluid Mechanics, 1991, 227, 473-493.	1.4	580
3	The formation and fate of internal waves in the South China Sea. Nature, 2015, 521, 65-69.	13.7	487
4	A study of compressibility effects in the high-speed turbulent shear layer using direct simulation. Journal of Fluid Mechanics, 2002, 451, 329-371.	1.4	329
5	The stabilizing effect of compressibility in turbulent shear flow. Journal of Fluid Mechanics, 1995, 282, 163-186.	1.4	251
6	The pressureâ€“dilatation correlation in compressible flows. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2674-2682.	1.6	199
7	A study of the flow-field evolution and mixing in a planar turbulent jet using direct numerical simulation. Journal of Fluid Mechanics, 2002, 450, 377-407.	1.4	191
8	Application of a Reynolds stress turbulence model to the compressible shear layer. AIAA Journal, 1991, 29, 743-749.	1.5	185
9	An investigation of stably stratified turbulent channel flow using large-eddy simulation. Journal of Fluid Mechanics, 2002, 459, 1-42.	1.4	181
10	Compressibility effects and turbulence scalings in supersonic channel flow. Journal of Fluid Mechanics, 2004, 509, 207-216.	1.4	181
11	Direct numerical simulations of the turbulence evolution in a uniformly sheared and stably stratified flow. Journal of Fluid Mechanics, 1997, 342, 231-261.	1.4	143
12	Large eddy simulation of a plane jet. Physics of Fluids, 1999, 11, 3069-3083.	1.6	92
13	Mixing of a conserved scalar in a turbulent reacting shear layer. Journal of Fluid Mechanics, 2003, 481, 291-328.	1.4	87
14	Proposed Orbital Ordering in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>MnV</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:math>from First-Principles Calculations. Physical Review Letters, 2009, 102, 216405.	2.9	87
15	A comparative study of self-propelled and towed wakes in a stratified fluid. Journal of Fluid Mechanics, 2010, 652, 373-404.	1.4	85
16	A simple nonlinear model for the return to isotropy in turbulence. Physics of Fluids A, Fluid Dynamics, 1990, 2, 84-93.	1.6	84
17	FSI Simulation of two back-to-back wind turbines in atmospheric boundary layer flow. Computers and Fluids, 2017, 158, 167-175.	1.3	77
18	ASIRI: An Oceanâ€“Atmosphere Initiative for Bay of Bengal. Bulletin of the American Meteorological Society, 2016, 97, 1859-1884.	1.7	69

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19	Stratification Effects in a Bottom Ekman Layer. Journal of Physical Oceanography, 2008, 38, 2535-2555.	0.7	67
20	From Topographic Internal Gravity Waves to Turbulence. Annual Review of Fluid Mechanics, 2017, 49, 195-220.	10.8	66
21	Simulations of Spatially Developing Two-Dimensional Shear Layers and Jets. Theoretical and Computational Fluid Dynamics, 1997, 9, 121-147.	0.9	65
22	Direct simulation of compressible turbulence in a shear flow. Theoretical and Computational Fluid Dynamics, 1991, 2, 291-305.	0.9	63
23	Dynamics of a stratified shear layer with horizontal shear. Journal of Fluid Mechanics, 2006, 568, 19.	1.4	58
24	Internal gravity waves generated by a turbulent bottom Ekman layer. Journal of Fluid Mechanics, 2007, 590, 331-354.	1.4	54
25	Evolution of an initially turbulent stratified shear layer. Physics of Fluids, 2007, 19, .	1.6	48
26	Large eddy simulation of a stratified boundary layer under an oscillatory current. Journal of Fluid Mechanics, 2010, 643, 233-266.	1.4	47
27	Dynamics of a stratified shear layer above a region of uniform stratification. Journal of Fluid Mechanics, 2009, 630, 191-223.	1.4	46
28	Large-eddy simulation of variable-density round and plane jets. International Journal of Heat and Fluid Flow, 2010, 31, 307-314.	1.1	46
29	Turbulence During the Generation of Internal Tide on a Critical Slope. Physical Review Letters, 2010, 104, 218502.	2.9	45
30	On the turbulence structure in inert and reacting compressible mixing layers. Journal of Fluid Mechanics, 2007, 593, 171-180.	1.4	44
31	Direct numerical simulation of stratified flow past a sphere at a subcritical Reynolds number of 3700 and moderate Froude number. Journal of Fluid Mechanics, 2017, 826, 5-31.	1.4	43
32	The compressible mixing layer: an LES study. Theoretical and Computational Fluid Dynamics, 2010, 24, 565-588.	0.9	42
33	Direct and large-eddy simulations of internal tide generation at a near-critical slope. Journal of Fluid Mechanics, 2011, 681, 48-79.	1.4	42
34	Computation of the Flow Over a Sphere at Reâ€‰=â€‰3700: A Comparison of Uniform and Turbulent Inflow Conditions. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	40
35	The Interplay Between Submesoscale Instabilities and Turbulence in the Surface Layer of the Bay of Bengal. Oceanography, 2016, 29, 146-157.	0.5	39
36	The effect of nonvertical shear on turbulence in a stably stratified medium. Physics of Fluids, 1998, 10, 1158-1168.	1.6	38

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37	On the relationship between the mean flow and subgrid stresses in large eddy simulation of turbulent shear flows. Physics of Fluids, 1999, 11, 1229-1248.	1.6	38
38	Statistical analysis of the rate of strain tensor in compressible homogeneous turbulence. Physics of Fluids A, Fluid Dynamics, 1993, 5, 3240-3254.	1.6	34
39	On the computation of sound by large-eddy simulations. Journal of Engineering Mathematics, 1997, 32, 217-236.	0.6	32
40	Effect of the Prandtl number on a stratified turbulent wake. Physics of Fluids, 2010, 22, .	1.6	32
41	Mixing, Dissipation Rate, and Their Overturn-Based Estimates in a Near-Bottom Turbulent Flow Driven by Internal Tides. Journal of Physical Oceanography, 2015, 45, 1969-1987.	0.7	32
42	Decay of turbulent wakes behind a disk in homogeneous and stratified fluids. Journal of Fluid Mechanics, 2020, 885, .	1.4	32
43	Boundary mixing by density overturns in an internal tidal beam. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	31
44	On the vortex dynamics of flow past a sphere at Re = 3700 in a uniformly stratified fluid. Physics of Fluids, 2017, 29, .	1.6	28
45	Degradation of an internal wave beam by parametric subharmonic instability in an upper ocean pycnocline. Journal of Geophysical Research: Oceans, 2013, 118, 4689-4698.	1.0	27
46	On testing models for the pressureâ€“strain correlation of turbulence using direct simulations. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2887-2899.	1.6	26
47	A subgrid model for nonlinear functions of a scalar. Physics of Fluids, 2001, 13, 3803-3819.	1.6	26
48	Tidal conversion and turbulence at a model ridge: direct and large eddy simulations. Journal of Fluid Mechanics, 2013, 715, 181-209.	1.4	26
49	On the Shear Number Effect in Stratified Shear Flow. Theoretical and Computational Fluid Dynamics, 1999, 13, 171-188.	0.9	25
50	Direct and large eddy simulations of a bottom Ekman layer under an external stratification. International Journal of Heat and Fluid Flow, 2008, 29, 721-732.	1.1	25
51	Seasonality of Deep Cycle Turbulence in the Eastern Equatorial Pacific. Journal of Physical Oceanography, 2017, 47, 2189-2209.	0.7	25
52	Internal waves and turbulence in a stable stratified jet. Journal of Fluid Mechanics, 2010, 648, 297-324.	1.4	24
53	Ageostrophic Secondary Circulation at a Submesoscale Front and the Formation of Gravity Currents. Journal of Physical Oceanography, 2018, 48, 2507-2529.	0.7	24
54	Title is missing!. Flow, Turbulence and Combustion, 2000, 63, 343-360.	1.4	23

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55	Simulation of a propelled wake with moderate excess momentum in a stratified fluid. Journal of Fluid Mechanics, 2012, 692, 28-52.	1.4	23
56	Large-Eddy Simulation of Deep-Cycle Turbulence in an Equatorial Undercurrent Model. Journal of Physical Oceanography, 2013, 43, 2490-2502.	0.7	22
57	The spatial evolution of fluctuations in a self-propelled wake compared to a patch of turbulence. Physics of Fluids, 2013, 25, .	1.6	22
58	Tidal flow over topography: effect of excursion number on wave energetics and turbulence. Journal of Fluid Mechanics, 2014, 750, 259-283.	1.4	22
59	Spectral proper orthogonal decomposition analysis of the turbulent wake of a disk at Re = 50Â000. Physical Review Fluids, 2020, 5, .	1.0	22
60	Validation of acoustic-analogy predictions for sound radiated by turbulence. Physics of Fluids, 2000, 12, 381-391.	1.6	20
61	Negative turbulent production during flow reversal in a stratified oscillating boundary layer on a sloping bottom. Physics of Fluids, 2011, 23, .	1.6	20
62	Pulsating turbulence in a marginally unstable stratified shear flow. Journal of Fluid Mechanics, 2017, 822, 327-341.	1.4	19
63	Turbulent shear layers in a uniformly stratified background: DNS at high Reynolds number. Journal of Fluid Mechanics, 2021, 916, .	1.4	19
64	Transport and mixing of density in a continuously stratified shear layer. Journal of Turbulence, 2010, 11, N24.	0.5	17
65	Turbulence during the reflection of internal gravity waves at critical and near-critical slopes. Journal of Fluid Mechanics, 2013, 729, 47-68.	1.4	17
66	Effect of external turbulence on the evolution of a wake in stratified and unstratified environments. Journal of Fluid Mechanics, 2015, 772, 361-385.	1.4	17
67	Regeneration of turbulent fluctuations in low-Froude-number flow over a sphere at a Reynolds number of 3700. Journal of Fluid Mechanics, 2016, 804, .	1.4	17
68	Large eddy simulation of the near to intermediate wake of a heated sphere at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si33.gif" overflow="scroll"><mml:mrow><mml:mi mathvariant="italic">Re</mml:mi><mml:mo>=</mml:mo><mml:mn>10</mml:mn><mml:mtext>,</mml:mtext><mml:mn>000</mml:mn></mml:mr International Journal of Heat and Fluid Flow, 2014, 49, 2-10.	1.1	16
69	High-Reynolds-number wake of a slender body. Journal of Fluid Mechanics, 2021, 918, .	1.4	16
70	Flow and heat transfer in convectively unstable turbulent channel flow with solid-wall heat conduction. Journal of Fluid Mechanics, 2014, 757, 57-81.	1.4	15
71	Effects of three-dimensionality on instability and turbulence in a frontal zone. Journal of Fluid Mechanics, 2015, 784, 252-273.	1.4	15
72	Direct Numerical Simulation of Turbulence Collapse and Rebirth in Stably Stratified Ekman Flow. Boundary-Layer Meteorology, 2017, 162, 401-426.	1.2	15

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73	The submesoscale, the finescale and their interaction at a mixed layer front. Ocean Modelling, 2019, 140, 101400.	1.0	15
74	SOMAR-LES: A framework for multi-scale modeling of turbulent stratified oceanic flows. Ocean Modelling, 2017, 120, 101-119.	1.0	15
75	Analyzing the influence of compressibility on the rapid pressureâ€“strain rate correlation in turbulent shear flows. Theoretical and Computational Fluid Dynamics, 2007, 21, 171-199.	0.9	14
76	Analysis of coherence in turbulent stratified wakes using spectral proper orthogonal decomposition. Journal of Fluid Mechanics, 2022, 934, .	1.4	14
77	Large Eddy Simulations of a Stratified Shear Layer. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	13
78	An immersed boundary method for direct and large eddy simulation of stratified flows in complex geometry. Journal of Computational Physics, 2016, 322, 511-534.	1.9	13
79	Heat and mass transfer in partial enclosures. Journal of Thermophysics and Heat Transfer, 1987, 1, 253-259.	0.9	12
80	Turbulent entrainment in a strongly stratified barrier layer. Journal of Geophysical Research: Oceans, 2017, 122, 5075-5087.	1.0	12
81	Stratified flow past a prolate spheroid. Physical Review Fluids, 2019, 4, .	1.0	12
82	PSI in the case of internal wave beam reflection at a uniform slope. Journal of Fluid Mechanics, 2016, 789, 347-367.	1.4	11
83	The effect of stable stratification on turbulence anisotropy in uniformly sheared flow. Computers and Mathematics With Applications, 2003, 46, 639-646.	1.4	10
84	Evolution of a stratified rotating shear layer with horizontal shear. Part I. Linear stability. Journal of Fluid Mechanics, 2012, 703, 29-48.	1.4	10
85	Hybrid spatially-evolving DNS model of flow past a sphere. Computers and Fluids, 2018, 171, 41-52.	1.3	10
86	The wake of a three-dimensional underwater obstacle: Effect of bottom boundary conditions. Ocean Modelling, 2020, 149, 101611.	1.0	9
87	Near-N Oscillations and Deep-Cycle Turbulence in an Upper-Equatorial Undercurrent Model. Journal of Physical Oceanography, 2012, 42, 2169-2184.	0.7	8
88	Large Eddy Simulation of Flow and Turbulence at the Steep Topography of Luzon Strait. Geophysical Research Letters, 2017, 44, 9440-9448.	1.5	8
89	PSI to turbulence during internal wave beam refraction through the upper ocean pycnocline. Geophysical Research Letters, 2014, 41, 8953-8960.	1.5	7
90	Stratified Ekman layers evolving under a finite-time stabilizing buoyancy flux. Journal of Fluid Mechanics, 2018, 840, 266-290.	1.4	7

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91	The role of turbulence in strong submesoscale fronts of the Bay of Bengal. Deep-Sea Research Part II: Topical Studies in Oceanography, 2019, 168, 104644.	0.6	6
92	Direct numerical simulation of stratified Ekman layers over a periodic rough surface. Journal of Fluid Mechanics, 2020, 902, .	1.4	6
93	Lagrangian three-dimensional transport and dispersion by submesoscale currents at an upper-ocean front. Ocean Modelling, 2021, 165, 101844.	1.0	6
94	Influence of nozzle conditions and discrete forcing on turbulent planar jets. AIAA Journal, 2000, 38, 1615-1623.	1.5	6
95	Large eddy simulation of evolution of a passive scalar in plane jet. AIAA Journal, 2001, 39, 1509-1516.	1.5	6
96	Mixing in a stably stratified medium by horizontal shear near vertical walls. Theoretical and Computational Fluid Dynamics, 2004, 17, 331-349.	0.9	5
97	Effect of fully characterized unsteady flow on population growth of the dinoflagellate Lingulodinium polyedrum. Limnology and Oceanography, 2009, 54, 1243-1256.	1.6	5
98	Mixing events in a stratified jet subject to surface wind and buoyancy forcing. Journal of Fluid Mechanics, 2011, 685, 54-82.	1.4	5
99	Intermittent patches of turbulence in a stratified medium with stable shear. Journal of Turbulence, 2012, 13, N20.	0.5	5
100	On the Accuracy of Overturn-Based Estimates of Turbulent Dissipation at Rough Topography. Journal of Physical Oceanography, 2017, 47, 513-532.	0.7	5
101	Turbulence and Thermal Structure in the Upper Ocean: Turbulence-Resolving Simulations. Flow, Turbulence and Combustion, 2019, 103, 985-1009.	1.4	5
102	Investigation of LES models for a stratified shear layer. Computers and Fluids, 2020, 198, 104405.	1.3	5
103	Interaction between Upper-Ocean Submesoscale Currents and Convective Turbulence. Journal of Physical Oceanography, 2022, 52, 437-458.	0.7	5
104	Energetics and mixing in buoyancy-driven near-bottom stratified flow. Journal of Fluid Mechanics, 2019, 869, 214-237.	1.4	4
105	The Saaz Framework for Turbulent Flow Queries. , 2011, , .		3
106	Evolution of an asymmetric turbulent shear layer in a thermocline. Journal of Turbulence, 2014, 15, 449-471.	0.5	3
107	Oscillatory stratified flow over supercritical topography: Wave energetics and turbulence. Computers and Fluids, 2017, 158, 39-48.	1.3	3
108	Tidal Synchronization of Lee Vortices in Geophysical Wakes. Geophysical Research Letters, 2021, 48, e2020GL090905.	1.5	3

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109	Second Moment Closure Modeling and Direct Numerical Simulation of Stratified Shear Layers. Journal of Fluids Engineering, Transactions of the ASME, 2022, 144, .	0.8	3
110	Angular dispersion of material lines in isotropic turbulence. Physics of Fluids, 1987, 30, 1269.	1.4	2
111	Evolution of a stratified rotating shear layer with horizontal shear. Part 2. Nonlinear evolution. Journal of Fluid Mechanics, 2013, 732, 373-400.	1.4	2
112	Magneto-optic probe measurements in low density-supersonic jets. Journal of Instrumentation, 2017, 12, P12001-P12001.	0.5	2
113	Dynamic Mode Decomposition of Stratified Wakes. , 2019, , .		2
114	High Drag States in Tidally Modulated Stratified Wakes. Journal of Physical Oceanography, 2022, 52, 1033-1048.	0.7	2
115	A continuum two-fluid theory for dilute fiber suspensions. Acta Mechanica, 1989, 80, 201-226.	1.1	1
116	Scaling Laws in the Axisymmetric Wake of a Sphere. ERCOFTAC Series, 2019, , 439-444.	0.1	1
117	Compressibility Effects on Turbulence Growth in High-Speed Shear Flows. Applied Mechanics Reviews, 1994, 47, S179-S183.	4.5	0
118	Global modes and large-scale structures in an Ekman boundary layer. Journal of Physics: Conference Series, 2020, 1522, 012011.	0.3	0
119	PROFESSOR JUAN CARLOS LASHERAS 16 August 1951 â€“ 1 February 2021. Journal of Fluid Mechanics, 2021, 913, .	1.4	0
120	Variable Density Fluid Turbulence. Fluid Mechanics and its Applications, Vol 69. Applied Mechanics Reviews, 2003, 56, B72-B73.	4.5	0