

# Sutanu Sarkar

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

114  
papers

5,120  
citations

34  
h-index

70  
g-index

122  
ext. papers

5,939  
ext. citations

3.9  
avg, IF

5.78  
L-index

#	Paper	IF	Citations
114	Interaction between Upper-Ocean Submesoscale Currents and Convective Turbulence. <i>Journal of Physical Oceanography</i> , <b>2022</b> , 52, 437-458	2.4	2
113	Turbulent shear layers in a uniformly stratified background: DNS at high Reynolds number. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 916,	3.7	5
112	High-Reynolds-number wake of a slender body. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 918,	3.7	2
111	Tidal Synchronization of Lee Vortices in Geophysical Wakes. <i>Geophysical Research Letters</i> , <b>2021</b> , 48, e2020GL090905	4.9	10
110	Lagrangian three-dimensional transport and dispersion by submesoscale currents at an upper-ocean front. <i>Ocean Modelling</i> , <b>2021</b> , 165, 101844	3	5
109	Decay of turbulent wakes behind a disk in homogeneous and stratified fluids. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 885,	3.7	8
108	Spectral proper orthogonal decomposition analysis of the turbulent wake of a disk at Re = 50 000. <i>Physical Review Fluids</i> , <b>2020</b> , 5,	2.8	5
107	Investigation of LES models for a stratified shear layer. <i>Computers and Fluids</i> , <b>2020</b> , 198, 104405	2.8	2
106	Global modes and large-scale structures in an Ekman boundary layer. <i>Journal of Physics: Conference Series</i> , <b>2020</b> , 1522, 012011	0.3	
105	The wake of a three-dimensional underwater obstacle: Effect of bottom boundary conditions. <i>Ocean Modelling</i> , <b>2020</b> , 149, 101611	3	1
104	The role of turbulence in strong submesoscale fronts of the Bay of Bengal. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , <b>2019</b> , 168, 104644	2.3	3
103	The submesoscale, the finescale and their interaction at a mixed layer front. <i>Ocean Modelling</i> , <b>2019</b> , 140, 101400	3	10
102	Energetics and mixing in buoyancy-driven near-bottom stratified flow. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 869, 214-237	3.7	1
101	Scaling Laws in the Axisymmetric Wake of a Sphere. <i>ERCOTAC Series</i> , <b>2019</b> , 439-444	0.1	1
100	Turbulence and Thermal Structure in the Upper Ocean: Turbulence-Resolving Simulations. <i>Flow, Turbulence and Combustion</i> , <b>2019</b> , 103, 985-1009	2.5	2
99	Stratified flow past a prolate spheroid. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	4
98	Stratified Ekman layers evolving under a finite-time stabilizing buoyancy flux. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 840, 266-290	3.7	3

97	Ageostrophic Secondary Circulation at a Submesoscale Front and the Formation of Gravity Currents. <i>Journal of Physical Oceanography</i> , <b>2018</b> , 48, 2507-2529	2.4	15
96	Hybrid spatially-evolving DNS model of flow past a sphere. <i>Computers and Fluids</i> , <b>2018</b> , 171, 41-52	2.8	7
95	On the vortex dynamics of flow past a sphere at $Re = 3700$ in a uniformly stratified fluid. <i>Physics of Fluids</i> , <b>2017</b> , 29, 020704	4.4	15
94	On the Accuracy of Overturn-Based Estimates of Turbulent Dissipation at Rough Topography. <i>Journal of Physical Oceanography</i> , <b>2017</b> , 47, 513-532	2.4	4
93	FSI Simulation of two back-to-back wind turbines in atmospheric boundary layer flow. <i>Computers and Fluids</i> , <b>2017</b> , 158, 167-175	2.8	53
92	Pulsating turbulence in a marginally unstable stratified shear flow. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 822, 327-341	3.7	13
91	Turbulent entrainment in a strongly stratified barrier layer. <i>Journal of Geophysical Research: Oceans</i> , <b>2017</b> , 122, 5075-5087	3.3	8
90	Oscillatory stratified flow over supercritical topography: Wave energetics and turbulence. <i>Computers and Fluids</i> , <b>2017</b> , 158, 39-48	2.8	1
89	Seasonality of Deep Cycle Turbulence in the Eastern Equatorial Pacific. <i>Journal of Physical Oceanography</i> , <b>2017</b> , 47, 2189-2209	2.4	18
88	Large Eddy Simulation of Flow and Turbulence at the Steep Topography of Luzon Strait. <i>Geophysical Research Letters</i> , <b>2017</b> , 44, 9440-9448	4.9	5
87	Direct numerical simulation of stratified flow past a sphere at a subcritical Reynolds number of 3700 and moderate Froude number. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 826, 5-31	3.7	23
86	Magneto-optic probe measurements in low density-supersonic jets. <i>Journal of Instrumentation</i> , <b>2017</b> , 12, P12001-P12001	1	1
85	Direct Numerical Simulation of Turbulence Collapse and Rebirth in Stably Stratified Ekman Flow. <i>Boundary-Layer Meteorology</i> , <b>2017</b> , 162, 401-426	3.4	9
84	From Topographic Internal Gravity Waves to Turbulence. <i>Annual Review of Fluid Mechanics</i> , <b>2017</b> , 49, 195-220	2.2	43
83	SOMAR-LES: A framework for multi-scale modeling of turbulent stratified oceanic flows. <i>Ocean Modelling</i> , <b>2017</b> , 120, 101-119	3	8
82	ASIRI: An Ocean Atmosphere Initiative for Bay of Bengal. <i>Bulletin of the American Meteorological Society</i> , <b>2016</b> , 97, 1859-1884	6.1	55
81	The Interplay Between Submesoscale Instabilities and Turbulence in the Surface Layer of the Bay of Bengal. <i>Oceanography</i> , <b>2016</b> , 29, 146-157	2.3	26
80	An immersed boundary method for direct and large eddy simulation of stratified flows in complex geometry. <i>Journal of Computational Physics</i> , <b>2016</b> , 322, 511-534	4.1	10

79	Regeneration of turbulent fluctuations in low-Froude-number flow over a sphere at a Reynolds number of 3700. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 804,	3.7	9
78	PSI in the case of internal wave beam reflection at a uniform slope. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 789, 347-367	3.7	7
77	Mixing, Dissipation Rate, and Their Overturn-Based Estimates in a Near-Bottom Turbulent Flow Driven by Internal Tides. <i>Journal of Physical Oceanography</i> , <b>2015</b> , 45, 1969-1987	2.4	24
76	Effect of external turbulence on the evolution of a wake in stratified and unstratified environments. <i>Journal of Fluid Mechanics</i> , <b>2015</b> , 772, 361-385	3.7	10
75	The formation and fate of internal waves in the South China Sea. <i>Nature</i> , <b>2015</b> , 521, 65-9	50.4	298
74	Effects of three-dimensionality on instability and turbulence in a frontal zone. <i>Journal of Fluid Mechanics</i> , <b>2015</b> , 784, 252-273	3.7	11
73	Large eddy simulation of the near to intermediate wake of a heated sphere at . <i>International Journal of Heat and Fluid Flow</i> , <b>2014</b> , 49, 2-10	2.4	12
72	Large Eddy Simulations of a Stratified Shear Layer. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>2014</b> , 136,	2.1	10
71	PSI to turbulence during internal wave beam refraction through the upper ocean pycnocline. <i>Geophysical Research Letters</i> , <b>2014</b> , 41, 8953-8960	4.9	7
70	Tidal flow over topography: effect of excursion number on wave energetics and turbulence. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 750, 259-283	3.7	18
69	Computation of the Flow Over a Sphere at Re = 3700: A Comparison of Uniform and Turbulent Inflow Conditions. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2014</b> , 81,	2.7	30
68	Flow and heat transfer in convectively unstable turbulent channel flow with solid-wall heat conduction. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 757, 57-81	3.7	9
67	Evolution of an asymmetric turbulent shear layer in a thermocline. <i>Journal of Turbulence</i> , <b>2014</b> , 15, 449-471	4.1	1
66	Large-Eddy Simulation of Deep-Cycle Turbulence in an Equatorial Undercurrent Model. <i>Journal of Physical Oceanography</i> , <b>2013</b> , 43, 2490-2502	2.4	20
65	Turbulence during the reflection of internal gravity waves at critical and near-critical slopes. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 729, 47-68	3.7	13
64	The spatial evolution of fluctuations in a self-propelled wake compared to a patch of turbulence. <i>Physics of Fluids</i> , <b>2013</b> , 25, 095106	4.4	16
63	Evolution of a stratified rotating shear layer with horizontal shear. Part 2. Nonlinear evolution. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 732, 373-400	3.7	1
62	Tidal conversion and turbulence at a model ridge: direct and large eddy simulations. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 715, 181-209	3.7	22

61	Degradation of an internal wave beam by parametric subharmonic instability in an upper ocean pycnocline. <i>Journal of Geophysical Research: Oceans</i> , <b>2013</b> , 118, 4689-4698	3.3	24
60	Evolution of a stratified rotating shear layer with horizontal shear. Part I. Linear stability. <i>Journal of Fluid Mechanics</i> , <b>2012</b> , 703, 29-48	3.7	7
59	Simulation of a propelled wake with moderate excess momentum in a stratified fluid. <i>Journal of Fluid Mechanics</i> , <b>2012</b> , 692, 28-52	3.7	15
58	Intermittent patches of turbulence in a stratified medium with stable shear. <i>Journal of Turbulence</i> , <b>2012</b> , 13, N20	2.1	3
57	Near-N Oscillations and Deep-Cycle Turbulence in an Upper-Equatorial Undercurrent Model. <i>Journal of Physical Oceanography</i> , <b>2012</b> , 42, 2169-2184	2.4	7
56	Boundary mixing by density overturns in an internal tidal beam. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	29
55	Direct and large-eddy simulations of internal tide generation at a near-critical slope. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 681, 48-79	3.7	38
54	Mixing events in a stratified jet subject to surface wind and buoyancy forcing. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 685, 54-82	3.7	3
53	The Saaz Framework for Turbulent Flow Queries <b>2011</b> ,		3
52	Negative turbulent production during flow reversal in a stratified oscillating boundary layer on a sloping bottom. <i>Physics of Fluids</i> , <b>2011</b> , 23, 101703	4.4	15
51	Turbulence during the generation of internal tide on a critical slope. <i>Physical Review Letters</i> , <b>2010</b> , 104, 218502	7.4	41
50	Effect of the Prandtl number on a stratified turbulent wake. <i>Physics of Fluids</i> , <b>2010</b> , 22, 095102	4.4	19
49	Transport and mixing of density in a continuously stratified shear layer. <i>Journal of Turbulence</i> , <b>2010</b> , 11, N24	2.1	15
48	Large eddy simulation of a stratified boundary layer under an oscillatory current. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 643, 233-266	3.7	37
47	Internal waves and turbulence in a stable stratified jet. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 648, 297-324	3.7	20
46	A comparative study of self-propelled and towed wakes in a stratified fluid. <i>Journal of Fluid Mechanics</i> , <b>2010</b> , 652, 373-404	3.7	55
45	The compressible mixing layer: an LES study. <i>Theoretical and Computational Fluid Dynamics</i> , <b>2010</b> , 24, 565-588	2.3	36
44	Large-eddy simulation of variable-density round and plane jets. <i>International Journal of Heat and Fluid Flow</i> , <b>2010</b> , 31, 307-314	2.4	36

43	Proposed orbital ordering in MnV <sub>2</sub> O <sub>4</sub> from first-principles calculations. <i>Physical Review Letters</i> , <b>2009</b> , 102, 216405	7.4	79
42	Effect of fully characterized unsteady flow on population growth of the dinoflagellate <i>Lingulodinium polyedrum</i> . <i>Limnology and Oceanography</i> , <b>2009</b> , 54, 1243-1256	4.8	5
41	Dynamics of a stratified shear layer above a region of uniform stratification. <i>Journal of Fluid Mechanics</i> , <b>2009</b> , 630, 191-223	3.7	39
40	Stratification Effects in a Bottom Ekman Layer. <i>Journal of Physical Oceanography</i> , <b>2008</b> , 38, 2535-2555	2.4	51
39	Direct and large eddy simulations of a bottom Ekman layer under an external stratification. <i>International Journal of Heat and Fluid Flow</i> , <b>2008</b> , 29, 721-732	2.4	21
38	On the turbulence structure in inert and reacting compressible mixing layers. <i>Journal of Fluid Mechanics</i> , <b>2007</b> , 593, 171-180	3.7	41
37	Internal gravity waves generated by a turbulent bottom Ekman layer. <i>Journal of Fluid Mechanics</i> , <b>2007</b> , 590, 331-354	3.7	43
36	Analyzing the influence of compressibility on the rapid pressure-strain rate correlation in turbulent shear flows. <i>Theoretical and Computational Fluid Dynamics</i> , <b>2007</b> , 21, 171-199	2.3	10
35	Evolution of an initially turbulent stratified shear layer. <i>Physics of Fluids</i> , <b>2007</b> , 19, 105105	4.4	39
34	Dynamics of a stratified shear layer with horizontal shear. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 568, 19	3.7	49
33	Mixing in a stably stratified medium by horizontal shear near vertical walls. <i>Theoretical and Computational Fluid Dynamics</i> , <b>2004</b> , 17, 331-349	2.3	5
32	Compressibility effects and turbulence scalings in supersonic channel flow. <i>Journal of Fluid Mechanics</i> , <b>2004</b> , 509, 207-216	3.7	119
31	The effect of stable stratification on turbulence anisotropy in uniformly sheared flow. <i>Computers and Mathematics With Applications</i> , <b>2003</b> , 46, 639-646	2.7	10
30	Mixing of a conserved scalar in a turbulent reacting shear layer. <i>Journal of Fluid Mechanics</i> , <b>2003</b> , 481, 291-328	3.7	80
29	Variable Density Fluid Turbulence. Fluid Mechanics and its Applications, Vol 69. <i>Applied Mechanics Reviews</i> , <b>2003</b> , 56, B72-B73	8.6	
28	An investigation of stably stratified turbulent channel flow using large-eddy simulation. <i>Journal of Fluid Mechanics</i> , <b>2002</b> , 459, 1-42	3.7	159
27	A study of compressibility effects in the high-speed turbulent shear layer using direct simulation. <i>Journal of Fluid Mechanics</i> , <b>2002</b> , 451, 329-371	3.7	254
26	A study of the flow-field evolution and mixing in a planar turbulent jet using direct numerical simulation. <i>Journal of Fluid Mechanics</i> , <b>2002</b> , 450, 377-407	3.7	156

25	A subgrid model for nonlinear functions of a scalar. <i>Physics of Fluids</i> , <b>2001</b> , 13, 3803-3819	4.4	21
24	Large eddy simulation of evolution of a passive scalar in plane jet. <i>AIAA Journal</i> , <b>2001</b> , 39, 1509-1516	2.1	2
23	Validation of acoustic-analogy predictions for sound radiated by turbulence. <i>Physics of Fluids</i> , <b>2000</b> , 12, 381-391	4.4	15
22	A Direct Numerical Study of Transport and Anisotropy in a Stably Stratified Turbulent Flow with Uniform Horizontal Shear. <i>Flow, Turbulence and Combustion</i> , <b>2000</b> , 63, 343-360	2.5	20
21	Large eddy simulation of a plane jet. <i>Physics of Fluids</i> , <b>1999</b> , 11, 3069-3083	4.4	81
20	On the Shear Number Effect in Stratified Shear Flow. <i>Theoretical and Computational Fluid Dynamics</i> , <b>1999</b> , 13, 171-188	2.3	23
19	On the relationship between the mean flow and subgrid stresses in large eddy simulation of turbulent shear flows. <i>Physics of Fluids</i> , <b>1999</b> , 11, 1229-1248	4.4	36
18	The effect of nonvertical shear on turbulence in a stably stratified medium. <i>Physics of Fluids</i> , <b>1998</b> , 10, 1158-1168	4.4	34
17	Direct numerical simulations of the turbulence evolution in a uniformly sheared and stably stratified flow. <i>Journal of Fluid Mechanics</i> , <b>1997</b> , 342, 231-261	3.7	123
16	On the computation of sound by large-eddy simulations. <i>Journal of Engineering Mathematics</i> , <b>1997</b> , 32, 217-236	1.2	28
15	Simulations of Spatially Developing Two-Dimensional Shear Layers and Jets. <i>Theoretical and Computational Fluid Dynamics</i> , <b>1997</b> , 9, 121-147	2.3	58
14	On Density and Pressure Fluctuations in Uniformly Sheared Compressible Flow. <i>Fluid Mechanics and Its Applications</i> , <b>1997</b> , 325-332	0.2	3
13	The stabilizing effect of compressibility in turbulent shear flow. <i>Journal of Fluid Mechanics</i> , <b>1995</b> , 282, 163-186	3.7	200
12	Compressibility Effects on Turbulence Growth in High-Speed Shear Flows. <i>Applied Mechanics Reviews</i> , <b>1994</b> , 47, S179-S183	8.6	
11	Statistical analysis of the rate of strain tensor in compressible homogeneous turbulence. <i>Physics of Fluids A, Fluid Dynamics</i> , <b>1993</b> , 5, 3240-3254		26
10	On testing models for the pressure-strain correlation of turbulence using direct simulations. <i>Physics of Fluids A, Fluid Dynamics</i> , <b>1992</b> , 4, 2887-2899		20
9	The pressure-dilatation correlation in compressible flows. <i>Physics of Fluids A, Fluid Dynamics</i> , <b>1992</b> , 4, 2674-2682		153
8	Direct simulation of compressible turbulence in a shear flow. <i>Theoretical and Computational Fluid Dynamics</i> , <b>1991</b> , 2, 291-305	2.3	53

7	Application of a Reynolds stress turbulence model to the compressible shear layer. <i>AIAA Journal</i> , <b>1991</b> , 29, 743-749	2.1	128
6	Modelling the pressure-strain correlation of turbulence: an invariant dynamical systems approach. <i>Journal of Fluid Mechanics</i> , <b>1991</b> , 227, 245-272	3.7	1083
5	The analysis and modelling of dilatational terms in compressible turbulence. <i>Journal of Fluid Mechanics</i> , <b>1991</b> , 227, 473-493	3.7	469
4	A simple nonlinear model for the return to isotropy in turbulence. <i>Physics of Fluids A, Fluid Dynamics</i> , <b>1990</b> , 2, 84-93		73
3	A continuum two-fluid theory for dilute fiber suspensions. <i>Acta Mechanica</i> , <b>1989</b> , 80, 201-226	2.1	1
2	Heat and mass transfer in partial enclosures. <i>Journal of Thermophysics and Heat Transfer</i> , <b>1987</b> , 1, 253-259		11
1	Angular dispersion of material lines in isotropic turbulence. <i>Physics of Fluids</i> , <b>1987</b> , 30, 1269		2