Carlos B Da Silva

List of Publications by Year
in descending order

69 papers	1,880 citations	257450 24 h-index	254184 43 g-index
73 all docs	73 docs citations	73 times ranked	751 citing authors

#	Article	IF	Citations
1	Invariants of the velocity-gradient, rate-of-strain, and rate-of-rotation tensors across the turbulent/nonturbulent interface in jets. Physics of Fluids, 2008, 20, .	4.0	233
2	Interfacial Layers Between Regions of Different Turbulence Intensity. Annual Review of Fluid Mechanics, 2014, 46, 567-590.	25.0	207
3	Vortex control of bifurcating jets: A numerical study. Physics of Fluids, 2002, 14, 3798-3819.	4.0	107
4	On the influence of coherent structures upon interscale interactions in turbulent plane jets. Journal of Fluid Mechanics, 2002, 473, 103-145.	3.4	100
5	The thickness of the turbulent/nonturbulent interface is equal to the radius of the large vorticity structures near the edge of the shear layer. Physics of Fluids, 2010, 22, .	4.0	79
6	The intense vorticity structures near the turbulent/non-turbulent interface in a jet. Journal of Fluid Mechanics, 2011, 685, 165-190.	3.4	72
7	The role of coherent vortices near the turbulent/non-turbulent interface in a planar jet. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 738-753.	3.4	57
8	Lagrangian statistics across the turbulent-nonturbulent interface in a turbulent plane jet. Physical Review E, 2013, 88, 043001.	2.1	54
9	The scaling of the turbulent/non-turbulent interface at high Reynolds numbers. Journal of Fluid Mechanics, 2018, 843, 156-179.	3.4	54
10	Kinetic energy budgets near the turbulent/nonturbulent interface in jets. Physics of Fluids, 2013, 25, .	4.0	50
11	Analysis of the turbulenceâ€“radiation interactions for large eddy simulations of turbulent flows. International Journal of Heat and Mass Transfer, 2009, 52, 2243-2254.	4.8	49
12	Characteristics of the viscous superlayer in shear free turbulence and in planar turbulent jets. Physics of Fluids, 2014, 26, .	4.0	48
13	The effect of viscoelasticity on the turbulent kinetic energy cascade. Journal of Fluid Mechanics, 2014, 760, 39-62.	3.4	44
14	The influence of the non-resolved scales of thermal radiation in large eddy simulation of turbulent flows: A fundamental study. International Journal of Heat and Mass Transfer, 2010, 53, 2897-2907.	4.8	42
15	Lagrangian properties of the entrainment across turbulent/non-turbulent interface layers. Physics of Fluids, 2016, 28, 031701.	4.0	35
16	The scaling of straining motions in homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2017, 829, 31-64.	3.4	34
17	The effect of subgrid-scale models on the vortices computed from large-eddy simulations. Physics of Fluids, 2004, 16, 4506-4534.	4.0	33
18	Analysis of the gradient-diffusion hypothesis in large-eddy simulations based on transport equations. Physics of Fluids, 2007, 19, 035106.	4.0	33

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19	Interfaces and inhomogeneous turbulence. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 811-832.	3.4	32
20	Energy spectra in elasto-inertial turbulence. Physics of Fluids, 2016, 28, .	4.0	31
21	The behavior of subgrid-scale models near the turbulent/nonturbulent interface in jets. Physics of Fluids, 2009, 21, .	4.0	28
22	Role of an isolated eddy near the turbulent/non-turbulent interface layer. Physical Review Fluids, 2017, 2, .	2.5	27
23	A Non-Linear SGS Model Based On The Spatial Velocity Increment. Theoretical and Computational Fluid Dynamics, 2006, 20, 1-21.	2.2	25
24	Relevance of the subgrid-scales for large eddy simulations of turbulenceâ€“radiation interactions in a turbulent plane jet. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1250-1256.	2.3	24
25	The behaviour of the scalar gradient across the turbulent/non-turbulent interface in jets. Physics of Fluids, 2017, 29, .	4.0	23
26	Origin of the imbalance between energy cascade and dissipation in turbulence. Physical Review E, 2014, 90, 023003.	2.1	22
27	Characteristics of the turbulent/nonturbulent interface in boundary layers, jets and shear-free turbulence. Journal of Physics: Conference Series, 2014, 506, 012015.	0.4	22
28	Geometrical aspects of turbulent/non-turbulent interfaces with and without mean shear. Physics of Fluids, 2017, 29, 085105.	4.0	22
29	Triple decomposition of velocity gradient tensor in homogeneous isotropic turbulence. Computers and Fluids, 2020, 198, 104389.	2.5	21
30	Turbulence dynamics near a turbulent/non-turbulent interface. Journal of Fluid Mechanics, 2012, 695, 257-287.	3.4	19
31	How the turbulent/non-turbulent interface is different from internal turbulence. Journal of Fluid Mechanics, 2019, 866, 216-238.	3.4	19
32	Direct numerical simulations of turbulent viscoelastic jets. Journal of Fluid Mechanics, 2020, 899, .	3.4	18
33	Radiation statistics in homogeneous isotropic turbulence. New Journal of Physics, 2009, 11, 093001.	2.9	16
34	Non-dimensional energy dissipation rate near the turbulent/non-turbulent interfacial layer in free shear flows and shear free turbulence. Journal of Fluid Mechanics, 2019, 875, 321-344.	3.4	16
35	The effect of subgrid-scale models on the entrainment of a passive scalar in a turbulent planar jet. Journal of Turbulence, 2015, 16, 342-366.	1.4	15
36	On the local equilibrium of the subgrid scales: The velocity and scalar fields. Physics of Fluids, 2005, 17, 108103.	4.0	14

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37	Universality of small-scale motions within the turbulent/non-turbulent interface layer. Journal of Fluid Mechanics, 2021, 916, .	3.4	14
38	Large-eddy simulations of forced isotropic turbulence with viscoelastic fluids described by the FENE-P model. Physics of Fluids, 2016, 28, .	4.0	12
39	Local similarity solution for steady laminar planar jet flow of viscoelastic FENE-P fluids. Journal of Non-Newtonian Fluid Mechanics, 2020, 279, 104265.	2.4	12
40	Scale-by-scale kinetic energy budget near the turbulent/nonturbulent interface. Physical Review Fluids, 2020, 5, .	2.5	12
41	Multi-particle dispersion during entrainment in turbulent free-shear flows. Journal of Fluid Mechanics, 2016, 805, .	3.4	11
42	The Dynamics of Turbulent Scalar Mixing near the Edge of a Shear Layer. Journal of Physics: Conference Series, 2011, 318, 052049.	0.4	9
43	Grid and subgrid-scale interactions in viscoelastic turbulent flow and implications for modelling. Journal of Turbulence, 2016, 17, 543-571.	1.4	9
44	Kolmogorovâ€™s Lagrangian similarity law revisited. Physics of Fluids, 2017, 29, .	4.0	9
45	Turbulent entrainment in viscoelastic fluids. Journal of Fluid Mechanics, 2022, 934, .	3.4	9
46	Revisiting the flat plate laminar boundary layer flow of viscoelastic FENE-P fluids. Physics of Fluids, 2021, 33, 023103.	4.0	7
47	The effect of subgrid-scale models on the near wall vortices: A priori tests. Physics of Fluids, 2007, 19, 051702.	4.0	6
48	Effects of molecular diffusion on the subgrid-scale modeling of passive scalars. Physics of Fluids, 2008, 20, 025102.	4.0	5
49	Analysis of the viscous/molecular subgrid-scale dissipation terms in LES based on transport equations:A prioritests. Journal of Turbulence, 2008, 9, N25.	1.4	4
50	Large eddy simulations of turbulent planar jets of viscoelastic fluids. Physics of Fluids, 2021, 33, 045110.	4.0	3
51	Asymptotic scaling laws for the irrotational motions bordering a turbulent region. Journal of Fluid Mechanics, 2021, 918, .	3.4	3
52	ANALYSIS OF THE RELEVANCE OF THE FILTERED RADIATIVE TRANSFER EQUATION TERMS FOR LARGE EDDY SIMULATION OF TURBULENCE-RADIATION INTERACTION. , 2008, , .		3
53	LARGE EDDY SIMULATIONS OF TURBULENT HEATED JETS. , 2012, , .		3
54	The effects of acceleration in jets: kinematics of the near field vortices. Theoretical and Computational Fluid Dynamics, 2009, 23, 287-296.	2.2	2

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55	Vorticity Evolution near the Turbulent/Non-Turbulent Interfaces in Free-Shear Flows. , 2017, , .		2
56	A New Mixed Model Based on the Velocity Structure Function. Fluid Mechanics and Its Applications, 2002, , 49-64.	0.2	2
57	Thermal boundary layer of laminar flow of dilute polymer solution. International Journal of Heat and Mass Transfer, 2022, 185, 122248.	4.8	2
58	Enstrophy, Strain and Scalar Gradient Dynamics across the Turbulent-Nonturbulent Interface in Jets. Springer Proceedings in Physics, 2007, , 639-641.	0.2	1
59	The Imbalance Between Enstrophy Production and Destruction in Homogeneous Isotropic Unsteady Turbulence. Springer Proceedings in Physics, 2016, , 41-46.	0.2	0
60	On the Effect of Coherent Structures on Grid/Subgrid-Scale Interactions in Plane Jets: The Transition and Far Field Regions. Fluid Mechanics and Its Applications, 2002, , 65-80.	0.2	0
61	On the modelling of subgrid-scale enstrophy transfer in turbulent channel flows. Springer Proceedings in Physics, 2007, , 734-734.	0.2	0
62	The role of the intense vorticity structures in the turbulent structure of the jet edge. Springer Proceedings in Physics, 2009, , 317-319.	0.2	0
63	Kinetic energy budgets at the edge of a turbulent jet. , 2009, , .		0
64	Turbulent Entrainment in Jets: The role of Kinetic Energy. Springer Proceedings in Physics, 2009, , 561-564.	0.2	0
65	A challenging new problem for LES: the flow near the turbulent/nonturbulent interface. Springer Proceedings in Physics, 2009, , 751-754.	0.2	0
66	INFLUENCE OF THE LARGE EDDY SIMULATION SUBGRID-SCALES ON THERMAL RADIATION IN A NON-ISOTHERMAL TURBULENT PLANE JET. , 2010, , .		0
67	Effect of LES closures on the entrainment of a passive scalar in a turbulent planar jet. , 2012, , .		0
68	The steady laminar planar mixing layer flow of viscoelastic FENE-P fluids. Journal of Engineering Mathematics, 2022, 132, 1.	1.2	0
69	Strategy to Apply DNS in a Supersonic Ejector. U Porto Journal of Engineering, 2022, 8, 1-9.	0.4	0