

Juan Pedro Mellado

List of Publications by Year in descending order

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Version: 2024-02-01

59
papers

1,564
citations

304368

22
h-index

315357

38
g-index

61
all docs

61
docs citations

61
times ranked

1399
citing authors

#	ARTICLE	IF	CITATIONS
1	On the Non-monotonic Variation of the Entrainment Buoyancy Flux with Wind Shear. <i>Boundary-Layer Meteorology</i> , 2022, 184, 463-477.	1.2	1
2	Observations of Aerosol, Cloud, Turbulence, and Radiation Properties at the Top of the Marine Boundary Layer over the Eastern North Atlantic Ocean: The ACORES Campaign. <i>Bulletin of the American Meteorological Society</i> , 2021, 102, E123-E147.	1.7	16
3	Error induced by neglecting subgrid chemical segregation due to inefficient turbulent mixing in regional chemical-transport models in urban environments. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 483-503.	1.9	9
4	Plume or bubble? Mixed-convection flow regimes and city-scale circulations. <i>Journal of Fluid Mechanics</i> , 2020, 897, .	1.4	21
5	Resolved energy budget of superstructures in Rayleigh-Bénard convection. <i>Journal of Fluid Mechanics</i> , 2020, 887, .	1.4	22
6	Using Numerical Simulations to Study the Atmospheric Boundary Layer. <i>ERCOTAC Series</i> , 2020, , 1-10.	0.1	3
7	Cloud-Aerosol-Turbulence Interactions: Science Priorities and Concepts for a Large-Scale Laboratory Facility. <i>Bulletin of the American Meteorological Society</i> , 2020, 101, E1026-E1035.	1.7	16
8	New Insights into Wind Shear Effects on Entrainment in Convective Boundary Layers Using Conditional Analysis. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 3227-3248.	0.6	6
9	Competing Effects of Droplet Sedimentation and Wind Shear on Entrainment in Stratocumulus. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 1830-1846.	1.3	6
10	Fractal Reconstruction of Sub-Grid Scales for Large Eddy Simulation. <i>Flow, Turbulence and Combustion</i> , 2019, 103, 293-322.	1.4	5
11	On the Role of Large-Scale Updrafts and Downdrafts in Deviations From Monin-Obukhov Similarity Theory in Free Convection. <i>Boundary-Layer Meteorology</i> , 2019, 172, 371-396.	1.2	14
12	Nonsingular Zero-Order Bulk Models of Sheared Convective Boundary Layers. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 3697-3715.	0.6	3
13	Estimating Turbulence Kinetic Energy Dissipation Rates in the Numerically Simulated Stratocumulus Cloud-Top Mixing Layer: Evaluation of Different Methods. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 1471-1488.	0.6	19
14	Characterization of wind-shear effects on entrainment in a convective boundary layer. <i>Journal of Fluid Mechanics</i> , 2019, 858, 145-183.	1.4	20
15	Estimating Turbulence Kinetic Energy Dissipation Rates in Atmospheric Flows: A Priori Study. <i>Springer Proceedings in Physics</i> , 2019, , 259-264.	0.1	0
16	DNS and LES for Simulating Stratocumulus: Better Together. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 1421-1438.	1.3	49
17	Implications of Nonlocal Transport and Conditionally Averaged Statistics on Monin-Obukhov Similarity Theory and Townsend's Attached Eddy Hypothesis. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 3403-3431.	0.6	37
18	Wind Shear Effects on Radiatively and Evaporatively Driven Stratocumulus Tops. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 3245-3263.	0.6	11

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19	Cloud-Top Entrainment in Stratocumulus Clouds. Annual Review of Fluid Mechanics, 2017, 49, 145-169.	10.8	127
20	Reduction of the Entrainment Velocity by Cloud Droplet Sedimentation in Stratocumulus. Journals of the Atmospheric Sciences, 2017, 74, 751-765.	0.6	14
21	Moisture statistics in free convective boundary layers growing into linearly stratified atmospheres. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 2403-2419.	1.0	17
22	A Conceptual Model of a Shallow Circulation Induced by Prescribed Low-Level Radiative Cooling. Journals of the Atmospheric Sciences, 2017, 74, 3129-3144.	0.6	42
23	MicroHH 1.0: a computational fluid dynamics code for direct numerical simulation and large-eddy simulation of atmospheric boundary layer flows. Geoscientific Model Development, 2017, 10, 3145-3165.	1.3	61
24	Analyses of external and global intermittency in the logarithmic layer of Ekman flow. Journal of Fluid Mechanics, 2016, 805, 611-635.	1.4	31
25	Reconciling estimates of the ratio of heat and salt fluxes at the ice-ocean interface. Journal of Geophysical Research: Oceans, 2016, 121, 8419-8433.	1.0	11
26	Impact of Thermally Driven Turbulence on the Bottom Melting of Ice. Journal of Physical Oceanography, 2016, 46, 1171-1187.	0.7	12
27	Near-Surface Effects of Free Atmosphere Stratification in Free Convection. Boundary-Layer Meteorology, 2016, 159, 69-95.	1.2	22
28	Growth and Decay of a Convective Boundary Layer over a Surface with a Constant Temperature. Journals of the Atmospheric Sciences, 2016, 73, 2165-2177.	0.6	27
29	Quantification of Global Intermittency in Stably Stratified Ekman Flow. Springer Proceedings in Physics, 2016, , 191-195.	0.1	0
30	Evaporative cooling amplification of the entrainment velocity in radiatively driven stratocumulus. Geophysical Research Letters, 2015, 42, 7223-7229.	1.5	14
31	Mixing Driven by Radiative and Evaporative Cooling at the Stratocumulus Top. Journals of the Atmospheric Sciences, 2015, 72, 4681-4700.	0.6	34
32	Controlling entrainment in the smoke cloud using level set-based front tracking. Meteorologische Zeitschrift, 2015, 23, 661-674.	0.5	2
33	DNS of a Radiatively Driven Cloud-Top Mixing Layer as a Model for Stratocumulus Clouds. ERCOFTAC Series, 2015, , 419-422.	0.1	0
34	Scaling Laws for the Heterogeneously Heated Free Convective Boundary Layer. Journals of the Atmospheric Sciences, 2014, 71, 3975-4000.	0.6	54
35	Wind Shear and Buoyancy Reversal at the Top of Stratocumulus. Journals of the Atmospheric Sciences, 2014, 71, 1040-1057.	0.6	31
36	Cloud droplets in a bulk formulation and its application to buoyancy reversal instability. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1493-1504.	1.0	15

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37	Global Intermittency and Collapsing Turbulence in the Stratified Planetary Boundary Layer. <i>Boundary-Layer Meteorology</i> , 2014, 153, 89-116.	1.2	85
38	The Two-Layer Structure of the Entrainment Zone in the Convective Boundary Layer. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 1935-1955.	0.6	61
39	Turbulent Entrainment in the Atmospheric Boundary Layer. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2014, 14, 651-652.	0.2	1
40	Study of low-order numerical effects in the two-dimensional cloud-top mixing layer. <i>Theoretical and Computational Fluid Dynamics</i> , 2013, 27, 239-251.	0.9	2
41	Direct Numerical Simulations of a Smoke Cloud's Top Mixing Layer as a Model for Stratocumuli. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 2356-2375.	0.6	22
42	Direct Numerical Simulation of Evaporative Cooling at the Lateral Boundary of Shallow Cumulus Clouds. <i>Journals of the Atmospheric Sciences</i> , 2013, 70, 2088-2102.	0.6	26
43	A refined statistical cloud closure using double-Gaussian probability density functions. <i>Geoscientific Model Development</i> , 2013, 6, 1641-1657.	1.3	11
44	Direct numerical simulation of free convection over a heated plate. <i>Journal of Fluid Mechanics</i> , 2012, 712, 418-450.	1.4	46
45	Factorization of the Fourier transform of the pressure-Poisson equation using finite differences in colocated grids. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2012, 92, 380-392.	0.9	22
46	Two-fluid formulation of the cloud-top mixing layer for direct numerical simulation. <i>Theoretical and Computational Fluid Dynamics</i> , 2010, 24, 511-536.	0.9	29
47	Large-eddy simulation of variable-density round and plane jets. <i>International Journal of Heat and Fluid Flow</i> , 2010, 31, 307-314.	1.1	46
48	Probability density functions in the cloud-top mixing layer. <i>New Journal of Physics</i> , 2010, 12, 085010.	1.2	8
49	The evaporatively driven cloud-top mixing layer. <i>Journal of Fluid Mechanics</i> , 2010, 660, 5-36.	1.4	87
50	Buoyancy reversal in cloud-top mixing layers. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2009, 135, 963-978.	1.0	39
51	Gradient trajectory analysis of a scalar field with external intermittency. <i>Journal of Fluid Mechanics</i> , 2009, 626, 333-365.	1.4	43
52	Investigation of the Conditional Scalar Dissipation Rate Across a Shear Layer Using Gradient Trajectories. <i>Springer Proceedings in Physics</i> , 2009, , 21-24.	0.1	0
53	DNS of the turbulent cloud-top mixing layer. <i>Springer Proceedings in Physics</i> , 2009, , 401-404.	0.1	0
54	Modeling of filtered heat release for large eddy simulation of compressible infinitely fast reacting flows. <i>Proceedings of the Combustion Institute</i> , 2007, 31, 1691-1699.	2.4	3

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55	Large-eddy simulation of Rayleigh-Taylor turbulence with compressible miscible fluids. Physics of Fluids, 2005, 17, 076101.	1.6	31
56	Reconstruction subgrid models for nonpremixed combustion. Physics of Fluids, 2003, 15, 3280-3307.	1.6	31
57	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
58	Numerical Simulation of Multi-Component Inductive Plasma Flows under Chemical Non-Equilibrium. Annals of the New York Academy of Sciences, 1999, 891, 340-347.	1.8	2
59	Video: How fast does ice melt from below?. , 0, , .		1