

Vincent E Larson

List of Publications by Year in descending order

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68
papers

4,482
citations

147801

31
h-index

110387

64
g-index

84
all docs

84
docs citations

84
times ranked

3587
citing authors

#	ARTICLE	IF	CITATIONS
1	Long-term single-column model intercomparison of diurnal cycle of precipitation over midlatitude and tropical land. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 641-669.	2.7	6
2	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. Geoscientific Model Development, 2022, 15, 2881-2916.	3.6	17
3	CondiDiag1.0: a flexible online diagnostic tool for conditional sampling and budget analysis in the E3SM atmosphere model (EAM). Geoscientific Model Development, 2022, 15, 3205-3231.	3.6	4
4	Assessing the Sensitivity of the Tropical Cyclone Boundary Layer to the Parameterization of Momentum Flux in the Community Earth System Model. Monthly Weather Review, 2022, 150, 883-906.	1.4	1
5	Vertical dependence of horizontal variation of cloud microphysics: observations from the ACE-ENA field campaign and implications for warm-rain simulation in climate models. Atmospheric Chemistry and Physics, 2021, 21, 3103-3121.	4.9	11
6	Quantifying and attributing time step sensitivities in present-day climate simulations conducted with EAMv1. Geoscientific Model Development, 2021, 14, 1921-1948.	3.6	13
7	A Parameterization of Turbulent Dissipation and Pressure Damping Time Scales in Stably Stratified Inversions, and its Effects on Low Clouds in Global Simulations. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002278.	3.8	7
8	Improving Time Step Convergence in an Atmosphere Model With Simplified Physics: The Impacts of Closure Assumption and Process Coupling. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001982.	3.8	5
9	The Community Earth System Model Version 2 (CESM2). Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001916.	3.8	935
10	An Overview of the Atmospheric Component of the Energy Exascale Earth System Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 2377-2411.	3.8	168
11	Subgrid variations of the cloud water and droplet number concentration over the tropical ocean: satellite observations and implications for warm rain simulations in climate models. Atmospheric Chemistry and Physics, 2019, 19, 1077-1096.	4.9	26
12	Dependence of Vertical Alignment of Cloud and Precipitation Properties on Their Effective Fall Speeds. Journal of Geophysical Research D: Atmospheres, 2019, 124, 2079-2093.	3.3	7
13	The DOE E3SM Coupled Model Version 1: Overview and Evaluation at Standard Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2089-2129.	3.8	404
14	A Cloud Top Radiative Cooling Model Coupled With CLUBB in the Community Atmosphere Model: Description and Simulation of Low Clouds. Journal of Advances in Modeling Earth Systems, 2019, 11, 979-997.	3.8	9
15	An Objective and Efficient Method for Assessing the Impact of Reduced-Precision Calculations On Solution Correctness. Journal of Advances in Modeling Earth Systems, 2019, 11, 3131-3147.	3.8	0
16	Momentum Transport in Shallow Cumulus Clouds and Its Parameterization by Higher-Order Closure. Journal of Advances in Modeling Earth Systems, 2019, 11, 3419-3442.	3.8	14
17	Low-Cloud Feedback in CAM5-CLUBB: Physical Mechanisms and Parameter Sensitivity Analysis. Journal of Advances in Modeling Earth Systems, 2018, 10, 2844-2864.	3.8	15
18	Understanding Cloud and Convective Characteristics in Version 1 of the E3SM Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2018, 10, 2618-2644.	3.8	105

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19	Parametric Sensitivity and Uncertainty Quantification in the Version 1 of E3SM Atmosphere Model Based on Short Perturbed Parameter Ensemble Simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 13,046.	3.3	53
20	Regional Climate Simulations With the Community Earth System Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 1245-1265.	3.8	41
21	The path to CAM6: coupled simulations with CAM5.4 and CAM5.5. <i>Geoscientific Model Development</i> , 2018, 11, 235-255.	3.6	66
22	Single-column Model Simulations of Subtropical Marine Boundary Layer Cloud Transitions Under Weakening Inversions. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 2385-2412.	3.8	27
23	A cloudy planetary boundary layer oscillation arising from the coupling of turbulence with precipitation in climate simulations. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 1973-1993.	3.8	12
24	Framework for improvement by vertical enhancement: A simple approach to improve representation of low and high-level clouds in large-scale models. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 627-646.	3.8	14
25	A new subgrid-scale representation of hydrometeor fields using a multivariate PDF. <i>Geoscientific Model Development</i> , 2016, 9, 2031-2053.	3.6	8
26	Parameterizing microphysical effects on variances and covariances of moisture and heat content using a multivariate probability density function: a study with CLUBB (tag MVCS). <i>Geoscientific Model Development</i> , 2016, 9, 4273-4295.	3.6	12
27	A flexible importance sampling method for integrating subgrid processes. <i>Geoscientific Model Development</i> , 2016, 9, 413-429.	3.6	2
28	Vertical overlap of probability density functions of cloud and precipitation hydrometeors. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 12,966-12,984.	3.3	3
29	Assessment of marine boundary layer cloud simulations in the CAM with CLUBB and updated microphysics scheme based on ARM observations from the Azores. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 8472-8492.	3.3	20
30	A multiscale modeling framework model (superparameterized CAM5) with a higher-order turbulence closure: Model description and low-cloud simulations. <i>Journal of Advances in Modeling Earth Systems</i> , 2015, 7, 484-509.	3.8	39
31	Parametric behaviors of CLUBB in simulations of low clouds in the Community Atmosphere Model (CAM). <i>Journal of Advances in Modeling Earth Systems</i> , 2015, 7, 1005-1025.	3.8	32
32	Quadrature Methods for the Calculation of Subgrid Microphysics Moments. <i>Monthly Weather Review</i> , 2015, 143, 2955-2972.	1.4	10
33	Parameterization of the Spatial Variability of Rain for Large-Scale Models and Remote Sensing. <i>Journal of Applied Meteorology and Climatology</i> , 2015, 54, 2027-2046.	1.5	7
34	Parameterizing deep convection using the assumed probability density function method. <i>Geoscientific Model Development</i> , 2015, 8, 1-19.	3.6	40
35	A unified parameterization of clouds and turbulence using CLUBB and subcolumns in the Community Atmosphere Model. <i>Geoscientific Model Development</i> , 2015, 8, 3801-3821.	3.6	39
36	A sensitivity analysis of cloud properties to CLUBB parameters in the single-column Community Atmosphere Model (SCAM5). <i>Journal of Advances in Modeling Earth Systems</i> , 2014, 6, 829-858.	3.8	51

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37	Analytic upscaling of a local microphysics scheme. Part II: Simulations. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 58-69.	2.7	24
38	Analytic upscaling of a local microphysics scheme. Part I: Derivation. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 46-57.	2.7	36
39	Higher-Order Turbulence Closure and Its Impact on Climate Simulations in the Community Atmosphere Model. Journal of Climate, 2013, 26, 9655-9676.	3.2	165
40	CGILS: Results from the first phase of an international project to understand the physical mechanisms of low cloud feedbacks in single column models. Journal of Advances in Modeling Earth Systems, 2013, 5, 826-842.	3.8	140
41	The Subgrid Importance Latin Hypercube Sampler (SILHS): a multivariate subcolumn generator. Geoscientific Model Development, 2013, 6, 1813-1829.	3.6	30
42	A single-column model ensemble approach applied to the TWPâ€ICE experiment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6544-6563.	3.3	33
43	PDF Parameterization of Boundary Layer Clouds in Models with Horizontal Grid Spacings from 2 to 16 km. Monthly Weather Review, 2012, 140, 285-306.	1.4	80
44	Unified parameterization of the planetary boundary layer and shallow convection with a higher-order turbulence closure in the Community Atmosphere Model: single-column experiments. Geoscientific Model Development, 2012, 5, 1407-1423.	3.6	61
45	Parameterizing correlations between hydrometeor species in mixed-phase Arctic clouds. Journal of Geophysical Research, 2011, 116, .	3.3	10
46	Multi-variate probability density functions with dynamics for cloud droplet activation in large-scale models: single column tests. Geoscientific Model Development, 2010, 3, 475-486.	3.6	28
47	An Analytic Scaling Law for the Depositional Growth of Snow in Thin Mixed-Phase Layer Clouds. Journals of the Atmospheric Sciences, 2009, 66, 2620-2639.	1.7	3
48	Intercomparison of model simulations of mixedâ€phase clouds observed during the ARM Mixedâ€Phase Arctic Cloud Experiment. II: Multilayer cloud. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 1003-1019.	2.7	84
49	Intercomparison of model simulations of mixedâ€phase clouds observed during the ARM Mixedâ€Phase Arctic Cloud Experiment. I: singleâ€layer cloud. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 979-1002.	2.7	224
50	Processes that generate and deplete liquid water and snow in thin midlevel mixedâ€phase clouds. Journal of Geophysical Research, 2009, 114, .	3.3	18
51	An idealized model of the one-dimensional carbon dioxide rectifier effect. Tellus, Series B: Chemical and Physical Meteorology, 2008, 60, 525-536.	1.6	10
52	The Vertical Profile of Liquid and Ice Water Content in Midlatitude Mixed-Phase Altocumulus Clouds. Journal of Applied Meteorology and Climatology, 2008, 47, 2487-2495.	1.5	42
53	An Analytic Longwave Radiation Formula for Liquid Layer Clouds. Monthly Weather Review, 2007, 135, 689-699.	1.4	53
54	Elucidating Model Inadequacies in a Cloud Parameterization by Use of an Ensemble-Based Calibration Framework. Monthly Weather Review, 2007, 135, 4077-4096.	1.4	37

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55	What causes partial cloudiness to form in multilayered midlevel clouds? A simulated case study. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	7
56	A single-column model intercomparison of a heavily drizzling stratocumulus-topped boundary layer. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	60
57	From cloud overlap to PDF overlap. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2007, 133, 1877-1891.	2.7	12
58	What determines altocumulus dissipation time?. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	24
59	Supplying Local Microphysics Parameterizations with Information about Subgrid Variability: Latin Hypercube Sampling. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 4010-4026.	1.7	42
60	Using Probability Density Functions to Derive Consistent Closure Relationships among Higher-Order Moments. <i>Monthly Weather Review</i> , 2005, 133, 1023-1042.	1.4	163
61	Prognostic Equations for Cloud Fraction and Liquid Water, and Their Relation to Filtered Density Functions. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 338-351.	1.7	14
62	Observed Microphysical Structure of Midlevel, Mixed-Phase Clouds. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 1779-1804.	1.7	100
63	A PDF-Based Model for Boundary Layer Clouds. Part I: Method and Model Description. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 3540-3551.	1.7	363
64	Small-Scale and Mesoscale Variability in Cloudy Boundary Layers: Joint Probability Density Functions. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 3519-3539.	1.7	136
65	A PDF-Based Model for Boundary Layer Clouds. Part II: Model Results. <i>Journals of the Atmospheric Sciences</i> , 2002, 59, 3552-3571.	1.7	79
66	The death of an altocumulus cloud. <i>Geophysical Research Letters</i> , 2001, 28, 2609-2612.	4.0	15
67	Systematic Biases in the Microphysics and Thermodynamics of Numerical Models That Ignore Subgrid-Scale Variability. <i>Journals of the Atmospheric Sciences</i> , 2001, 58, 1117-1128.	1.7	83
68	Small-Scale and Mesoscale Variability of Scalars in Cloudy Boundary Layers: One-Dimensional Probability Density Functions. <i>Journals of the Atmospheric Sciences</i> , 2001, 58, 1978-1994.	1.7	64