

Kuan-Man Xu

List of Publications by Year in descending order

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104
papers

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94433

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107
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107
docs citations

107
times ranked

3901
citing authors

#	ARTICLE	IF	CITATIONS
1	A Semiempirical Cloudiness Parameterization for Use in Climate Models. <i>Journals of the Atmospheric Sciences</i> , 1996, 53, 3084-3102.	1.7	293
2	Single-Column Model Intercomparison for a Stably Stratified Atmospheric Boundary Layer. <i>Boundary-Layer Meteorology</i> , 2006, 118, 273-303.	2.3	278
3	Occurrence, liquid water content, and fraction of supercooled water clouds from combined CALIOP/IIR/MODIS measurements. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	250
4	Is the Tropical Atmosphere Conditionally Unstable?. <i>Monthly Weather Review</i> , 1989, 117, 1471-1479.	1.4	239
5	Intercomparison of model simulations of mixed-phase clouds observed during the ARM Mixed-Phase Arctic Cloud Experiment. I: single-layer cloud. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2009, 135, 979-1002.	2.7	224
6	Single-Column Models and Cloud Ensemble Models as Links between Observations and Climate Models. <i>Journal of Climate</i> , 1996, 9, 1683-1697.	3.2	219
7	Improvements of top-of-atmosphere and surface irradiance computations with CALIPSO-, CloudSat-, and MODIS-derived cloud and aerosol properties. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	208
8	An intercomparison of cloud-resolving models with the Atmospheric Radiation Measurement summer 1997 Intensive Observation Period data. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2002, 128, 593-624.	2.7	192
9	Evaluation of Cloudiness Parameterizations Using a Cumulus Ensemble Model. <i>Monthly Weather Review</i> , 1991, 119, 342-367.	1.4	169
10	Daytime convective development over land: A model intercomparison based on LBA observations. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2006, 132, 317-344.	2.7	160
11	CGILS: Results from the first phase of an international project to understand the physical mechanisms of low cloud feedbacks in single column models. <i>Journal of Advances in Modeling Earth Systems</i> , 2013, 5, 826-842.	3.8	140
12	Marine low cloud sensitivity to an idealized climate change: The CGILS LES intercomparison. <i>Journal of Advances in Modeling Earth Systems</i> , 2013, 5, 234-258.	3.8	128
13	Explicit Simulation of Cumulus Ensembles with the GATE Phase III Data: Comparison with Observations. <i>Journals of the Atmospheric Sciences</i> , 1996, 53, 3710-3736.	1.7	125
14	Intercomparison and evaluation of cumulus parametrizations under summertime midlatitude continental conditions. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2002, 128, 1095-1135.	2.7	119
15	A comparison of single column model simulations of summertime midlatitude continental convection. <i>Journal of Geophysical Research</i> , 2000, 105, 2091-2124.	3.3	107
16	The Iris Hypothesis: A Negative or Positive Cloud Feedback?. <i>Journal of Climate</i> , 2002, 15, 3-7.	3.2	99
17	The Macroscopic Behavior of Cumulus Ensembles Simulated by a Cumulus Ensemble Model. <i>Journals of the Atmospheric Sciences</i> , 1992, 49, 2402-2420.	1.7	98
18	Impact of Interactive Radiative Transfer on the Macroscopic Behavior of Cumulus Ensembles. Part II: Mechanisms for Cloud-Radiation Interactions. <i>Journals of the Atmospheric Sciences</i> , 1995, 52, 800-817.	1.7	95

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19	Recent trends of the tropical hydrological cycle inferred from Global Precipitation Climatology Project and International Satellite Cloud Climatology Project data. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	90
20	Intercomparison of model simulations of mixed-phase clouds observed during the ARM Mixed-phase Arctic Cloud Experiment. II: Multilayer cloud. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2009, 135, 1003-1019.	2.7	84
21	Covariance between Arctic sea ice and clouds within atmospheric state regimes at the satellite footprint level. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 12656-12678.	3.3	84
22	Partitioning Mass, Heat, and Moisture Budgets of Explicitly Simulated Cumulus Ensembles into Convective and Stratiform Components. <i>Journals of the Atmospheric Sciences</i> , 1995, 52, 551-573.	1.7	72
23	Simulations of midlatitude frontal clouds by single-column and cloud-resolving models during the Atmospheric Radiation Measurement March 2000 cloud intensive operational period. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	66
24	Updraft and Downdraft Statistics of Simulated Tropical and Midlatitude Cumulus Convection. <i>Journals of the Atmospheric Sciences</i> , 2001, 58, 1630-1649.	1.7	61
25	Simulation of shallow cumuli and their transition to deep convective clouds by cloud-resolving models with different third-order turbulence closures. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2006, 132, 359-382.	2.7	61
26	Statistical Analyses of Satellite Cloud Object Data from CERES. Part I: Methodology and Preliminary Results of the 1998 El Niño/2000 La Niña. <i>Journal of Climate</i> , 2005, 18, 2497-2514.	3.2	57
27	Overlap assumptions for assumed probability distribution function cloud schemes in large-scale models. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	57
28	Improving representation of convective transport for scale-aware parameterization: 1. Convection and cloud properties simulated with spectral bin and bulk microphysics. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 3485-3509.	3.3	57
29	Semiprognostic Tests of the Arakawa-Schubert Cumulus Parameterization Using Simulated Data. <i>Journals of the Atmospheric Sciences</i> , 1992, 49, 2421-2436.	1.7	56
30	Impact of Interactive Radiative Transfer on the Macroscopic Behavior of Cumulus Ensembles. Part I: Radiation Parameterization and Sensitivity Tests. <i>Journals of the Atmospheric Sciences</i> , 1995, 52, 785-799.	1.7	53
31	Introduction to CAUSES: Description of Weather and Climate Models and Their Near-Surface Temperature Errors in 5-Day Hindcasts Near the Southern Great Plains. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 2655-2683.	3.3	53
32	Modeling springtime shallow frontal clouds with cloud-resolving and single-column models. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	51
33	Observational constraints on atmospheric and oceanic cross-equatorial heat transports: revisiting the precipitation asymmetry problem in climate models. <i>Climate Dynamics</i> , 2016, 46, 3239-3257.	3.8	49
34	Statistical Analyses of Satellite Cloud Object Data from CERES. Part II: Tropical Convective Cloud Objects during 1998 El Niño and Evidence for Supporting the Fixed Anvil Temperature Hypothesis. <i>Journal of Climate</i> , 2007, 20, 819-842.	3.2	44
35	The Effect of Environmental Conditions on Tropical Deep Convective Systems Observed from the TRMM Satellite. <i>Journal of Climate</i> , 2006, 19, 5745-5761.	3.2	43
36	Evaluation of Statistically Based Cloudiness Parameterizations Used in Climate Models. <i>Journals of the Atmospheric Sciences</i> , 1996, 53, 3103-3119.	1.7	41

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37	Parameterization of Shortwave and Longwave Radiative Properties of Ice Clouds for Use in Climate Models. <i>Journal of Climate</i> , 2009, 22, 6287-6312.	3.2	40
38	Improved low-cloud simulation from a multiscale modeling framework with a third-order turbulence closure in its cloud-resolving model component. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	39
39	Cirrus Cloud Properties from a Cloud-Resolving Model Simulation Compared to Cloud Radar Observations. <i>Journals of the Atmospheric Sciences</i> , 2003, 60, 510-525.	1.7	39
40	An Overview of CMIP5 and CMIP6 Simulated Cloud Ice, Radiation Fields, Surface Wind Stress, Sea Surface Temperatures, and Precipitation Over Tropical and Subtropical Oceans. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2020JD032848.	3.3	38
41	Influence of Large-Scale Advective Cooling and Moistening Effects on the Quasi-Equilibrium Behavior of Explicitly Simulated Cumulus Ensembles. <i>Journals of the Atmospheric Sciences</i> , 1998, 55, 896-909.	1.7	37
42	Simulation of Boundary-Layer Cumulus and Stratocumulus Clouds Using a Cloud-Resolving Model with Low-and Third-order Turbulence Closures. <i>Journal of the Meteorological Society of Japan</i> , 2008, 86A, 67-86.	1.8	37
43	An estimate of aerosol indirect effect from satellite measurements with concurrent meteorological analysis. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	37
44	Effects of Resolution on the Simulation of Boundaryâ€­layer Clouds and the Partition of Kinetic Energy to Subgrid Scales. <i>Journal of Advances in Modeling Earth Systems</i> , 2010, 2, .	3.8	36
45	Multiâ€­layer arctic mixedâ€­phase clouds simulated by a cloudâ€­resolving model: Comparison with ARM observations and sensitivity experiments. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	33
46	Arctic Mixed-Phase Clouds Simulated by a Cloud-Resolving Model: Comparison with ARM Observations and Sensitivity to Microphysics Parameterizations. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 1285-1303.	1.7	33
47	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part I: Sensitivity to Spatial Resolution and Climatology. <i>Journal of Climate</i> , 2013, 26, 5717-5740.	3.2	33
48	A PDF-Based Microphysics Parameterization for Simulation of Drizzling Boundary Layer Clouds. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 2317-2334.	1.7	31
49	An Estimate of Low-Cloud Feedbacks from Variations of Cloud Radiative and Physical Properties with Sea Surface Temperature on Interannual Time Scales. <i>Journal of Climate</i> , 2011, 24, 1106-1121.	3.2	31
50	Use of cloud radar observations for model evaluation: A probabilistic approach. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	30
51	How might a statistical cloud scheme be coupled to a mass-flux convection scheme?. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	30
52	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part II: Seasonal Variations over the Eastern Pacific. <i>Journal of Climate</i> , 2013, 26, 5741-5760.	3.2	30
53	Cloud-Resolving Simulation of Low-Cloud Feedback to an Increase in Sea Surface Temperature. <i>Journals of the Atmospheric Sciences</i> , 2010, 67, 730-748.	1.7	29
54	Improved Low-Cloud Simulation from the Community Atmosphere Model with an Advanced Third-Order Turbulence Closure. <i>Journal of Climate</i> , 2015, 28, 5737-5762.	3.2	29

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55	Comparison of the tropical radiative flux and cloud radiative effect profiles in a climate model with Clouds and the Earth's Radiant Energy System (CERES) data. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	28
56	A Sensitivity Study of Radiative-Convective Equilibrium in the Tropics with a Convection-Resolving Model. <i>Journals of the Atmospheric Sciences</i> , 1999, 56, 3385-3400.	1.7	27
57	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part III: Tropical and Subtropical Cloud Transitions over the Northern Pacific. <i>Journal of Climate</i> , 2013, 26, 5761-5781.	3.2	27
58	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
59	Mean Structure and Diurnal Cycle of Southeast Atlantic Boundary Layer Clouds: Insights from Satellite Observations and Multiscale Modeling Framework Simulations. <i>Journal of Climate</i> , 2015, 28, 324-341.	3.2	25
60	Deriving Marine-Boundary-Layer Lapse Rate from Collocated CALIPSO, MODIS, and AMSR-E Data to Study Global Low-Cloud Height Statistics. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2008, 5, 649-652.	3.1	22
61	Statistical Analyses of Satellite Cloud Object Data from CERES. Part IV: Boundary Layer Cloud Objects during 1998 El Niño. <i>Journal of Climate</i> , 2008, 21, 1500-1521.	3.2	22
62	Radiative-convective disequilibrium. <i>Atmospheric Research</i> , 1994, 31, 315-327.	4.1	21
63	A statistical comparison of deep convective cloud objects observed by an Earth Observing System satellite and simulated by a cloud-resolving model. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	21
64	Using the Bootstrap Method for a Statistical Significance Test of Differences between Summary Histograms. <i>Monthly Weather Review</i> , 2006, 134, 1442-1453.	1.4	21
65	Statistical Analyses of Satellite Cloud Object Data from CERES. Part V: Relationships between Physical Properties of Marine Boundary Layer Clouds. <i>Journal of Climate</i> , 2008, 21, 6668-6688.	3.2	21
66	Cloud and Radiative Characteristics of Tropical Deep Convective Systems in Extended Cloud Objects from CERES Observations. <i>Journal of Climate</i> , 2009, 22, 5983-6000.	3.2	21
67	Improving representation of convective transport for scale-aware parameterization: 2. Analysis of cloud-resolving model simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 3510-3532.	3.3	21
68	Modelling convective processes during the suppressed phase of a Madden-Julian oscillation: Comparing single-column models with cloud-resolving models. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2010, 136, 333-353.	2.7	20
69	Annual and seasonal mean tropical and subtropical precipitation bias in CMIP5 and CMIP6 models. <i>Environmental Research Letters</i> , 2020, 15, 124068.	5.2	20
70	The Liquid Water Oscillation in Modeling Boundary Layer Cumuli with Third-Order Turbulence Closure Models. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 1621-1629.	1.7	17
71	Explicit Simulation of Midlatitude Cumulus Ensembles: Comparison with ARM Data. <i>Journals of the Atmospheric Sciences</i> , 2000, 57, 2839-2858.	1.7	16
72	Impact of a cloud thermodynamic phase parameterization based on CALIPSO observations on climate simulation. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	16

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73	Diurnal variability of low clouds in the Southeast Pacific simulated by a multiscale modeling framework model. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 9191-9208.	3.3	16
74	Statistical Analyses of Satellite Cloud Object Data from CERES. Part III: Comparison with Cloud-Resolving Model Simulations of Tropical Convective Clouds. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 762-785.	1.7	15
75	An explicit representation of vertical momentum transport in a multiscale modeling framework through its cloud-resolving model component. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 2356-2374.	3.3	13
76	Investigation of the Residual in Column-Integrated Atmospheric Energy Balance Using Cloud Objects. <i>Journal of Climate</i> , 2016, 29, 7435-7452.	3.2	13
77	A Statistical Analysis of the Dependency of Closure Assumptions in Cumulus Parameterization on the Horizontal Resolution. <i>Journals of the Atmospheric Sciences</i> , 1994, 51, 3674-3691.	1.7	11
78	Assessing the Resolution Adaptability of the Zhang-McFarlane Cumulus Parameterization With Spatial and Temporal Averaging. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 2753-2770.	3.8	11
79	Evaluation of Cloud Physical Properties of ECMWF Analysis and Re-Analysis (ERA) against CERES Tropical Deep Convective Cloud Object Observations. <i>Monthly Weather Review</i> , 2009, 137, 207-223.	1.4	10
80	Cloud Object Analysis of CERES Aqua Observations of Tropical and Subtropical Cloud Regimes: Four-Year Climatology. <i>Journal of Climate</i> , 2016, 29, 1617-1638.	3.2	10
81	Comments on "A Unified Representation of Deep Moist Convection in Numerical Modeling of the Atmosphere. Part I". <i>Journals of the Atmospheric Sciences</i> , 2015, 72, 2562-2565.	1.7	9
82	Convective Aggregation and Indices Examined from CERES Cloud Object Data. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 13604-13624.	3.3	9
83	Cloud Properties Simulated by a Single-Column Model. Part II: Evaluation of Cumulus Detrainment and Ice-Phase Microphysics Using a Cloud-Resolving Model. <i>Journals of the Atmospheric Sciences</i> , 2006, 63, 2831-2847.	1.7	8
84	Coincident occurrences of tropical individual cirrus clouds and deep convective systems derived from TRMM observations. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	8
85	Sensitivity of a Large Ensemble of Tropical Convective Systems to Changes in the Thermodynamic and Dynamic Forcings. <i>Journals of the Atmospheric Sciences</i> , 2008, 65, 1773-1794.	1.7	8
86	The Sensitivity of Diagnostic Radiative Properties to Cloud Microphysics among Cloud-Resolving Model Simulations. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 1241-1254.	1.7	7
87	Improved ice content, radiation, precipitation and low-level circulation over the tropical pacific from ECMWF ERA-interim to ERA5. <i>Environmental Research Communications</i> , 2021, 3, 081006.	2.3	7
88	Understanding the tropical cloud feedback from an analysis of the circulation and stability regimes simulated from an upgraded multiscale modeling framework. <i>Journal of Advances in Modeling Earth Systems</i> , 2016, 8, 1825-1846.	3.8	6
89	Entrainment rate diurnal cycle in marine stratiform clouds estimated from geostationary satellite retrievals and a meteorological forecast model. <i>Geophysical Research Letters</i> , 2017, 44, 7482-7489.	4.0	6
90	Relating Precipitating Ice Radiative Effects to Surface Energy Balance and Temperature Biases Over the Tibetan Plateau in Winter. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 12455-12467.	3.3	6

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91	Exploring Radiation Biases Over the Tropical and Subtropical Oceans Based on Treatments of Frozen-Hydrometeor Radiative Properties in CMIP6 Models. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	3.3	6
92	Comparing surface wind stress and sea surface temperature biases over the tropical and subtropical oceans in subsets of CMIP6 models categorized by frozen hydrometeors-radiation interactions. <i>Environmental Research Communications</i> , 2022, 4, 055009.	2.3	6
93	Explicit simulation of cumulus ensembles with the GATE phase III data: Budgets of a composite easterly wave. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2001, 127, 1571-1591.	2.7	5
94	Evaluation of a General Circulation Model by the CERES Flux-by-Cloud Type Simulator. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 10655-10668.	3.3	5
95	Changes of South-Central Pacific Large-Scale Environment Associated With Hydrometeors-Radiation-Circulation Interactions in a Coupled GCM. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2021JD034973.	3.3	4
96	Cloud object analysis of CERES Aqua observations of tropical and subtropical cloud regimes: Evolution of cloud object size distributions during the Madden-Julian Oscillation. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017, 188, 148-158.	2.3	3
97	The Response of Simulated Arctic Mixed-Phase Stratocumulus to Sea Ice Cover Variability in the Absence of Large-Scale Advection. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 12,335.	3.3	3
98	Differences in the hydrological cycle and sensitivity between multiscale modeling frameworks with and without a higher-order turbulence closure. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 2120-2137.	3.8	3
99	Analysis of Cloud-Resolving Model Simulations for Scale Dependence of Convective Momentum Transport. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 2445-2472.	1.7	3
100	Arctic Clouds Simulated by a Multiscale Modeling Framework and Comparisons With Observations and Conventional GCMs. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2019JD030522.	3.3	3
101	Changes in clouds and atmospheric circulation associated with rapid adjustment induced by increased atmospheric CO ₂ : a multiscale modeling framework study. <i>Climate Dynamics</i> , 2020, 55, 277-293.	3.8	2
102	The potential influence of falling ice radiative effects on Central-Pacific El Niño variability under progressive global warming. <i>Environmental Research Letters</i> , 2021, 16, 124062.	5.2	2
103	Linking global land surface temperature projections to radiative effects of hydrometeors under a global warming scenario. <i>Environmental Research Letters</i> , 2021, 16, 084044.	5.2	1
104	Observational evaluation of global climate model simulations of arctic sea ice and adjacent land pertaining to the radiative effects of frozen hydrometeors. <i>Environmental Research Communications</i> , 2022, 4, 025008.	2.3	1