

Jiwen Fan

List of Publications by Year in descending order

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118
papers

8,732
citations

50170

46
h-index

46693

89
g-index

138
all docs

138
docs citations

138
times ranked

6859
citing authors

#	ARTICLE	IF	CITATIONS
1	Aerosol and monsoon climate interactions over Asia. <i>Reviews of Geophysics</i> , 2016, 54, 866-929.	9.0	591
2	Recent advances in understanding secondary organic aerosol: Implications for global climate forcing. <i>Reviews of Geophysics</i> , 2017, 55, 509-559.	9.0	548
3	Long-term impacts of aerosols on the vertical development of clouds and precipitation. <i>Nature Geoscience</i> , 2011, 4, 888-894.	5.4	483
4	Review of Aerosol-Cloud Interactions: Mechanisms, Significance, and Challenges. <i>Journals of the Atmospheric Sciences</i> , 2016, 73, 4221-4252.	0.6	439
5	Substantial convection and precipitation enhancements by ultrafine aerosol particles. <i>Science</i> , 2018, 359, 411-418.	6.0	290
6	Microphysical effects determine macrophysical response for aerosol impacts on deep convective clouds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, E4581-90.	3.3	274
7	Dominant role by vertical wind shear in regulating aerosol effects on deep convective clouds. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	265
8	Heavy pollution suppresses light rain in China: Observations and modeling. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	255
9	Indirect and Semi-direct Aerosol Campaign. <i>Bulletin of the American Meteorological Society</i> , 2011, 92, 183-201.	1.7	228
10	Intensification of Pacific storm track linked to Asian pollution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 5295-5299.	3.3	213
11	Introduction: Observations and Modeling of the Green Ocean Amazon (GoAmazon2014/5). <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 4785-4797.	1.9	213
12	Effects of aerosols and relative humidity on cumulus clouds. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	197
13	East Asian Study of Tropospheric Aerosols and their Impact on Regional Clouds, Precipitation, and Climate (EAST-AIR-CPC). <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 13026-13054.	1.2	175
14	Impacts of black carbon aerosol on photolysis and ozone. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	158
15	Aerosol impacts on clouds and precipitation in eastern China: Results from bin and bulk microphysics. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	152
16	Structure and Evolution of Mesoscale Convective Systems: Sensitivity to Cloud Microphysics in Convection-Permitting Simulations Over the United States. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 1470-1494.	1.3	145
17	Substantial contribution of anthropogenic air pollution to catastrophic floods in Southwest China. <i>Geophysical Research Letters</i> , 2015, 42, 6066-6075.	1.5	144
18	Increase of cloud droplet size with aerosol optical depth: An observation and modeling study. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	138

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19	Atmospheric Oxidation Mechanism of Isoprene. <i>Environmental Chemistry</i> , 2004, 1, 140.	0.7	134
20	Urbanization-induced urban heat island and aerosol effects on climate extremes in the Yangtze River Delta region of China. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 5439-5457.	1.9	133
21	Urban pollution greatly enhances formation of natural aerosols over the Amazon rainforest. <i>Nature Communications</i> , 2019, 10, 1046.	5.8	131
22	The Green Ocean Amazon Experiment (GoAmazon2014/5) Observes Pollution Affecting Gases, Aerosols, Clouds, and Rainfall over the Rain Forest. <i>Bulletin of the American Meteorological Society</i> , 2017, 98, 981-997.	1.7	128
23	Effects of aerosol optical properties on deep convective clouds and radiative forcing. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	114
24	Intercomparison of large-eddy simulations of Arctic mixed-phase clouds: Importance of ice size distribution assumptions. <i>Journal of Advances in Modeling Earth Systems</i> , 2014, 6, 223-248.	1.3	114
25	A comparison of TWP-ICE observational data with cloud-resolving model results. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	108
26	Cloud-resolving model intercomparison of an MC3E squall line case: Part I—Convective updrafts. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 9351-9378.	1.2	106
27	Aerosol impacts on California winter clouds and precipitation during CalWater 2011: local pollution versus long-range transported dust. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 81-101.	1.9	101
28	Evaluation of cloud-resolving and limited area model intercomparison simulations using TWP-ICE observations: 1. Deep convective updraft properties. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 13,891.	1.2	100
29	Potential aerosol indirect effects on atmospheric circulation and radiative forcing through deep convection. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	99
30	Evaluation of cloud-resolving model intercomparison simulations using TWP-ICE observations: Precipitation and cloud structure. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	90
31	Intercomparison of cloud model simulations of Arctic mixed-phase boundary layer clouds observed during SHEBA/FIRE-ACE. <i>Journal of Advances in Modeling Earth Systems</i> , 2011, 3, n/a-n/a.	1.3	90
32	Ice formation in Arctic mixed-phase clouds: Insights from a 3-D cloud-resolving model with size-resolved aerosol and cloud microphysics. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	89
33	Effects of cloud condensation nuclei and ice nucleating particles on precipitation processes and supercooled liquid in mixed-phase orographic clouds. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 1017-1035.	1.9	71
34	Improving bulk microphysics parameterizations in simulations of aerosol effects. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 5361-5379.	1.2	69
35	Contribution of secondary condensable organics to new particle formation: A case study in Houston, Texas. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	67
36	Simulations of cumulus clouds using a spectral microphysics cloud-resolving model. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	63

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37	Representation of Arctic mixed-phase clouds and the Wegener-Bergeron-Findeisen process in climate models: Perspectives from a cloud-resolving study. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	63
38	Precipitation and air pollution at mountain and plain stations in northern China: Insights gained from observations and modeling. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 4793-4807.	1.2	63
39	Impacts of biogenic emissions on photochemical ozone production in Houston, Texas. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	62
40	Ice nucleation by aerosols from anthropogenic pollution. <i>Nature Geoscience</i> , 2019, 12, 602-607.	5.4	62
41	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.	1.2	57
42	Can the GPM IMERG Final Product Accurately Represent MCSs' Precipitation Characteristics over the Central and Eastern United States?. <i>Journal of Hydrometeorology</i> , 2020, 21, 39-57.	0.7	57
43	Aerosol transport and wet scavenging in deep convective clouds: A case study and model evaluation using a multiple passive tracer analysis approach. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 8448-8468.	1.2	56
44	Idealized Simulations of a Squall Line from the MC3E Field Campaign Applying Three Bin Microphysics Schemes: Dynamic and Thermodynamic Structure. <i>Monthly Weather Review</i> , 2017, 145, 4789-4812.	0.5	55
45	The cloud condensation nuclei and ice nuclei effects on tropical anvil characteristics and water vapor of the tropical tropopause layer. <i>Environmental Research Letters</i> , 2010, 5, 044005.	2.2	50
46	Laboratory measurements and model sensitivity studies of dust deposition ice nucleation. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 7295-7308.	1.9	49
47	High concentration of ultrafine particles in the Amazon free troposphere produced by organic new particle formation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 25344-25351.	3.3	49
48	Roles of wind shear at different vertical levels: Cloud system organization and properties. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 6551-6574.	1.2	48
49	Atmospheric Oxidation Mechanism of p-Xylene: A Density Functional Theory Study. <i>Journal of Physical Chemistry A</i> , 2006, 110, 7728-7737.	1.1	47
50	Evaluation of cloud-resolving and limited area model intercomparison simulations using TWP-ICE observations: 2. Precipitation microphysics. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 13,919.	1.2	47
51	The mechanisms and seasonal differences of the impact of aerosols on daytime surface urban heat island effect. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 6479-6493.	1.9	44
52	Cloud-Resolving Model Intercomparison of an MC3E Squall Line Case: Part II. Stratiform Precipitation Properties. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 1090-1117.	1.2	43
53	Pollution from China increases cloud droplet number, suppresses rain over the East China Sea. <i>Geophysical Research Letters</i> , 2011, 38, .	1.5	42
54	What Drives the Life Cycle of Tropical Anvil Clouds?. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 2586-2605.	1.3	42

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55	Effects of ice number concentration on dynamics of a shallow mixed-phase stratiform cloud. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	41
56	Simulations of fine particulate matter (PM2.5) in Houston, Texas. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	34
57	Investigation of aerosol indirect effects using a cumulus microphysics parameterization in a regional climate model. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 906-926.	1.2	34
58	Overview: Precipitation characteristics and sensitivities to environmental conditions during GoAmazon2014/5 and ACRIDICON-CHUVA. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 6461-6482.	1.9	34
59	Density Functional Theory Study on OH-Initiated Atmospheric Oxidation of m-Xylene. <i>Journal of Physical Chemistry A</i> , 2008, 112, 4314-4323.	1.1	33
60	Quantifying the impact of dust on heterogeneous ice generation in midlevel supercooled stratiform clouds. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	33
61	A study of cloud microphysics and precipitation over the Tibetan Plateau by radar observations and cloud-resolving model simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 13,735.	1.2	33
62	Impacts of Varying Concentrations of Cloud Condensation Nuclei on Deep Convective Cloud Updrafts—A Multimodel Assessment. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 1147-1172.	0.6	33
63	Urbanization-induced land and aerosol impacts on sea-breeze circulation and convective precipitation. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 14163-14182.	1.9	33
64	Three-Moment Representation of Rain in a Bulk Microphysics Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 257-277.	1.3	32
65	Tropical anvil characteristics and water vapor of the tropical tropopause layer: Impact of heterogeneous and homogeneous freezing parameterizations. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	30
66	Mechanisms Contributing to Suppressed Precipitation in Mt. Hua of Central China. Part I: Mountain Valley Circulation. <i>Journals of the Atmospheric Sciences</i> , 2016, 73, 1351-1366.	0.6	30
67	Impacts of the Manaus pollution plume on the microphysical properties of Amazonian warm-phase clouds in the wet season. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 7029-7041.	1.9	29
68	Large-Eddy Simulation of Shallow Cumulus over Land: A Composite Case Based on ARM Long-Term Observations at Its Southern Great Plains Site. <i>Journals of the Atmospheric Sciences</i> , 2017, 74, 3229-3251.	0.6	28
69	Analysis of cloud-resolving simulations of a tropical mesoscale convective system observed during TWP-ICE: Vertical fluxes and draft properties in convective and stratiform regions. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	26
70	Theoretical study of OH addition to α -pinene and β -pinene. <i>Chemical Physics Letters</i> , 2005, 411, 1-7.	1.2	24
71	Ice Concentration Retrieval in Stratiform Mixed-Phase Clouds Using Cloud Radar Reflectivity Measurements and 1D Ice Growth Model Simulations. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 3613-3635.	0.6	22
72	Incorporating an advanced aerosol activation parameterization into WRF-CAM5: Model evaluation and parameterization intercomparison. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 6952-6979.	1.2	21

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73	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.	1.2	21
74	Extreme Convective Storms Over High-Latitude Continental Areas Where Maximum Warming Is Occurring. <i>Geophysical Research Letters</i> , 2019, 46, 4059-4065.	1.5	21
75	Simulating a Mesoscale Convective System Using WRF With a New Spectral Bin Microphysics: 1: Hail vs Graupel. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 14072-14101.	1.2	21
76	Wildfire Impact on Environmental Thermodynamics and Severe Convective Storms. <i>Geophysical Research Letters</i> , 2019, 46, 10082-10093.	1.5	20
77	Impacts of cloud microphysics parameterizations on simulated aerosol-cloud interactions for deep convective clouds over Houston. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 2363-2381.	1.9	20
78	Coupling spectral-bin cloud microphysics with the MOSAIC aerosol model in WRF-Chem: Methodology and results for marine stratocumulus clouds. <i>Journal of Advances in Modeling Earth Systems</i> , 2016, 8, 1289-1309.	1.3	19
79	Rapid growth of anthropogenic organic nanoparticles greatly alters cloud life cycle in the Amazon rainforest. <i>Science Advances</i> , 2022, 8, eabj0329.	4.7	19
80	Multi-year application of WRF-CAM5 over East Asia-Part I: Comprehensive evaluation and formation regimes of O ₃ and PM _{2.5} . <i>Atmospheric Environment</i> , 2017, 165, 122-142.	1.9	18
81	Investigating the impacts of Saharan dust on tropical deep convection using spectral bin microphysics. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 12161-12184.	1.9	18
82	The Detection of Mesoscale Convective Systems by the GPM Ku-Band Spaceborne Radar. <i>Journal of the Meteorological Society of Japan</i> , 2019, 97, 1059-1073.	0.7	17
83	Aerosol Impacts on Mesoscale Convective Systems Forming Under Different Vertical Wind Shear Conditions. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2018JD030027.	1.2	17
84	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. <i>Geoscientific Model Development</i> , 2022, 15, 2881-2916.	1.3	17
85	Retrievals of ice cloud microphysical properties of deep convective systems using radar measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 10,820.	1.2	16
86	Urbanization-Induced Land and Aerosol Impacts on Storm Propagation and Hail Characteristics. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 925-947.	0.6	16
87	Role of liquid phase in the development of ice phase in monsoon clouds: Aircraft observations and numerical simulations. <i>Atmospheric Research</i> , 2019, 229, 157-174.	1.8	15
88	An Analysis of Coordinated Observations from NOAA's Ronald H. Brown Ship and G-IV Aircraft in a Landfalling Atmospheric River over the North Pacific during CalWater-2015. <i>Monthly Weather Review</i> , 2017, 145, 3647-3669.	0.5	13
89	Comparison of aircraft measurements during GoAmazon2014/5 and ACRIDICON-CHUVA. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 661-684.	1.2	12
90	Application of an Online-Coupled Regional Climate Model, WRF-CAM5, over East Asia for Examination of Ice Nucleation Schemes: Part II. Sensitivity to Heterogeneous Ice Nucleation Parameterizations and Dust Emissions. <i>Climate</i> , 2015, 3, 753-774.	1.2	11

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91	Application of an Online-Coupled Regional Climate Model, WRF-CAM5, over East Asia for Examination of Ice Nucleation Schemes: Part I. Comprehensive Model Evaluation and Trend Analysis for 2006 and 2011. <i>Climate</i> , 2015, 3, 627-667.	1.2	11
92	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.	1.3	11
93	Can the Multiscale Modeling Framework (MMF) Simulate the MCS&Associated Precipitation Over the Central United States?. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 4669-4686.	1.3	11
94	Parameterizing correlations between hydrometeor species in mixed-phase Arctic clouds. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	10
95	Fine-scale application of WRF-CAM5 during a dust storm episode over East Asia: Sensitivity to grid resolutions and aerosol activation parameterizations. <i>Atmospheric Environment</i> , 2018, 176, 1-20.	1.9	10
96	Understanding Ice Cloud&Precipitation Properties of Three Modes of Mesoscale Convective Systems During PECAN. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 4121-4140.	1.2	10
97	Impact of a New Cloud Microphysics Parameterization on the Simulations of Mesoscale Convective Systems in E3SM. <i>Journal of Advances in Modeling Earth Systems</i> , 2021, 13, .	1.3	10
98	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.	0.6	9
99	Climatology of diablo winds in Northern California and their relationships with large-scale climate variabilities. <i>Climate Dynamics</i> , 2021, 56, 1335-1356.	1.7	8
100	Comments on &Do Ultrafine Cloud Condensation Nuclei Invigorate Deep Convection?&. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 329-339.	0.6	8
101	Impacts of long-range-transported mineral dust on summertime convective cloud and precipitation: a case study over the Taiwan region. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 17433-17451.	1.9	8
102	Understanding Hailstone Temporal Variability and Contributing Factors over the U.S. Southern Great Plains. <i>Journal of Climate</i> , 2020, 33, 3947-3966.	1.2	7
103	Challenges for Cloud Modeling in the Context of Aerosol&Cloud&Precipitation Interactions. <i>Bulletin of the American Meteorological Society</i> , 2017, 98, 1749-1755.	1.7	6
104	Using radar observations to evaluate 3-D radar echo structure simulated by the Energy Exascale Earth System Model (E3SM) version 1. <i>Geoscientific Model Development</i> , 2021, 14, 719-734.	1.3	5
105	Notable Contributions of Aerosols to the Predictability of Hail Precipitation. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091712.	1.5	5
106	Corrigendum to Aerosol impacts on California winter clouds and precipitation during CalWater 2011: local pollution versus long-range transported dust published in <i>Atmos. Chem. Phys.</i> , 14, 81&101, 2014. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 3063-3064.	1.9	4
107	Evaluation of a multi-scale WRF-CAM5 simulation during the 2010 East Asian Summer Monsoon. <i>Atmospheric Environment</i> , 2017, 169, 204-217.	1.9	4
108	A Climatology and Extreme Value Analysis of Large Hail in China. <i>Monthly Weather Review</i> , 2020, 148, 1431-1447.	0.5	4

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109	Spatial and temporal trends and variabilities of hailstones in the United States Northern Great Plains and their possible attributions. <i>Journal of Climate</i> , 2021, , 1-53.	1.2	4
110	Modeling impacts of ice-nucleating particles from marine aerosols on mixed-phase orographic clouds during 2015 ACAPEX field campaign. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 6749-6771.	1.9	4
111	Revealing Bias of Cloud Radiative Effect in WRF Simulation: Bias Quantification and Source Attribution. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	1.2	4
112	Analysis of Cloud-Resolving Model Simulations for Scale Dependence of Convective Momentum Transport. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 2445-2472.	0.6	3
113	Pathways of precipitation formation in different thermodynamic and aerosol environments over the Indian Peninsula. <i>Atmospheric Research</i> , 2022, 266, 105934.	1.8	3
114	Concerning the Aims and Scope for <i>JAMES</i>. <i>Journal of Advances in Modeling Earth Systems</i> , 2021, 13, e2021MS002567.	1.3	2
115	Development and Evaluation of an Explicit Treatment of Aerosol Processes at Cloud Scale Within a Multi-Scale Modeling Framework (MMF). <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 1663-1679.	1.3	1
116	Contrasting Responses of Hailstorms to Anthropogenic Climate Change in Different Synoptic Weather Systems. <i>Earth's Future</i> , 0, , .	2.4	1
117	Correction to "Evaluation of cloud-resolving model intercomparison simulations using TWP-ICE observations: Precipitation and cloud structure". <i>Journal of Geophysical Research</i> , 2012, 117, n/a-n/a.	3.3	0
118	Thank You to Our 2021 Reviewers. <i>Journal of Advances in Modeling Earth Systems</i> , 2022, 14, .	1.3	0