Andrew Ackerman

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7302511/publications.pdf

Version: 2024-02-01

120 papers	9,976 citations	46984 47 h-index	39638 94 g-index
149 all docs	149 docs citations	149 times ranked	6345 citing authors

#	Article	IF	Citations
1	Reduction of Tropical Cloudiness by Soot. Science, 2000, 288, 1042-1047.	6.0	1,125
2	The impact of humidity above stratiform clouds on indirect aerosol climate forcing. Nature, 2004, 432, 1014-1017.	13.7	622
3	Precipitating Condensation Clouds in Substellar Atmospheres. Astrophysical Journal, 2001, 556, 872-884.	1.6	620
4	Evaluation of Large-Eddy Simulations via Observations of Nocturnal Marine Stratocumulus. Monthly Weather Review, 2005, 133, 1443-1462.	0.5	519
5	Clouds and Chemistry: Ultracool Dwarf Atmospheric Properties from Optical and Infrared Colors. Astrophysical Journal, 2002, 568, 335-342.	1.6	291
6	Controls on precipitation and cloudiness in simulations of trade-wind cumulus as observed during RICO. Journal of Advances in Modeling Earth Systems, 2011, 3, n/a-n/a.	1.3	249
7	GISSâ€E2.1: Configurations and Climatology. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002025.	1.3	234
8	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.	1.0	224
9	MASSES, RADII, AND CLOUD PROPERTIES OF THE HR 8799 PLANETS. Astrophysical Journal, 2012, 754, 135.	1.6	217
10	Simulations of Trade Wind Cumuli under a Strong Inversion. Journals of the Atmospheric Sciences, 2001, 58, 1870-1891.	0.6	212
11	Evidence of Cloud Disruption in the L/T Dwarf Transition. Astrophysical Journal, 2002, 571, L151-L154.	1.6	212
12	Large-Eddy Simulations of a Drizzling, Stratocumulus-Topped Marine Boundary Layer. Monthly Weather Review, 2009, 137, 1083-1110.	0.5	208
13	New microphysics sensor for aircraft use. Atmospheric Research, 1994, 31, 235-252.	1.8	192
14	Remote Sensing of Droplet Number Concentration in Warm Clouds: A Review of the Current State of Knowledge and Perspectives. Reviews of Geophysics, 2018, 56, 409-453.	9.0	185
15	A comparison of chemistry and dust cloud formation in ultracool dwarf model atmospheres. Monthly Notices of the Royal Astronomical Society, 2008, 391, 1854-1873.	1.6	167
16	Ice properties of singleâ€layer stratocumulus during the Mixedâ€Phase Arctic Cloud Experiment: 2. Model results. Journal of Geophysical Research, 2007, 112, .	3.3	165
17	Effects of Aerosols on Cloud Albedo: Evaluation of Twomeyâ€™s Parameterization of Cloud Susceptibility Using Measurements of Ship Tracks. Journals of the Atmospheric Sciences, 2000, 57, 2684-2695.	0.6	160
18	Effects of cloud horizontal inhomogeneity and drizzle on remote sensing of cloud droplet effective radius: Case studies based on largeâ€eddy simulations. Journal of Geophysical Research, 2012, 117, .	3.3	139

#	Article	IF	Citations
19	L Dwarf Variability:Iâ€Band Observations. Astrophysical Journal, 2002, 577, 433-446.	1.6	139
20	A Model for Particle Microphysics, Turbulent Mixing, and Radiative Transfer in the Stratocumulus-Topped Marine Boundary Layer and Comparisons with Measurements. Journals of the Atmospheric Sciences, 1995, 52, 1204-1236.	0.6	131
21	On the climate forcing consequences of the albedo continuum between cloudy and clear air. Tellus, Series B: Chemical and Physical Meteorology, 2022, 59, 715.	0.8	116
22	Intercomparison of largeâ€eddy simulations of Arctic mixedâ€phase clouds: Importance of ice size distribution assumptions. Journal of Advances in Modeling Earth Systems, 2014, 6, 223-248.	1.3	114
23	Evidence for the Predominance of Mid-Tropospheric Aerosols as Subtropical Anvil Cloud Nuclei. Science, 2004, 304, 718-722.	6.0	112
24	A comparison of TWPâ€ICE observational data with cloudâ€resolving model results. Journal of Geophysical Research, 2012, 117, .	3.3	108
25	A conceptual model of the dehydration of air due to freeze-drying by optically thin, laminar cirrus rising slowly across the tropical tropopause. Journal of Geophysical Research, 2001, 106, 17237-17252.	3.3	101
26	Dissipation of Marine Stratiform Clouds and Collapse of the Marine Boundary Layer Due to the Depletion of Cloud Condensation Nuclei by Clouds. Science, 1993, 262, 226-229.	6.0	100
27	Evaluation of cloudâ€resolving and limited area model intercomparison simulations using TWPâ€ICE observations: 1. Deep convective updraft properties. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,891.	1.2	100
28	Effects of Domain Size and Numerical Resolution on the Simulation of Shallow Cumulus Convection. Journals of the Atmospheric Sciences, 2002, 59, 3285-3301.	0.6	98
29	Drizzle Suppression in Ship Tracks. Journals of the Atmospheric Sciences, 2000, 57, 2707-2728.	0.6	97
30	An overview of the ORACLES (ObseRvations of Aerosols above CLouds and their intEractionS) project: aerosolâ€“cloudâ€“radiation interactions in the southeast Atlantic basin. Atmospheric Chemistry and Physics, 2021, 21, 1507-1563.	1.9	97
31	Cloud-scale model intercomparison of chemical constituent transport in deep convection. Atmospheric Chemistry and Physics, 2007, 7, 4709-4731.	1.9	96
32	Can overshooting convection dehydrate the tropical tropopause layer?. Journal of Geophysical Research, 2007, 112, .	3.3	92
33	Evaluation of cloud-resolving model intercomparison simulations using TWP-ICE observations: Precipitation and cloud structure. Journal of Geophysical Research, 2011, 116, .	3.3	90
34	Intercomparison of cloud model simulations of Arctic mixed-phase boundary layer clouds observed during SHEBA/FIRE-ACE. Journal of Advances in Modeling Earth Systems, 2011, 3, n/a-n/a.	1.3	90
35	Accuracy assessments of cloud droplet size retrievals from polarized reflectance measurements by the research scanning polarimeter. Remote Sensing of Environment, 2012, 125, 92-111.	4.6	90
36	Frequency and causes of failed MODIS cloud property retrievals for liquid phase clouds over global oceans. Journal of Geophysical Research D: Atmospheres, 2015, 120, 4132-4154.	1.2	78

#	Article	IF	Citations
37	A FIRE-ACE/SHEBA Case Study of Mixed-Phase Arctic Boundary Layer Clouds: Entrainment Rate Limitations on Rapid Primary Ice Nucleation Processes. Journals of the Atmospheric Sciences, 2012, 69, 365-389.	0.6	77
38	Spreading and growth of contrails in a sheared environment. Journal of Geophysical Research, 1998, 103, 31557-31567.	3.3	69
39	A new look at the environmental conditions favorable to secondary ice production. Atmospheric Chemistry and Physics, 2020, 20, 1391-1429.	1.9	69
40	Enhancement of cloud cover and suppression of nocturnal drizzle in stratocumulus polluted by haze. Geophysical Research Letters, 2003, 30, .	1.5	68
41	Large-Eddy Simulations of EUCLIPSEâ€“GASS Lagrangian Stratocumulus-to-Cumulus Transitions: Mean State, Turbulence, and Decoupling. Journals of the Atmospheric Sciences, 2016, 73, 2485-2508.	0.6	67
42	Toward ice formation closure in Arctic mixed-phase boundary layer clouds during ISDAC. Journal of Geophysical Research, 2011, 116, .	3.3	65
43	Remote sensing of ice crystal asymmetry parameter using multi-directional polarization measurements â€“ Part 1: Methodology and evaluation with simulated measurements. Atmospheric Measurement Techniques, 2012, 5, 2361-2374.	1.2	65
44	Sedimentation Efficiency of Condensation Clouds in Substellar Atmospheres. Astrophysical Journal, 2018, 855, 86.	1.6	63
45	A singleâ€column model intercomparison of a heavily drizzling stratocumulusâ€topped boundary layer. Journal of Geophysical Research, 2007, 112, .	3.3	60
46	Radiative flux and forcing parameterization error in aerosolâ€free clear skies. Geophysical Research Letters, 2015, 42, 5485-5492.	1.5	57
47	The GASS/EUCLIPSE model intercomparison of the stratocumulus transition as observed during ASTEX: LES results. Journal of Advances in Modeling Earth Systems, 2013, 5, 483-499.	1.3	55
48	Remote sensing of ice crystal asymmetry parameter using multi-directional polarization measurements â€“ Part 2: Application to the Research Scanning Polarimeter. Atmospheric Chemistry and Physics, 2013, 13, 3185-3203.	1.9	53
49	A framework based on 2â€D Taylor expansion for quantifying the impacts of subpixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bispectral method. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7007-7025.	1.2	53
50	CMIP6 Historical Simulations (1850â€“2014) With GISSâ€E2.1. Journal of Advances in Modeling Earth Systems, 2021, 13, e2019MS002034.	1.3	49
51	Numerical modeling of ship tracks produced by injections of cloud condensation nuclei into marine stratiform clouds. Journal of Geophysical Research, 1995, 100, 7121-7133.	3.3	48
52	Evaluation of cloudâ€resolving and limited area model intercomparison simulations using TWPâ€ICE observations: 2. Precipitation microphysics. Journal of Geophysical Research D: Atmospheres, 2014, 119, 13,919.	1.2	47
53	On the role of iceâ€nucleating aerosol in the formation of ice particles in tropical mesoscale convective systems. Geophysical Research Letters, 2017, 44, 1574-1582.	1.5	45
54	A Bayesian algorithm for the retrieval of liquid water cloud properties from microwave radiometer and millimeter radar data. Journal of Geophysical Research, 2002, 107, AAC 12-1.	3.3	44

#	Article	IF	Citations
55	Select strengths and biases of models in representing the Arctic winter boundary layer over sea ice: the Larcform 1 single column model intercomparison. Journal of Advances in Modeling Earth Systems, 2016, 8, 1345-1357.	1.3	43
56	A Flexible Parameterization for Shortwave Optical Properties of Ice Crystals*. Journals of the Atmospheric Sciences, 2014, 71, 1763-1782.	0.6	42
57	On the Application of the Dynamic Smagorinsky Model to Large-Eddy Simulations of the Cloud-Topped Atmospheric Boundary Layer. Journals of the Atmospheric Sciences, 2006, 63, 526-546.	0.6	40
58	Testing remote sensing on artificial observations: impact of drizzle and 3-D cloud structure on effective radius retrievals. Atmospheric Chemistry and Physics, 2010, 10, 9535-9549.	1.9	40
59	Variation of ice crystal size, shape, and asymmetry parameter in tops of tropical deep convective clouds. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,809-11,825.	1.2	40
60	Evaluation of Hydrometeor Phase and Ice Properties in Cloud-Resolving Model Simulations of Tropical Deep Convection Using Radiance and Polarization Measurements. Journals of the Atmospheric Sciences, 2012, 69, 3290-3314.	0.6	39
61	On Polarimetric Radar Signatures of Deep Convection for Model Evaluation: Columns of Specific Differential Phase Observed during MC3E*. Monthly Weather Review, 2016, 144, 737-758.	0.5	38
62	Effects of aging on the smoke from a large forest fire. Atmospheric Research, 1995, 38, 315-332.	1.8	37
63	Role of deep convection in establishing the isotopic composition of water vapor in the tropical transition layer. Geophysical Research Letters, 2006, 33, .	1.5	37
64	RACORO continental boundary layer cloud investigations: 2. Largeâ€eddy simulations of cumulus clouds and evaluation with in situ and groundâ€based observations. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5993-6014.	1.2	35
65	The impact of cloud vertical profile on liquid water path retrieval based on the bispectral method: A theoretical study based on largeâ€eddy simulations of shallow marine boundary layer clouds. Journal of Geophysical Research D: Atmospheres, 2016, 121, 4122-4141.	1.2	35
66	Millimeter wave scattering from ice crystals and their aggregates: Comparing cloud model simulations with X- and Ka-band radar measurements. Journal of Geophysical Research, 2011, 116, .	3.3	34
67	Evaluating models' response of tropical low clouds to SST forcings using CALIPSO observations. Atmospheric Chemistry and Physics, 2019, 19, 2813-2832.	1.9	34
68	Derivation of aerosol profiles for MC3E convection studies and use in simulations of the 20ÂMay squall line case. Atmospheric Chemistry and Physics, 2017, 17, 5947-5972.	1.9	33
69	High ice water content at low radar reflectivity near deep convection â€“ Part 2: Evaluation of microphysical pathways in updraft parcel simulations. Atmospheric Chemistry and Physics, 2015, 15, 11729-11751.	1.9	32
70	Study of near-surface models for large-eddy simulations of a neutrally stratified atmospheric boundary layer. Boundary-Layer Meteorology, 2007, 124, 405-424.	1.2	30
71	Impacts of solar-absorbing aerosol layers on the transition of stratocumulus to trade cumulus clouds. Atmospheric Chemistry and Physics, 2017, 17, 12725-12742.	1.9	30
72	Reassessing the dependence of cloud condensation nucleus concentration on formation rate. Nature, 1994, 367, 445-447.	13.7	28

#	Article	IF	Citations
73	Vertical variation of ice particle size in convective cloud tops. Geophysical Research Letters, 2016, 43, 4586-4593.	1.5	28
74	Liquid water cloud properties during the Polarimeter Definition Experiment (PODEX). Remote Sensing of Environment, 2015, 169, 20-36.	4.6	27
75	Singleâ€Column Model Simulations of Subtropical Marine Boundaryâ€Layer Cloud Transitions Under Weakening Inversions. Journal of Advances in Modeling Earth Systems, 2017, 9, 2385-2412.	1.3	27
76	Analysis of cloudâ€resolving simulations of a tropical mesoscale convective system observed during TWPâ€ICE: Vertical fluxes and draft properties in convective and stratiform regions. Journal of Geophysical Research, 2012, 117, .	3.3	26
77	Cellular Statistical Models of Broken Cloud Fields. Part I: Theory. Journals of the Atmospheric Sciences, 2010, 67, 2125-2151.	0.6	25
78	High ice water content at low radar reflectivity near deep convection â€“ Part 1: Consistency of in situ and remote-sensing observations with stratiform rain column simulations. Atmospheric Chemistry and Physics, 2015, 15, 11713-11728.	1.9	25
79	Homogeneous aerosol freezing in the tops of high-altitude tropical cumulonimbus clouds. Geophysical Research Letters, 2006, 33, .	1.5	23
80	Polarized view of supercooled liquid water clouds. Remote Sensing of Environment, 2016, 181, 96-110.	4.6	23
81	Comparisons of bispectral and polarimetric retrievals of marine boundary layer cloud microphysics: case studies using a LESâ€“satellite retrieval simulator. Atmospheric Measurement Techniques, 2018, 11, 3689-3715.	1.2	23
82	Future Climate Change Under SSP Emission Scenarios With GISSâ€E2.1. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	22
83	A case-study of pronounced perturbations to cloud properties and boundary-layer dynamics due to aerosol emissions. Quarterly Journal of the Royal Meteorological Society, 1999, 125, 2643-2661.	1.0	20
84	RACORO continental boundary layer cloud investigations: 1. Case study development and ensemble largeâ€scale forcings. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5962-5992.	1.2	20
85	Use of Cloud Radar Doppler Spectra to Evaluate Stratocumulus Drizzle Size Distributions in Large-Eddy Simulations with Size-Resolved Microphysics. Journal of Applied Meteorology and Climatology, 2017, 56, 3263-3283.	0.6	20
86	The prevalence of precipitation from polar supercooled clouds. Atmospheric Chemistry and Physics, 2021, 21, 3949-3971.	1.9	20
87	Persistent Supercooled Drizzle at Temperatures Below â^'25ÂÂ°C Observed at McMurdo Station, Antarctica. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10878-10895.	1.2	19
88	Preconditioning of overcast-to-broken cloud transitions by riming in marine cold air outbreaks. Atmospheric Chemistry and Physics, 2021, 21, 12049-12067.	1.9	19
89	Unrealistic desiccation of marine stratocumulus clouds by enhanced solar absorption. Nature, 1996, 380, 512-515.	13.7	16
90	Simulations of Arctic Mixed-Phase Boundary Layer Clouds: Advances in Understanding and Outstanding Questions. , 2018, , 153-183.		16

#	Article	IF	Citations
91	Turbulent Transport in the Gray Zone: A Large Eddy Model Intercomparison Study of the CONSTRAIN Cold Air Outbreak Case. Journal of Advances in Modeling Earth Systems, 2019, 11, 597-623.	1.3	16
92	Global Statistics of Ice Microphysical and Optical Properties at Tops of Optically Thick Ice Clouds. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031811.	1.2	16
93	An evaluation of ice formation in largeâ€eddy simulations of supercooled Arctic stratocumulus using groundâ€based lidar and cloud radar. Journal of Geophysical Research, 2009, 114, .	3.3	15
94	Simulation of Mesoscale Cellular Convection in Marine Stratocumulus. Part I: Drizzling Conditions. Journals of the Atmospheric Sciences, 2018, 75, 257-274.	0.6	15
95	Derivation of physical and optical properties of mid-latitude cirrus ice crystals for a size-resolved cloud microphysics model. Atmospheric Chemistry and Physics, 2016, 16, 7251-7283.	1.9	14
96	Nonturbulent Liquidâ€Bearing Polar Clouds: Observed Frequency of Occurrence and Simulated Sensitivity to Gravity Waves. Geophysical Research Letters, 2020, 47, e2020GL087099.	1.5	14
97	Cellular Statistical Models of Broken Cloud Fields. Part II: Comparison with a Dynamical Model and Statistics of Diverse Ensembles. Journals of the Atmospheric Sciences, 2010, 67, 2152-2170.	0.6	12
98	Properties of a Mesoscale Convective System in the Context of an Isentropic Analysis. Journals of the Atmospheric Sciences, 2015, 72, 1945-1962.	0.6	12
99	Derivation of cumulus cloud dimensions and shape from the airborne measurements by the Research Scanning Polarimeter. Remote Sensing of Environment, 2016, 177, 144-152.	4.6	12
100	(GO)²-SIM: a GCM-oriented ground-observation forward-simulator framework for objective evaluation of cloud and precipitation phase. Geoscientific Model Development, 2018, 11, 4195-4214.	1.3	12
101	A Second-Order Closure Turbulence Model: New Heat Flux Equations and No Critical Richardson Number. Journals of the Atmospheric Sciences, 2020, 77, 2743-2759.	0.6	12
102	CO signatures in subtropical convective clouds and anvils during CRYSTAL-FACE: An analysis of convective transport and entrainment using observations and a cloud-resolving model. Journal of Geophysical Research, 2006, 111, .	3.3	11
103	Validation and determination of ice water contentâ€radar reflectivity relationships during CRYSTALâ€FACE: Flight requirements for future comparisons. Journal of Geophysical Research, 2008, 113, .	3.3	10
104	On Averaging Aspect Ratios and Distortion Parameters over Ice Crystal Population Ensembles for Estimating Effective Scattering Asymmetry Parameters. Journals of the Atmospheric Sciences, 2016, 73, 775-787.	0.6	10
105	An Evaluation of Size-Resolved Cloud Microphysics Scheme Numerics for Use with Radar Observations. Part I: Collisionâ€“Coalescence. Journals of the Atmospheric Sciences, 2019, 76, 247-263.	0.6	10
106	Vertical profiles of droplet size distributions derived from cloud-side observations by the research scanning polarimeter: Tests on simulated data. Atmospheric Research, 2020, 239, 104924.	1.8	10
107	Snow Reconciles Observed and Simulated Phase Partitioning and Increases Cloud Feedback. Geophysical Research Letters, 2021, 48, e2021GL094876.	1.5	10
108	Estimating the Sensitivity of Radiative Impacts of Shallow, Broken Marine Clouds to Boundary Layer Aerosol Size Distribution Parameter Uncertainties for Evaluation of Satellite Retrieval Requirements. Journal of Atmospheric and Oceanic Technology, 2011, 28, 530-538.	0.5	7

#	Article	IF	Citations
109	Combining a receptor-oriented framework for tracer distributions with a cloud-resolving model to study transport in deep convective clouds: Application to the NASA CRYSTAL-FACE campaign. Geophysical Research Letters, 2004, 31, .	1.5	6
110	Influence of Humidified Aerosol on Lidar Depolarization Measurements below Ice-Precipitating Arctic Stratus. Journal of Applied Meteorology and Climatology, 2011, 50, 2184-2192.	0.6	6
111	Dilution of Boundary Layer Cloud Condensation Nucleus Concentrations by Free Tropospheric Entrainment During Marine Cold Air Outbreaks. Geophysical Research Letters, 2022, 49, .	1.5	6
112	Clouds and Clearings in the Atmospheres of the L and T Dwarfs. Symposium - International Astronomical Union, 2003, 211, 333-344.	0.1	4
113	The Earth Model Column Collaboratory (EMC²) v1.1: an open-source ground-based lidar and radar instrument simulator and subcolumn generator for large-scale models. Geoscientific Model Development, 2022, 15, 901-927.	1.3	4
114	On the Forward Modeling of Radar Doppler Spectrum Width From LES: Implications for Model Evaluation. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7444-7461.	1.2	3
115	The GASS/EUCLIPSE model intercomparison of the stratocumulus transition as observed during ASTEX: LES results. Journal of Advances in Modeling Earth Systems, 2013, , n/a-n/a.	1.3	3
116	Characterization of cloud microphysical parameters using airborne measurements by the research scanning polarimeter. , 2013, , .		2
117	Temporal and Spatial Variability of Clouds and Related Aerosols. , 2009, , 127-148.		2
118	A framework for quantifying the impacts of sub-pixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bi-spectral method. AIP Conference Proceedings, 2017, , .	0.3	1
119	The Role of Clouds in Brown Dwarf and Extrasolar Giant Planet Atmospheres. Symposium - International Astronomical Union, 2004, 202, 269-276.	0.1	0
120	Correction to â€œEvaluation of cloud-resolving model intercomparison simulations using TWP-ICE observations: Precipitation and cloud structureâ€• Journal of Geophysical Research, 2012, 117, n/a-n/a.	3.3	0