Xianglei Huang

List of Publications by Year
in descending order

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85 papers	2,136 citations	304743 22 h-index	254184 43 g-index
94 all docs	94 docs citations	94 times ranked	2363 citing authors

#	Article	IF	Citations
1	Performance of Cloud 3D Solvers in Ice Cloud Shortwave Radiation Closure Over the Equatorial Western Pacific Ocean. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	2
2	Retrieval of Surface Spectral Emissivity in Polar Regions Based on the Optimal Estimation Method. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	3
3	Synergistic Use of Farâ€•and Midâ€Infrared Spectral Radiances for Satelliteâ€Based Detection of Polar Ice Clouds Over Ocean. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	0
4	The Spectral Nature of Earthâ€™s Reflected Radiation: Measurement and Science Applications. Frontiers in Remote Sensing, 2021, 2, .	3.5	7
5	Direct Influence of Solar Spectral Irradiance on the High-Latitude Surface Climate. Journal of Climate, 2021, 34, 4145-4158.	3.2	7
6	The Polar Radiant Energy in the Far Infrared Experiment: A New Perspective on Polar Longwave Energy Exchanges. Bulletin of the American Meteorological Society, 2021, 102, E1431-E1449.	3.3	14
7	SNICAR-ADv3: a community tool for modeling spectral snow albedo. Geoscientific Model Development, 2021, 14, 7673-7704.	3.6	36
8	Direct impact of solar farm deployment on surface longwave radiation. Environmental Research Communications, 2021, 3, 125006.	2.3	2
9	Assessing the accuracy and efficiency of longwave radiative transfer models involving scattering effect with cloud optical property parameterizations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 240, 106683.	2.3	10
10	Improved Î´-Eddington approximation for optically thin clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 240, 106694.	2.3	4
11	Spaceborne Middleâ€•and Farâ€Infrared Observations Improving Nighttime Ice Cloud Property Retrievals. Geophysical Research Letters, 2020, 47, e2020GL087491.	4.0	8
12	Retrievals of Highâ€Latitude Surface Emissivity Across the Infrared From Highâ€Altitude Aircraft Flights. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033672.	3.3	4
13	Nearâ€Global CFCâ€11 Trends as Observed by Atmospheric Infrared Sounder From 2003 to 2018. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033051.	3.3	9
14	Impact of Cloud Longwave Scattering on Radiative Fluxes Associated With the Maddenâ€Julian Oscillation in the Indian Ocean and Maritime Continent. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032591.	3.3	6
15	Uncertainty in Satellite-Derived Surface Irradiances and Challenges in Producing Surface Radiation Budget Climate Data Record. Remote Sensing, 2020, 12, 1950.	4.0	5
16	FORUM: Unique Far-Infrared Satellite Observations to Better Understand How Earth Radiates Energy to Space. Bulletin of the American Meteorological Society, 2020, 101, E2030-E2046.	3.3	40
17	Evaluation of AIRS Cloud Phase Classification over the Arctic Ocean against Combined CloudSatâ€“CALIPSO Observations. Journal of Applied Meteorology and Climatology, 2020, 59, 1277-1294.	1.5	4
18	Intra-day Forecast of Ground Horizontal Irradiance Using Long Short-term Memory Network (LSTM). Journal of the Meteorological Society of Japan, 2020, 98, 945-957.	1.8	1

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19	Seasonal Dependent Impact of Ice Cloud Longwave Scattering on the Polar Climate. Geophysical Research Letters, 2020, 47, e2020GL090534.	4.0	4
20	An Algorithm to Derive Temperature and Humidity Profile Changes Using Spatially and Temporally Averaged Spectral Radiance Differences. Journal of Atmospheric and Oceanic Technology, 2020, 37, 1173-1187.	1.3	0
21	Satellite-observed changes of surface spectral reflectances due to solar farming and the implication for radiation budget. Environmental Research Letters, 2020, 15, 114047.	5.2	4
22	Temporal and Spatial Characteristics of Short-Term Cloud Feedback on Global and Local Interannual Climate Fluctuations from A-Train Observations. Journal of Climate, 2019, 32, 1875-1893.	3.2	7
23	The Spectral Dimension of Arctic Outgoing Longwave Radiation and Greenhouse Efficiency Trends From 2003 to 2016. Journal of Geophysical Research D: Atmospheres, 2019, 124, 8467-8480.	3.3	8
24	Accounting for Several Infrared Radiation Processes in Climate Models. Journal of Climate, 2019, 32, 4601-4620.	3.2	5
25	Bandâ€byâ€Band Contributions to the Longwave Cloud Radiative Feedbacks. Geophysical Research Letters, 2019, 46, 6998-7006.	4.0	6
26	The Effects of Surface Longwave Spectral Emissivity on Atmospheric Circulation and Convection over the Sahara and Sahel. Journal of Climate, 2019, 32, 4873-4890.	3.2	3
27	Challenges and Opportunities in The Far-IR Remote Sensing. , 2019, , .		0
28	Climate Response to Negative Greenhouse Gas Radiative Forcing in Polar Winter. Geophysical Research Letters, 2018, 45, 1997-2004.	4.0	12
29	Improved Representation of Surface Spectral Emissivity in a Global Climate Model and Its Impact on Simulated Climate. Journal of Climate, 2018, 31, 3711-3727.	3.2	24
30	Surface Irradiances of Edition 4.0 Clouds and the Earthâ€™s Radiant Energy System (CERES) Energy Balanced and Filled (EBAF) Data Product. Journal of Climate, 2018, 31, 4501-4527.	3.2	275
31	The Spectral Dimension of Modeled Relative Humidity Feedbacks in the CMIP5 Experiments. Journal of Climate, 2018, 31, 10021-10038.	3.2	5
32	Using AIRS and ARM SGP Clearâ€Sky Observations to Evaluate Meteorological Reanalyses: A Hyperspectral Radiance Closure Approach. Journal of Geophysical Research D: Atmospheres, 2018, 123, 11,720.	3.3	3
33	Evaluation of Radiative Transfer Models With Clouds. Journal of Geophysical Research D: Atmospheres, 2018, 123, 6142-6157.	3.3	28
34	Single-footprint retrievals for AIRS using a fast TwoSlab cloud-representation model and the SARTA all-sky infrared radiative transfer algorithm. Atmospheric Measurement Techniques, 2018, 11, 529-550.	3.1	23
35	Improvement of the Simulation of Cloud Longwave Scattering in Broadband Radiative Transfer Models. Journals of the Atmospheric Sciences, 2018, 75, 2217-2233.	1.7	16
36	The Stratospheric Changes Inferred from 10 Years of AIRS and AMSU-A Radiances. Journal of Climate, 2017, 30, 6005-6016.	3.2	10

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37	Running climate model on a commercial cloud computing environment: A case study using Community Earth System Model (CESM) on Amazon AWS. Computers and Geosciences, 2017, 98, 21-25.	4.2	14
38	Spectrally Dependent CLARREO Infrared Spectrometer Calibration Requirement for Climate Change Detection. Journal of Climate, 2017, 30, 3979-3998.	3.2	15
39	Retrievals of the Far Infrared Surface Emissivity Over the Greenland Plateau Using the Tropospheric Airborne Fourier Transform Spectrometer (TAFTS). Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,152.	3.3	11
40	Impact of Multiple Scattering on Longwave Radiative Transfer Involving Clouds. Journal of Advances in Modeling Earth Systems, 2017, 9, 3082-3098.	3.8	24
41	Deriving clear-sky longwave spectral flux from spaceborne hyperspectral radiance measurements: a case study with AIRS observations. Atmospheric Measurement Techniques, 2016, 9, 6013-6023.	3.1	2
42	On the Detection of Robust Multidecadal Changes in Earthâ€™s Outgoing Longwave Radiation Spectrum. Journal of Climate, 2016, 29, 4939-4947.	3.2	16
43	An assessment of the consistency between satellite measurements of upper tropospheric water vapor. Journal of Geophysical Research D: Atmospheres, 2016, 121, 2874-2887.	3.3	10
44	ENSO regulation of farâ€•and midâ€infrared contributions to clearâ€sky OLR. Geophysical Research Letters, 2016, 43, 8751-8759.	4.0	2
45	An Observationally Based Global Band-by-Band Surface Emissivity Dataset for Climate and Weather Simulations. Journals of the Atmospheric Sciences, 2016, 73, 3541-3555.	1.7	42
46	Quantification of the errors associated with the representation of surface emissivity in the RRTMG_LW. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 180, 167-176.	2.3	2
47	Observation-Based Longwave Cloud Radiative Kernels Derived from the A-Train. Journal of Climate, 2016, 29, 2023-2040.	3.2	28
48	Linear Trends and Closures of 10-yr Observations of AIRS Stratospheric Channels. Journal of Climate, 2015, 28, 8939-8950.	3.2	13
49	Derivation of clear-sky longwave spectral flux solely from hyperspectral observations: a case study with AIRS observations. , 2015, , .		0
50	The spectral dimension of longwave feedback in the CMIP3 and CMIP5 experiments. Geophysical Research Letters, 2014, 41, 7830-7837.	4.0	16
51	Sensitivity of modeled far-IR radiation budgets in polar continents to treatments of snow surface and ice cloud radiative properties. Geophysical Research Letters, 2014, 41, 6530-6537.	4.0	37
52	Usage of differential absorption method in the thermal IR: A case study of quick estimate of clear-sky column water vapor. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 140, 99-106.	2.3	7
53	Far-infrared surface emissivity and climate. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16297-16302.	7.1	46
54	Parallax Correction in the Analysis of Multiple Satellite Data Sets. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 965-969.	3.1	9

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55	A Global Climatology of Outgoing Longwave Spectral Cloud Radiative Effect and Associated Effective Cloud Properties. Journal of Climate, 2014, 27, 7475-7492.	3.2	17
56	A Physically Based Algorithm for Non-Blackbody Correction of Cloud-Top Temperature and Application to Convection Study. Journal of Applied Meteorology and Climatology, 2014, 53, 1844-1857.	1.5	11
57	A Radiativeâ€"Convective Equilibrium Perspective of Weakening of the Tropical Walker Circulation in Response to Global Warming. Journal of Climate, 2013, 26, 1643-1653.	3.2	5
58	Achieving Climate Change Absolute Accuracy in Orbit. Bulletin of the American Meteorological Society, 2013, 94, 1519-1539.	3.3	239
59	Comparisons of Clear-Sky Outgoing Far-IR Flux Inferred from Satellite Observations and Computed from the Three Most Recent Reanalysis Products. Journal of Climate, 2013, 26, 478-494.	3.2	19
60	CHASER: An Innovative Satellite Mission Concept to Measure the Effects of Aerosols on Clouds and Climate. Bulletin of the American Meteorological Society, 2013, 94, 685-694.	3.3	15
61	Longwave Band-By-Band Cloud Radiative Effect and Its Application in GCM Evaluation. Journal of Climate, 2013, 26, 450-467.	3.2	14
62	Nonâ€negligible effects of cloud vertical overlapping assumptions on longwave spectral fingerprinting studies. Journal of Geophysical Research D: Atmospheres, 2013, 118, 7309-7320.	3.3	23
63	Assessing Stability of CERES-FM3 Daytime Longwave Unfiltered Radiance with AIRS Radiances. Journal of Atmospheric and Oceanic Technology, 2012, 29, 375-381.	1.3	2
64	Aerosol forcing based on CAM5 and AM3 meteorological fields. Atmospheric Chemistry and Physics, 2012, 12, 9629-9652.	4.9	7
65	Advances in Understanding Top-of-Atmosphere Radiation Variability from Satellite Observations. Surveys in Geophysics, 2012, 33, 359-385.	4.6	117
66	Comparison of regime-sorted tropical cloud profiles observed by CloudSat with GEOS5 analyses and two general circulation model simulations. Journal of Geophysical Research, 2011, 116, .	3.3	36
67	Parallax correction in collocating CloudSat and Moderate Resolution Imaging Spectroradiometer (MODIS) observations: Method and application to convection study. Journal of Geophysical Research, 2011, 116, .	3.3	24
68	Temperature and Water Vapor Variance Scaling in Global Models: Comparisons to Satellite and Aircraft Data. Journals of the Atmospheric Sciences, 2011, 68, 2156-2168.	1.7	57
69	Spectrally resolved fluxes derived from collocated AIRS and CERES measurements and their application in model evaluation: 2. Cloudy sky and bandâ€byâ€band cloud radiative forcing over the tropical oceans. Journal of Geophysical Research, 2010, 115, .	3.3	23
70	Interannual variations of tropical upper tropospheric humidity and tropical rainyâ€region SST: Comparisons between models, reanalyses, and observations. Journal of Geophysical Research, 2010, 115, .	3.3	14
71	Ocean water vapor and cloud liquid water trends from 1992 to 2005 TOPEX Microwave Radiometer data. Journal of Geophysical Research, 2009, 114, .	3.3	5
72	Spectrally resolved fluxes derived from collocated AIRS and CERES measurements and their application in model evaluation: Clear sky over the tropical oceans. Journal of Geophysical Research, 2008, 113, .	3.3	37

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73	Cloud radiative effect on tropical troposphere to stratosphere transport represented in a largeâ€scale model. Geophysical Research Letters, 2008, 35, .	4.0	6
74	Winter-to-Spring Transition in East Asia: A Planetary-Scale Perspective of the South China Spring Rain Onset. Journal of Climate, 2008, 21, 3081-3096.	3.2	42
75	A strict test in climate modeling with spectrally resolved radiances: GCM simulation versus AIRS observations. Geophysical Research Letters, 2007, 34, .	4.0	51
76	Quantification of the source of errors in AM2 simulated tropical clear-sky outgoing longwave radiation. Journal of Geophysical Research, 2006, 111, .	3.3	24
77	Interaction of moist convection with zonal jets on Jupiter and Saturn. Icarus, 2006, 180, 113-123.	2.5	27
78	Application of principal component analysis to high spectral resolution radiative transfer: A case study of the band. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 95, 539-556.	2.3	55
79	The Radiative Signature of Upper Tropospheric Moistening. Science, 2005, 310, 841-844.	12.6	259
80	Spatial and spectral variability of the outgoing thermal IR spectra from AIRS: A case study of July 2003. Journal of Geophysical Research, 2005, 110, .	3.3	21
81	Interannual co-variability of tropical temperature and humidity: A comparison of model, reanalysis data and satellite observation. Geophysical Research Letters, 2005, 32, .	4.0	13
82	A Common Misunderstanding about the Voigt Line Profile. Journals of the Atmospheric Sciences, 2004, 61, 1630-1632.	1.7	24
83	Analysis of Thermal Emission Spectrometer data using spectralÂEOF andÂtri-spectral methods. Icarus, 2003, 165, 301-314.	2.5	2
84	Use of high-resolution measurements for the retrieval of temperature and gas-concentration profiles from outgoing infrared spectra in the presence of cirrus clouds. Applied Optics, 2003, 42, 2155.	2.1	7
85	Cloud variability as revealed in outgoing infrared spectra: Comparing model to observation with spectral EOF analysis. Geophysical Research Letters, 2002, 29, 111-1-111-4.	4.0	24