Xianglei Huang

List of Publications by Year
in descending order

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Version: 2024-02-01

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	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
2	The Radiative Signature of Upper Tropospheric Moistening. Science, 2005, 310, 841-844.	12.6	259
3	Achieving Climate Change Absolute Accuracy in Orbit. Bulletin of the American Meteorological Society, 2013, 94, 1519-1539.	3.3	239
4	Advances in Understanding Top-of-Atmosphere Radiation Variability from Satellite Observations. Surveys in Geophysics, 2012, 33, 359-385.	4.6	117
5	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
6	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
7	A strict test in climate modeling with spectrally resolved radiances: GCM simulation versus AIRS observations. Geophysical Research Letters, 2007, 34, .	4.0	51
8	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
9	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
10	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
11	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
12	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
13	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
14	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
15	SNICAR-ADv3: a community tool for modeling spectral snow albedo. Geoscientific Model Development, 2021, 14, 7673-7704.	3.6	36
16	Observation-Based Longwave Cloud Radiative Kernels Derived from the A-Train. Journal of Climate, 2016, 29, 2023-2040.	3.2	28
17	Evaluation of Radiative Transfer Models With Clouds. Journal of Geophysical Research D: Atmospheres, 2018, 123, 6142-6157.	3.3	28
18	Interaction of moist convection with zonal jets on Jupiter and Saturn. Icarus, 2006, 180, 113-123.	2.5	27

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19	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
20	A Common Misunderstanding about the Voigt Line Profile. Journals of the Atmospheric Sciences, 2004, 61, 1630-1632.	1.7	24
21	Quantification of the source of errors in AM2 simulated tropical clear-sky outgoing longwave radiation. Journal of Geophysical Research, 2006, 111, .	3.3	24
22	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
23	Impact of Multiple Scattering on Longwave Radiative Transfer Involving Clouds. Journal of Advances in Modeling Earth Systems, 2017, 9, 3082-3098.	3.8	24
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	The spectral dimension of longwave feedback in the CMIP3 and CMIP5 experiments. Geophysical Research Letters, 2014, 41, 7830-7837.	4.0	16
32	On the Detection of Robust Multidecadal Changes in Earthâ€™s Outgoing Longwave Radiation Spectrum. Journal of Climate, 2016, 29, 4939-4947.	3.2	16
33	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
34	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
35	Spectrally Dependent CLARREO Infrared Spectrometer Calibration Requirement for Climate Change Detection. Journal of Climate, 2017, 30, 3979-3998.	3.2	15
36	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

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37	Longwave Band-By-Band Cloud Radiative Effect and Its Application in GCM Evaluation. Journal of Climate, 2013, 26, 450-467.	3.2	14
38	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
39	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
40	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
41	Linear Trends and Closures of 10-yr Observations of AIRS Stratospheric Channels. Journal of Climate, 2015, 28, 8939-8950.	3.2	13
42	Climate Response to Negative Greenhouse Gas Radiative Forcing in Polar Winter. Geophysical Research Letters, 2018, 45, 1997-2004.	4.0	12
43	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
44	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
45	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
46	The Stratospheric Changes Inferred from 10 Years of AIRS and AMSU-A Radiances. Journal of Climate, 2017, 30, 6005-6016.	3.2	10
47	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
48	Parallax Correction in the Analysis of Multiple Satellite Data Sets. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 965-969.	3.1	9
49	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
50	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
51	Spaceborne Middleâ€and Farâ€Infrared Observations Improving Nighttime Ice Cloud Property Retrievals. Geophysical Research Letters, 2020, 47, e2020GL087491.	4.0	8
52	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
53	Aerosol forcing based on CAM5 and AM3 meteorological fields. Atmospheric Chemistry and Physics, 2012, 12, 9629-9652.	4.9	7
54	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

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55	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
56	The Spectral Nature of Earthâ€™s Reflected Radiation: Measurement and Science Applications. Frontiers in Remote Sensing, 2021, 2, .	3.5	7
57	Direct Influence of Solar Spectral Irradiance on the High-Latitude Surface Climate. Journal of Climate, 2021, 34, 4145-4158.	3.2	7
58	Cloud radiative effect on tropical troposphere to stratosphere transport represented in a largeâ€scale model. Geophysical Research Letters, 2008, 35, .	4.0	6
59	Bandâ€byâ€Band Contributions to the Longwave Cloud Radiative Feedbacks. Geophysical Research Letters, 2019, 46, 6998-7006.	4.0	6
60	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
61	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
62	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
63	The Spectral Dimension of Modeled Relative Humidity Feedbacks in the CMIP5 Experiments. Journal of Climate, 2018, 31, 10021-10038.	3.2	5
64	Accounting for Several Infrared Radiation Processes in Climate Models. Journal of Climate, 2019, 32, 4601-4620.	3.2	5
65	Uncertainty in Satellite-Derived Surface Irradiances and Challenges in Producing Surface Radiation Budget Climate Data Record. Remote Sensing, 2020, 12, 1950.	4.0	5
66	Improved Î´-Eddington approximation for optically thin clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 240, 106694.	2.3	4
67	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
68	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
69	Seasonal Dependent Impact of Ice Cloud Longwave Scattering on the Polar Climate. Geophysical Research Letters, 2020, 47, e2020GL090534.	4.0	4
70	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
71	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
72	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

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73	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
74	Analysis of Thermal Emission Spectrometer data using spectralÂEOF andÂtri-spectral methods. Icarus, 2003, 165, 301-314.	2.5	2
75	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
76	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
77	ENSO regulation of farâ€•and midâ€•infrared contributions to clearâ€•sky OLR. Geophysical Research Letters, 2016, 43, 8751-8759.	4.0	2
78	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
79	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
80	Direct impact of solar farm deployment on surface longwave radiation. Environmental Research Communications, 2021, 3, 125006.	2.3	2
81	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
82	Derivation of clear-sky longwave spectral flux solely from hyperspectral observations: a case study with AIRS observations. , 2015, , .		0
83	Challenges and Opportunities in The Far-IR Remote Sensing. , 2019, , .		0
84	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
85	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