Kuo-Nan Liou

List of Publications by Year
in descending order

140 papers	7,070 citations	71102 41 h-index	64796 79 g-index
142 all docs	142 docs citations	142 times ranked	4556 citing authors

#	Article	IF	Citations
1	Influence of Cirrus Clouds on Weather and Climate Processes: A Global Perspective. Monthly Weather Review, 1986, 114, 1167-1199.	1.4	875
2	Solar Radiative Transfer in Cirrus Clouds. Part I: Single-Scattering and Optical Properties of Hexagonal Ice Crystals. Journals of the Atmospheric Sciences, 1989, 46, 3-19.	1.7	467
3	CERES Edition-2 Cloud Property Retrievals Using TRMM VIRS and Terra and Aqua MODIS Dataâ€”Part I: Algorithms. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4374-4400.	6.3	410
4	Spectrally Consistent Scattering, Absorption, and Polarization Properties of Atmospheric Ice Crystals at Wavelengths from 0.2 to 100 Î¼m. Journals of the Atmospheric Sciences, 2013, 70, 330-347.	1.7	358
5	Change in household fuels dominates the decrease in PM _{2.5} exposure and premature mortality in China in 2005â€“2015. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12401-12406.	7.1	262
6	Heating Rates in Tropical Anvils. Journals of the Atmospheric Sciences, 1988, 45, 1606-1623.	1.7	224
7	A Simple Formulation of the Delta-Four-Stream Approximation for Radiative Transfer Parameterizations. Journals of the Atmospheric Sciences, 1988, 45, 1940-1948.	1.7	165
8	Polarized light scattering by hexagonal ice crystals: theory. Applied Optics, 1982, 21, 3569.	2.1	158
9	Remote Sensing of Liquid Water and Ice Cloud Optical Thickness and Effective Radius in the Arctic: Application of Airborne Multispectral MAS Data. Journal of Atmospheric and Oceanic Technology, 2004, 21, 857-875.	1.3	157
10	A Numerical Experiment on Chandrasekhar's Discrete-Ordinate Method for Radiative Transfer: Applications to Cloudy and Hazy Atmospheres. Journals of the Atmospheric Sciences, 1973, 30, 1303-1326.	1.7	143
11	On the radiative properties of ice clouds: Light scattering, remote sensing, and radiation parameterization. Advances in Atmospheric Sciences, 2015, 32, 32-63.	4.3	141
12	Inference of Cirrus Cloud Properties Using Satellite-observed Visible and Infrared Radiances. Part I: Parameterization of Radiance Fields. Journals of the Atmospheric Sciences, 1993, 50, 1279-1304.	1.7	126
13	Analytic Two-Stream and Four-Stream Solutions for Radiative Transfer. Journals of the Atmospheric Sciences, 1974, 31, 1473-1475.	1.7	121
14	Solar Radiative Transfer in Cirrus Clouds. Part II: Theory and Computation of Multiple Scattering in an Anisotropic Medium. Journals of the Atmospheric Sciences, 1989, 46, 20-36.	1.7	118
15	The role of cloud microphysical processes in climate: An assessment from a oneâ€dimensional perspective. Journal of Geophysical Research, 1989, 94, 8599-8607.	3.3	117
16	Black carbon radiative forcing over the Tibetan Plateau. Geophysical Research Letters, 2014, 41, 7806-7813.	4.0	100
17	Impact of Aviation on Climate: FAAâ€™s Aviation Climate Change Research Initiative (ACCRI) Phase II. Bulletin of the American Meteorological Society, 2016, 97, 561-583.	3.3	93
18	Ice microphysics and climatic temperature feedback. Atmospheric Research, 1995, 35, 127-138.	4.1	87

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19	Scattering of Polarized Laser Light by Water Droplet, Mixed-Phase and Ice Crystal Clouds. Part I: Angular Scattering Patterns. Journals of the Atmospheric Sciences, 1979, 36, 838-851.	1.7	86
20	Intensity and Polarization for Single Scattering by Polydisperse Spheres: A Comparison of Ray Optics and Mie Theory. Journals of the Atmospheric Sciences, 1971, 28, 995-1004.	1.7	82
21	Influence of Ice Particle Surface Roughening on the Global Cloud Radiative Effect. Journals of the Atmospheric Sciences, 2013, 70, 2794-2807.	1.7	72
22	Parameterization of the Radiative Properties of Clouds. Journals of the Atmospheric Sciences, 1979, 36, 1261-1273.	1.7	70
23	On the Absorption, Reflection and Transmission of Solar Radiation in Cloudy Atmospheres. Journals of the Atmospheric Sciences, 1976, 33, 798-805.	1.7	69
24	On the Transfer of Solar Radiation in Aerosol Atmospheres. Journals of the Atmospheric Sciences, 1975, 32, 2166-2177.	1.7	66
25	Impact of Snow Grain Shape and Black Carbonâ€“Snow Internal Mixing on Snow Optical Properties: Parameterizations for Climate Models. Journal of Climate, 2017, 30, 10019-10036.	3.2	66
26	Light Scattering by Ice Clouds in the Visible and Infrared: A Theoretical Study. Journals of the Atmospheric Sciences, 1972, 29, 524-536.	1.7	65
27	Ice nucleation by aerosols from anthropogenic pollution. Nature Geoscience, 2019, 12, 602-607.	12.9	62
28	Multiple Backscattering and Depolarization from Water Clouds for a Pulsed Lidar System. Journals of the Atmospheric Sciences, 1971, 28, 772-784.	1.7	61
29	Enhanced PM2.5 pollution in China due to aerosol-cloud interactions. Scientific Reports, 2017, 7, 4453.	3.3	61
30	Health co-benefits of achieving sustainable net-zero greenhouse gas emissions in California. Nature Sustainability, 2020, 3, 597-605.	23.7	61
31	Influence of convection and aerosol pollution on ice cloud particle effective radius. Atmospheric Chemistry and Physics, 2011, 11, 457-463.	4.9	59
32	Laser Sensing of Cloud Composition: A Backscattered Depolarization Technique. Journal of Applied Meteorology, 1974, 13, 257-263.	1.1	57
33	Scattering of Polarized Laser Light by Water Droplet, Mixed-Phase and Ice Crystal Clouds. Part II: Angular Depolarizing and Multiple-Scattering Behavior. Journals of the Atmospheric Sciences, 1979, 36, 852-861.	1.7	57
34	Cases-97: Late-Morning Warming And Moistening Of The Convective Boundary Layer Over The Walnut River Watershed. Boundary-Layer Meteorology, 2002, 104, 1-52.	2.3	57
35	Impact of Grain Shape and Multiple Black Carbon Internal Mixing on Snow Albedo: Parameterization and Radiative Effect Analysis. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1253-1268.	3.3	57
36	Electromagnetic Scattering by Arbitrarily Oriented Ice Cylinders. Applied Optics, 1972, 11, 667.	2.1	54

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37	Parameterization of Cloudâ€“Radiation Processes in the UCLA General Circulation Model. Journal of Climate, 2003, 16, 3357-3370.	3.2	53
38	Generalization of the spherical harmonic method to radiative transfer in multi-dimensional space. Journal of Quantitative Spectroscopy and Radiative Transfer, 1982, 28, 271-288.	2.3	49
39	Large-scale ice clouds in the GFDL SKYHI general circulation model. Journal of Geophysical Research, 1997, 102, 21745-21768.	3.3	49
40	The effects of the nonsphericity and size distribution of ice crystals on the radiative propertues of cirrus clouds. Atmospheric Research, 1989, 24, 273-284.	4.1	47
41	Investigation of Biogeophysical Feedback on the African Climate Using a Two-Dimensional Model. Journal of Climate, 1990, 3, 337-352.	3.2	46
42	Interactions of Radiation, Microphysics, and Turbulence in the Evolution of Cirrus Clouds. Journals of the Atmospheric Sciences, 2000, 57, 2463-2479.	1.7	44
43	Impact of cloudâ€radiative processes on hurricane track. Geophysical Research Letters, 2010, 37, .	4.0	43
44	Light Scattering by Hexagonal Ice Crystals. Journals of the Atmospheric Sciences, 1981, 38, 1260-1271.	1.7	42
45	Dust aerosol impact on North Africa climate: a GCM investigation of aerosol-cloud-radiation interactions using A-Train satellite data. Atmospheric Chemistry and Physics, 2012, 12, 1667-1679.	4.9	42
46	Wintertime Particulate Matter Decrease Buffered by Unfavorable Chemical Processes Despite Emissions Reductions in China. Geophysical Research Letters, 2020, 47, e2020GL087721.	4.0	40
47	Transfer of solar irradiance through cirrus cloud layers. Journal of Geophysical Research, 1973, 78, 1409-1418.	3.3	38
48	On the Radiative Properties of Cirrus in the Window Region and Their Influence on Remote Sensing of the Atmosphere. Journals of the Atmospheric Sciences, 1974, 31, 522-532.	1.7	38
49	Contrails and Induced Cirrus. Bulletin of the American Meteorological Society, 2010, 91, 473-478.	3.3	38
50	A Review of Ice Cloud Optical Property Models for Passive Satellite Remote Sensing. Atmosphere, 2018, 9, 499.	2.3	38
51	Applications of the discrete-ordinate method for radiative transfer to inhomogeneous aerosol atmospheres. Journal of Geophysical Research, 1975, 80, 3434-3440.	3.3	37
52	Impact of aerosols on ice crystal size. Atmospheric Chemistry and Physics, 2018, 18, 1065-1078.	4.9	37
53	Environmental impact of national and subnational carbon policies in China based on a multi-regional dynamic CGE model. Journal of Environmental Management, 2020, 270, 110901.	7.8	37
54	Calculations of Surface Radiation in Arid Regionsâ€”A Case Study. Journal of Applied Meteorology and Climatology, 1992, 31, 1084-1095.	1.7	35

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55	ON THE CONVERGENCE OF NUMERICAL COMPUTATIONS FOR BOTH EXACT AND APPROXIMATE SOLUTIONS FOR ELECTROMAGNETIC SCATTERING BY NONSPHERICAL DIELECTRIC PARTICLES (INVITED REVIEW). Progress in Electromagnetics Research, 2019, 164, 27-61.	4.4	34
56	Parameterization of Infrared Radiative Transfer in Cloudy Atmospheres. Journals of the Atmospheric Sciences, 1981, 38, 2707-2716.	1.7	33
57	Typeâ€Dependent Responses of Ice Cloud Properties to Aerosols From Satellite Retrievals. Geophysical Research Letters, 2018, 45, 3297-3306.	4.0	33
58	Light-scattering properties of plate and column ice crystals generated in a laboratory cold chamber. Applied Optics, 2002, 41, 5792.	2.1	32
59	Infrared Radiative Transfer in Finite Cloud Layers. Journals of the Atmospheric Sciences, 1979, 36, 1985-1996.	1.7	30
60	Simulating 3-D radiative transfer effects over the Sierra Nevada Mountains using WRF. Atmospheric Chemistry and Physics, 2012, 12, 9965-9976.	4.9	28
61	Close packing effects on clean and dirty snow albedo and associated climatic implications. Geophysical Research Letters, 2017, 44, 3719-3727.	4.0	28
62	Resolving Size Distribution of Black Carbon Internally Mixed With Snow: Impact on Snow Optical Properties and Albedo. Geophysical Research Letters, 2018, 45, 2697-2705.	4.0	28
63	Enhanced Snow Absorption and Albedo Reduction by Dustâ€Snow Internal Mixing: Modeling and Parameterization. Journal of Advances in Modeling Earth Systems, 2019, 11, 3755-3776.	3.8	28
64	Cirrus cloud horizontal and vertical inhomogeneity effects in a GCM. Meteorology and Atmospheric Physics, 2006, 91, 223-235.	2.0	27
65	Infrared Radiative Transfer in Polluted Atmospheres. Journal of Applied Meteorology, 1976, 15, 28-35.	1.1	26
66	Theory of Equilibrium Temperatures in Radiative-Turbulent Atmospheres. Journals of the Atmospheric Sciences, 1983, 40, 214-229.	1.7	26
67	Radiation Parameterization for Three-Dimensional Inhomogeneous Cirrus Clouds: Application to Climate Models. Journal of Climate, 2001, 14, 2443-2457.	3.2	26
68	Air Quality and Health Cobenefits of Different Deep Decarbonization Pathways in California. Environmental Science & Technology, 2019, 53, 7163-7171.	10.0	26
69	Influence of Cirrus Clouds on the Infrared Cooling Rate in the Troposphere and Lower Stratosphere. Journal of Applied Meteorology, 1978, 17, 92-106.	1.1	21
70	Polarized microwave radiation transfer in precipitating cloudy atmospheres: Applications to window frequencies. Journal of Geophysical Research, 1983, 88, 3885-3893.	3.3	21
71	Simulation of the global contrail radiative forcing: A sensitivity analysis. Geophysical Research Letters, 2012, 39, .	4.0	20
72	A complementary theory of light scattering by homogeneous spheres. Applied Mathematics and Computation, 1977, 3, 331-358.	2.2	19

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73	Modeling Study of the Air Quality Impact of Recordâ€Breaking Southern California Wildfires in December 2017. Journal of Geophysical Research D: Atmospheres, 2019, 124, 6554-6570.	3.3	19
74	Impact of 3â€D Radiationâ€Topography Interactions on Surface Temperature and Energy Budget Over the Tibetan Plateau in Winter. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1537-1549.	3.3	19
75	Climatic Effects of Cirrus Clouds. Advances in Geophysics, 1979, , 231-287.	2.8	18
76	A Two-Dimensional Radiation-Turbulence Climate Model. I: Sensitivity to Cirrus Radiative Properties. Journals of the Atmospheric Sciences, 1984, 41, 2289-2309.	1.7	18
77	Comparison of Cartesian grid configurations for application of the finite-difference time-domain method to electromagnetic scattering by dielectric particles. Applied Optics, 2004, 43, 4611.	2.1	17
78	Light scattering and absorption by nonspherical ice crystals. , 2006, , 31-71.		16
79	An Assessment of Tropospheric Water Vapor Feedback Using Radiative Kernels. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1499-1509.	3.3	16
80	Surface Brightening in Eastern and Central China Since the Implementation of the Clean Air Action in 2013: Causes and Implications. Geophysical Research Letters, 2021, 48, e2020GL091105.	4.0	16
81	Remote Sensing of the Thickness and Composition of Cirrus Clouds from Satellites. Journal of Applied Meteorology, 1977, 16, 91-99.	1.1	15
82	Atmospheric Liquid Water Content Derived from Parameterization of Nimbus 6 Scanning Microwave Spectrometer Data. Journal of Applied Meteorology, 1979, 18, 99-103.	1.1	15
83	Theory of Time-Dependent Multiple Backscattering from Clouds. Journals of the Atmospheric Sciences, 1981, 38, 1452-1466.	1.7	14
84	A Numerical Experiment on the Interactions of Radiation, Clouds and Dynamic Processes in a General Circulation Model. Journals of the Atmospheric Sciences, 1984, 41, 1513-1536.	1.7	14
85	Phase matrix for light scattering by concentrically stratified spheres: comparison of geometric optics and the â€œexactâ€•theory. Applied Optics, 2010, 49, 3990.	2.1	14
86	High cloud variations with surface temperature from 2002 to 2015: Contributions to atmospheric radiative cooling rate and precipitation changes. Journal of Geophysical Research D: Atmospheres, 2017, 122, 5457-5471.	3.3	14
87	Parameterization of carbon dioxide 15 Î¼m band absorption and emission. Journal of Geophysical Research, 1983, 88, 5203-5207.	3.3	13
88	Dynamic and Thermodynamic Influences of the Tibetan Plateau on the Atmosphere in a General Circulation Model. Journals of the Atmospheric Sciences, 1986, 43, 1340-1355.	1.7	13
89	Cloud and aerosol effects on the solar heating rate of the atmosphere. Tellus, 1978, 30, 62-70.	0.8	12
90	Numerical Experiments on the Thermal Equilibrium Temperature in Cirrus Cloudy Atmospheres. Journal of the Meteorological Society of Japan, 1982, 60, 570-582.	1.8	12

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91	Remote Sounding of Cloud Parameters from a Combination of Infrared and Microwave Channels. Journal of Climate and Applied Meteorology, 1983, 22, 201-213.	1.0	12
92	Retrieval of Cirrus Cloud Properties From the Atmospheric Infrared Sounder: The K-Coefficient Approach Using Cloud-Cleared Radiances as Input. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 1010-1024.	6.3	12
93	Mortality burdens in California due to air pollution attributable to local and nonlocal emissions. Environment International, 2019, 133, 105232.	10.0	12
94	Cloud and aerosol effects on the solar heating rate of the atmosphere. Tellus, 2022, 30, 62.	0.8	12
95	Halo phenomena modified by multiple scattering. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1990, 7, 885.	1.5	11
96	Diurnal effects in the composition of cirrus clouds. Geophysical Research Letters, 2003, 30, n/a-n/a.	4.0	11
97	An efficient diffusion approximation for 3D radiative transfer parameterization: application to cloudy atmospheres. Journal of Quantitative Spectroscopy and Radiative Transfer, 2005, 92, 189-200.	2.3	11
98	Parameterization of contrail radiative properties for climate studies. Geophysical Research Letters, 2012, 39, .	4.0	11
99	Time-Dependent Multiple Backscattering. Journals of the Atmospheric Sciences, 1971, 28, 824-827.	1.7	10
100	Interactive Cloud Formation and Climatic Temperature Perturbations. Journals of the Atmospheric Sciences, 1985, 42, 1969-1981.	1.7	10
101	On Depolarization of Visible Light from Water Clouds for a Monostatic Lidar. Journals of the Atmospheric Sciences, 1972, 29, 1000-1003.	1.7	9
102	Humidity effects on the radiative properties of a hazy atmosphere in the visible spectrum. Tellus, 1976, 28, 31-36.	0.8	9
103	The Impact of Direct Aerosol Radiative Forcing on Surface Insolation and Spring Snowmelt in the Southern Sierra Nevada. Journal of Hydrometeorology, 2006, 7, 976-983.	1.9	9
104	Satellite remote sensing of dust aerosol indirect effects on ice cloud formation. Applied Optics, 2009, 48, 633.	2.1	9
105	Atmospheric Ice and Water Content Derived from Parameterization of Nimbus 6 High-Resolution Infrared Sounder Data. Journal of Applied Meteorology, 1978, 17, 536-551.	1.1	8
106	Laser transmission-backscattering through inhomogeneous cirrus clouds. Applied Optics, 2002, 41, 5744.	2.1	7
107	Theory of the scattering-phase-matrix determination for ice crystals. Journal of the Optical Society of America, 1975, 65, 159.	1.2	6
108	Statistical Inference of Cloud Thickness from NOAA 4 Scanning Radiometer Data. Monthly Weather Review, 1977, 105, 99-107.	1.4	6

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109	An investigation of cloud/radiation interactions using threeâ€dimensional nephanalysis and earth radiation budget data bases. Journal of Geophysical Research, 1987, 92, 5540-5554.	3.3	6
110	Exploration of the remote sounding of infrared cooling rates due to water vapor. Meteorology and Atmospheric Physics, 1988, 38, 131-139.	2.0	6
111	Light Scattering by Hexagonal Columns and Plates. , 1980, , 207-218.		6
112	On the Convergence of Numerical Computations for Both Exact and Approximate Solutions for Electromagnetic Scattering by Nonspherical Dielectric Particles. Progress in Electromagnetics Research, 2019, 164, 27-61.	4.4	6
113	Remote sounding of the cirrus optical depth and temperature from 3.7 and 11 micrometer windows. Advances in Atmospheric Sciences, 1984, 1, 150-164.	4.3	5
114	Cumulus convection and climatic temperature perturbations. Journal of Geophysical Research, 1985, 90, 2223-2232.	3.3	5
115	Direct and semi-direct radiative effects of anthropogenic aerosols in the Western United States: Seasonal and geographical variations according to regional climate characteristics. Climatic Change, 2012, 111, 859-877.	3.6	5
116	Largeâ€scale meteorological control on the spatial pattern of wintertime PM 2.5 pollution over China. Atmospheric Science Letters, 2019, 20, e938.	1.9	5
117	Modeling study of the impact of complex terrain on the surface energy and hydrology over the Tibetan Plateau. Climate Dynamics, 2019, 53, 6919-6932.	3.8	5
118	Humidity effects on the radiative properties of a hazy atmosphere in the visible spectrum. Tellus, 2022, 28, 31.	0.8	4
119	Preliminary Experiments on the Scattering of Polarized Laser Light by Ice Crystals. Journals of the Atmospheric Sciences, 1976, 33, 553-557.	1.7	4
120	Sensitivity of upwelling radiance in nimbus 6 HIRS channels to multilayered clouds. Journal of Geophysical Research, 1977, 82, 5977-5989.	3.3	4
121	Some Examples of the Effects of Clouds and Precipitation on the Temperature Profile Retrieval for DMSP SSM/T Microwave Sounders. Journal of Applied Meteorology, 1981, 20, 821-825.	1.1	4
122	Radiative properties of cirrus clouds in NOAA 4 VTPR channels: Some explorations of cloud scenes from satellites. Pure and Applied Geophysics, 1978, 116, 1007-1029.	1.9	3
123	Numerical experiments on the Helmholtz equation derived from the solar radiation transfer equation in three-dimensional space. Applied Mathematics and Computation, 1980, 7, 155-175.	2.2	3
124	Cloud Parameters and Temperature Profile Retrieval from Infrared Sounder Data. Journals of the Atmospheric Sciences, 1985, 42, 2360-2370.	1.7	3
125	Evolution of the variability of surface temperature and vegetation density in the great plains. Advances in Water Resources, 2007, 30, 1094-1104.	3.8	3
126	Satellite-Derived Aerosol Optical Depth Fusion Combining Active and Passive Remote Sensing Based on Bayesian Maximum Entropy. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-13.	6.3	3

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127	Polar nephelometers for light scattering by ice crystals and aerosols: design and measurements. , 2012, , 3-37.		3
128	SOME ASPECTS OF THE OPTICAL PROPERTIES OF ICE CLOUDS. , 1981, , 315-354.		3
129	Effects of horizontal orientation on the radiative properties of ice clouds. Advances in Atmospheric Sciences, 1985, 2, 20-27.	4.3	2
130	Circular polarization signal for aerosols and clouds. , 2005, , .		2
131	Recent Progress in Atmospheric Radiation1. Bulletin of the American Meteorological Society, 1984, 65, 475-484.	3.3	2
132	Can the Changes in Cloud Thickness be Monitored from Satellite-Brightness Measurements?. Journal of Applied Meteorology, 1975, 14, 644-645.	1.1	1
133	Remote sensing of cirrus cloud parameters using AVHRR data. , 1993, 1934, 217.		1
134	Origin of Kernâ€™s arc. Applied Optics, 1997, 36, 3560.	2.1	1
135	Impacts of Saharan Mineral Dust on Airâ€Sea Interaction over North Atlantic Ocean Using a Fully Coupled Regional Model. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033586.	3.3	1
136	Investigation of Springtime Cloud Influence on Regional Climate and Its Implication in Runoff Decline in Upper Colorado River Basin. Earth and Space Science, 2022, 9, .	2.6	1
137	Comments on â€œA Bispectral Method for Cloud Parameter Determinationâ€• Monthly Weather Review, 1977, 105, 1603-1604.	1.4	0
138	Calculation on the light scattering function of hexagonal ice crystals. Advances in Atmospheric Sciences, 1985, 2, 446-454.	4.3	0
139	Radiative transfer and regional climate change. , 2013, , .		0
140	Retrieval of Vertical Profile of Cirrus Cloud Effective Particle Size Using Reflected Line Spectra in 1.38ÂÎ¼m Band. Earth and Space Science, 2020, 7, e2020EA001119.	2.6	0