Bryan A Baum

List of Publications by Year
in descending order

128 papers	8,074 citations	57631 44 h-index	53109 85 g-index
138 all docs	138 docs citations	138 times ranked	3992 citing authors

#	Article	IF	Citations
1	The MODIS cloud products: algorithms and examples from terra. IEEE Transactions on Geoscience and Remote Sensing, 2003, 41, 459-473.	2.7	1,497
2	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.	0.6	358
3	Scattering and absorption property database for nonspherical ice particles in the near- through far-infrared spectral region. Applied Optics, 2005, 44, 5512.	2.1	284
4	CALIPSO/CALIOP Cloud Phase Discrimination Algorithm. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2293-2309.	0.5	261
5	MODIS Global Cloud-Top Pressure and Amount Estimation: Algorithm Description and Results. Journal of Applied Meteorology and Climatology, 2008, 47, 1175-1198.	0.6	256
6	Bulk Scattering Properties for the Remote Sensing of Ice Clouds. Part I: Microphysical Data and Models. Journal of Applied Meteorology and Climatology, 2005, 44, 1885-1895.	1.7	220
7	Clouds and the Earth's Radiant Energy System (CERES): algorithm overview. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 1127-1141.	2.7	218
8	Bulk Scattering Properties for the Remote Sensing of Ice Clouds. Part II: Narrowband Models. Journal of Applied Meteorology and Climatology, 2005, 44, 1896-1911.	1.7	216
9	MODIS Cloud-Top Property Refinements for Collection 6. Journal of Applied Meteorology and Climatology, 2012, 51, 1145-1163.	0.6	192
10	Improvements in Shortwave Bulk Scattering and Absorption Models for the Remote Sensing of Ice Clouds. Journal of Applied Meteorology and Climatology, 2011, 50, 1037-1056.	0.6	175
11	Remote sensing of cloud properties using MODIS airborne simulator imagery during SUCCESS: 2. Cloud thermodynamic phase. Journal of Geophysical Research, 2000, 105, 11781-11792.	3.3	157
12	On the radiative properties of ice clouds: Light scattering, remote sensing, and radiation parameterization. Advances in Atmospheric Sciences, 2015, 32, 32-63.	1.9	141
13	Scattering and absorption of light by ice particles: Solution by a new physical-geometric optics hybrid method. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1492-1508.	1.1	132
14	Ice cloud single-scattering property models with the full phase matrix at wavelengths from 0.2 to 100Âµm. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 146, 123-139.	1.1	126
15	Parameterization of shortwave ice cloud optical properties for various particle habits. Journal of Geophysical Research, 2002, 107, AAC 7-1.	3.3	120
16	Single-scattering properties of droxtals. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 1159-1169.	1.1	115
17	Remote sensing of cloud properties using MODIS airborne simulator imagery during SUCCESS: 1. Data and models. Journal of Geophysical Research, 2000, 105, 11767-11780.	3.3	106
18	Identification of cloud phase from PICASSO-CENA lidar depolarization: a multiple scattering sensitivity study. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 70, 569-579.	1.1	90

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19	Validation of the community radiative transfer model. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1050-1064.	1.1	87
20	Radiative properties of cirrus clouds in the infrared (8â€“) spectral region. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 70, 473-504.	1.1	79
21	Inherent and apparent scattering properties of coated or uncoated spheres embedded in an absorbing host medium. Applied Optics, 2002, 41, 2740.	2.1	76
22	Retrieval of semitransparent ice cloud optical thickness from atmospheric infrared sounder (AIRS) measurements. IEEE Transactions on Geoscience and Remote Sensing, 2004, 42, 2254-2267.	2.7	76
23	Inference of ice cloud properties from high spectral resolution infrared observations. IEEE Transactions on Geoscience and Remote Sensing, 2004, 42, 842-853.	2.7	75
24	Influence of ice particle model on satellite ice cloud retrieval: lessons learned from MODIS and POLDER cloud product comparison. Atmospheric Chemistry and Physics, 2009, 9, 7115-7129.	1.9	75
25	Multilayer Cloud Detection with the MODIS Near-Infrared Water Vapor Absorption Band. Journal of Applied Meteorology and Climatology, 2010, 49, 2315-2333.	0.6	75
26	Ice Water Pathâ€“Optical Depth Relationships for Cirrus and Deep Stratiform Ice Cloud Layers. Journal of Applied Meteorology and Climatology, 2003, 42, 1369-1390.	1.7	73
27	Automated Cloud Classification of Global AVHRR Data Using a Fuzzy Logic Approach. Journal of Applied Meteorology and Climatology, 1997, 36, 1519-1540.	1.7	72
28	Influence of Ice Particle Surface Roughening on the Global Cloud Radiative Effect. Journals of the Atmospheric Sciences, 2013, 70, 2794-2807.	0.6	72
29	Cloud thermodynamic phase inferred from merged POLDER and MODIS data. Atmospheric Chemistry and Physics, 2010, 10, 11851-11865.	1.9	70
30	Geometrical-optics solution to light scattering by droxtal ice crystals. Applied Optics, 2004, 43, 2490.	2.1	69
31	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
32	A comparison of cloud top heights computed from airborne lidar and MAS radiance data using CO2slicing. Journal of Geophysical Research, 1999, 104, 24547-24555.	3.3	61
33	Sensitivity of cirrus bidirectional reflectance to vertical inhomogeneity of ice crystal habits and size distributions for two Moderate-Resolution Imaging Spectroradiometer (MODIS) bands. Journal of Geophysical Research, 2001, 106, 17267-17291.	3.3	60
34	Bulk Scattering Properties for the Remote Sensing of Ice Clouds. Part III: High-Resolution Spectral Models from 100 to 3250 cmâ¯1. Journal of Applied Meteorology and Climatology, 2007, 46, 423-434.	0.6	59
35	Differences Between Collection 4 and 5 MODIS Ice Cloud Optical/Microphysical Products and Their Impact on Radiative Forcing Simulations. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 2886-2899.	2.7	59
36	High Cloud Properties from Three Years of MODIS Terra and Aqua Collection-4 Data over the Tropics. Journal of Applied Meteorology and Climatology, 2007, 46, 1840-1856.	0.6	58

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37	Multilevel cloud retrieval using multispectral HIRS and AVHRR data: Nighttime oceanic analysis. Journal of Geophysical Research, 1994, 99, 5499.	3.3	57
38	Sensitivity of the backscattering Mueller matrix to particle shape and thermodynamic phase. Applied Optics, 2003, 42, 4389.	2.1	54
39	Remote sensing of cloud top pressure/height from SEVIRI: analysis of ten current retrieval algorithms. Atmospheric Measurement Techniques, 2014, 7, 2839-2867.	1.2	54
40	Ice particle habit and surface roughness derived from PARASOL polarization measurements. Atmospheric Chemistry and Physics, 2014, 14, 3739-3750.	1.9	54
41	Comparison of PARASOL Observations with Polarized Reflectances Simulated Using Different Ice Habit Mixtures. Journal of Applied Meteorology and Climatology, 2013, 52, 186-196.	0.6	52
42	Cirrus Cloud Retrieval Using Infrared Sounding Data: Multilevel Cloud Errors. Journal of Applied Meteorology and Climatology, 1994, 33, 107-117.	1.7	49
43	The impact of ice particle roughness on the scattering phase matrix. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 2534-2549.	1.1	49
44	Retrieval of Ice Cloud Optical Thickness and Effective Particle Size Using a Fast Infrared Radiative Transfer Model. Journal of Applied Meteorology and Climatology, 2011, 50, 2283-2297.	0.6	48
45	Using CALIPSO to explore the sensitivity to cirrus height in the infrared observations from NPOESS/VIIRS and GOESâ€R/ABI. Journal of Geophysical Research, 2010, 115, .	3.3	47
46	Spectral signature of ice clouds in the far-infrared region: Single-scattering calculations and radiative sensitivity study. Journal of Geophysical Research, 2003, 108, .	3.3	46
47	A Grouped Threshold Approach for Scene Identification in AVHRR Imagery. Journal of Atmospheric and Oceanic Technology, 1999, 16, 793-800.	0.5	45
48	Simulation of the color ratio associated with the backscattering of radiation by ice particles at the wavelengths of 0.532 and 1.064 Î¼m. Journal of Geophysical Research, 2009, 114, .	3.3	45
49	Cloud Property Retrieval from Multiband Infrared Measurements by Himawari-8. Journal of the Meteorological Society of Japan, 2018, 96B, 27-42.	0.7	45
50	Satellite Remote Sensing of Multiple Cloud Layers. Journals of the Atmospheric Sciences, 1995, 52, 4210-4230.	0.6	43
51	Intercomparison of multiple years of MODIS, MISR and radar cloud-top heights. Annales Geophysicae, 2005, 23, 2415-2424.	0.6	42
52	Assessment of the Quality of MODIS Cloud Products from Radiance Simulations. Journal of Applied Meteorology and Climatology, 2009, 48, 1591-1612.	0.6	42
53	Scattering database in the millimeter and submillimeter wave range of 100â€“1000 GHz for nonspherical ice particles. Journal of Geophysical Research, 2009, 114, .	3.3	41
54	Study of Horizontally Oriented Ice Crystals with CALIPSO Observations and Comparison with Monte Carlo Radiative Transfer Simulations. Journal of Applied Meteorology and Climatology, 2012, 51, 1426-1439.	0.6	41

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55	Effect of Cavities on the Optical Properties of Bullet Rosettes: Implications for Active and Passive Remote Sensing of Ice Cloud Properties. Journal of Applied Meteorology and Climatology, 2008, 47, 2311-2330.	0.6	40
56	Parameterization of Shortwave and Longwave Radiative Properties of Ice Clouds for Use in Climate Models. Journal of Climate, 2009, 22, 6287-6312.	1.2	40
57	ATMOS/ATLAS 3 INFRARED PROFILE MEASUREMENTS OF TRACE GASES IN THE NOVEMBER 1994 TROPICAL AND SUBTROPICAL UPPER TROPOSPHERE. Journal of Quantitative Spectroscopy and Radiative Transfer, 1998, 60, 891-901.	1.1	38
58	Remote sensing of cloud properties using MODIS airborne simulator imagery during SUCCESS: 3. Cloud Overlap. Journal of Geophysical Research, 2000, 105, 11793-11804.	3.3	38
59	Sensitivity of depolarized lidar signals to cloud and aerosol particle properties. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 100, 470-482.	1.1	38
60	A Review of Ice Cloud Optical Property Models for Passive Satellite Remote Sensing. Atmosphere, 2018, 9, 499.	1.0	38
61	Simulation of the optical properties of plate aggregates for application to the remote sensing of cirrus clouds. Applied Optics, 2011, 50, 1065.	2.1	36
62	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
63	The Development of Midlatitude Cirrus Models for MODIS Using FIRE-I, FIRE-II, and ARM In Situ Data. Journal of Applied Meteorology and Climatology, 2002, 41, 197-217.	1.7	34
64	Nighttime Multilayered Cloud Detection Using MODIS and ARM Data. Journal of Applied Meteorology and Climatology, 2003, 42, 905-919.	1.7	34
65	A comparison of Aqua MODIS ice and liquid water cloud physical and optical properties between collection 6 and collection 5.1: Cloud radiative effects. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4550-4564.	1.2	33
66	Frequency and distribution of forest, savanna, and crop fires over tropical regions during PEM-Tropics A. Journal of Geophysical Research, 1999, 104, 5865-5876.	3.3	32
67	Retrieval of Cirrus Cloud Optical Depth under Day and Night Conditions from MODIS Collection 6 Cloud Property Data. Remote Sensing, 2015, 7, 7257-7271.	1.8	31
68	The spectral signature of mixed-phase clouds composed of non-spherical ice crystals and spherical liquid droplets in the terrestrial window region. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 1171-1188.	1.1	30
69	Assessment of the accuracy of the conventional ray-tracing technique: Implications in remote sensing and radiative transfer involving ice clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 146, 158-174.	1.1	29
70	Retrieval of Ice Cloud Properties from AIRS and MODIS Observations Based on a Fast High-Spectral-Resolution Radiative Transfer Model. Journal of Applied Meteorology and Climatology, 2013, 52, 710-726.	0.6	28
71	Introduction to MODIS Cloud Products. , 2006, , 74-91.		27
72	Asymptotic solutions for optical properties of large particles with strong absorption. Applied Optics, 2001, 40, 1532.	2.1	26

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73	Estimates of radiation over clouds and dust aerosols: Optimized number of terms in phase function expansion. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1190-1198.	1.1	26
74	Use of circular cylinders as surrogates for hexagonal pristine ice crystals in scattering calculations at infrared wavelengths. Applied Optics, 2003, 42, 2653.	2.1	25
75	The Sensitivity of Ice Cloud Optical and Microphysical Passive Satellite Retrievals to Cloud Geometrical Thickness. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1315-1323.	2.7	25
76	A fast infrared radiative transfer model based on the addingâ€“doubling method for hyperspectral remote-sensing applications. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 105, 243-263.	1.1	25
77	Comparison of MISR and MODIS cloud-top heights in the presence of cloud overlap. Remote Sensing of Environment, 2007, 107, 200-210.	4.6	25
78	Degree of ice particle surface roughness inferred from polarimetric observations. Atmospheric Chemistry and Physics, 2016, 16, 7545-7558.	1.9	25
79	Daytime Multilayered Cloud Detection Using Multispectral Imager Data. Journal of Atmospheric and Oceanic Technology, 2004, 21, 1145-1155.	0.5	24
80	A fast infrared radiative transfer model for overlapping clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 103, 447-459.	1.1	24
81	A new look at anomalous diffraction theory (ADT): Algorithm in cumulative projected-area distribution domain and modified ADT. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 89, 421-442.	1.1	23
82	Diffraction and external reflection by dielectric faceted particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 163-173.	1.1	23
83	A comparison of Aqua MODIS ice and liquid water cloud physical and optical properties between collection 6 and collection 5.1: Pixelâ€toâ€pixel comparisons. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4528-4549.	1.2	23
84	Enhanced lidar backscattering by quasi-horizontally oriented ice crystal plates in cirrus clouds. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 1139-1157.	1.1	21
85	Retrieval of cirrus properties by Sun photometry: A new perspective on an old issue. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4503-4520.	1.2	21
86	Comparison of cloud statistics from spaceborne lidar systems. Atmospheric Chemistry and Physics, 2008, 8, 6965-6977.	1.9	20
87	Impact of pollution on the optical properties of transâ€Pacific East Asian dust from satellite and groundâ€based measurements. Journal of Geophysical Research D: Atmospheres, 2014, 119, 5397-5409.	1.2	19
88	ATMOS/ATLAS 3 INFRARED PROFILE MEASUREMENTS OF CLOUDS IN THE TROPICAL AND SUBTROPICAL UPPER TROPOSPHERE. Journal of Quantitative Spectroscopy and Radiative Transfer, 1998, 60, 903-919.	1.1	18
89	Observations and modeling of ice cloud shortwave spectral albedo during the Tropical Composition, Cloud and Climate Coupling Experiment (TC⁴). Journal of Geophysical Research, 2010, 115, .	3.3	18
90	A fast radiative transfer model for visible through shortwave infrared spectral reflectances in clear and cloudy atmospheres. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 116, 122-131.	1.1	17

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91	Estimation of the cirrus cloud scattering phase function from satellite observations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 138, 36-49.	1.1	17
92	Reprocessing of HIRS Satellite Measurements from 1980 to 2015: Development toward a Consistent Decadal Cloud Record. Journal of Applied Meteorology and Climatology, 2016, 55, 2397-2410.	0.6	17
93	Cloud-Property Retrieval Using Merged HIRS and AVHRR Data. Journal of Applied Meteorology and Climatology, 1992, 31, 351-369.	1.7	16
94	Influence of Cloud-Top Height and Geometric Thickness on a MODIS Infrared-Based Ice Cloud Retrieval. Journal of Applied Meteorology and Climatology, 2009, 48, 818-832.	0.6	16
95	Improvement of the Simulation of Cloud Longwave Scattering in Broadband Radiative Transfer Models. Journals of the Atmospheric Sciences, 2018, 75, 2217-2233.	0.6	16
96	A Multispectral Technique for Detecting Low-Level Cloudiness near Sunrise. Journal of Atmospheric and Oceanic Technology, 2007, 24, 1800-1810.	0.5	14
97	Relationship between ice water content and equivalent radar reflectivity for clouds consisting of nonspherical ice particles. Journal of Geophysical Research, 2008, 113, .	3.3	14
98	Impacts of subpixel cloud heterogeneity on infrared thermodynamic phase assessment. Journal of Geophysical Research, 2011, 116, .	3.3	13
99	Considering polarization in MODIS-based cloud property retrievals by using a vector radiative transfer code. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 146, 540-548.	1.1	13
100	Detecting opaque and nonopaque tropical upper tropospheric ice clouds: A trispectral technique based on the MODIS 8â€“12 Î¼m window bands. Journal of Geophysical Research, 2010, 115, .	3.3	12
101	Evaluating and Improving Cloud Parameter Retrievals. Bulletin of the American Meteorological Society, 2013, 94, ES41-ES44.	1.7	12
102	The Influence of Thermodynamic Phase on the Retrieval of Mixed-Phase Cloud Microphysical and Optical Properties in the Visible and Near-Infrared Region. IEEE Geoscience and Remote Sensing Letters, 2006, 3, 287-291.	1.4	10
103	An efficient method for computing atmospheric radiances in clear-sky and cloudy conditions. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 109-118.	1.1	10
104	Ice Cloud Optical Thickness, Effective Radius, And Ice Water Path Inferred From Fused MISR and MODIS Measurements Based on a Pixelâ€Level Optimal Ice Particle Roughness Model. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12126-12140.	1.2	9
105	A test of the ability of current bulk optical models to represent the radiative properties of cirrus cloud across the mid- and far-infrared. Atmospheric Chemistry and Physics, 2020, 20, 12889-12903.	1.9	9
106	A Uniform Spaceâ€“Time Gridding Algorithm for Comparison of Satellite Data Products: Characterization and Sensitivity Study. Journal of Applied Meteorology and Climatology, 2013, 52, 255-268.	0.6	8
107	Toward Global Harmonization of Derived Cloud Products. Bulletin of the American Meteorological Society, 2017, 98, ES49-ES52.	1.7	8
108	Design and Implementation of a Prototype Data System for Earth Radiation Budget, Cloud, Aerosol, and Chemistry Data. Bulletin of the American Meteorological Society, 1993, 74, 591-598.	1.7	7

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109	Inference of an Optimal Ice Particle Model through Latitudinal Analysis of MISR and MODIS Data. Remote Sensing, 2018, 10, 1981.	1.8	6
110	An Approach for Improving Cirrus Cloud-Top Pressure/Height Estimation by Merging High-Spatial-Resolution Infrared-Window Imager Data with High-Spectral-Resolution Sounder Data. Journal of Applied Meteorology and Climatology, 2012, 51, 1477-1488.	0.6	5
111	Summary of the Fourth Cloud Retrieval Evaluation Workshop. Bulletin of the American Meteorological Society, 2015, 96, ES71-ES74.	1.7	5
112	Improvement in cloud retrievals from VIIRS through the use of infrared absorption channels constructed from VIIRS+CrIS data fusion. Atmospheric Measurement Techniques, 2020, 13, 4035-4049.	1.2	5
113	Potential nighttime contamination of CERES clear-sky fields of view by optically thin cirrus during the CRYSTAL-FACE campaign. Journal of Geophysical Research, 2006, 111, .	3.3	3
114	Correction to â€œUsing CALIPSO to explore the sensitivity to cirrus height in the infrared observations from NPOESS/VIIRS and GOES-R/ABIâ€• Journal of Geophysical Research, 2010, 115, .	3.3	3
115	A new approach to retrieving cirrus cloud height with a combination of MODIS 1.24â€•and 1.38â€Î¼m channels. Geophysical Research Letters, 2012, 39, .	1.5	3
116	Optical Property Model for Cirrus Clouds Based on Airborne Multi-Angle Polarization Observations. Remote Sensing, 2021, 13, 2754.	1.8	3
117	Development of a GOES-R Advanced Baseline Imager Solar Channel Radiance Simulator for Ice Clouds. Journal of Applied Meteorology and Climatology, 2013, 52, 872-888.	0.6	2
118	Use of spectral cloud emissivities and their related uncertainties to infer ice cloud boundaries: methodology and assessment using CALIPSO cloud products. Atmospheric Measurement Techniques, 2019, 12, 5039-5054.	1.2	2
119	Improvement in tropospheric moisture retrievals from VIIRS through the use of infrared absorption bands constructed from VIIRS and CrIS data fusion. Atmospheric Measurement Techniques, 2021, 14, 1191-1203.	1.2	2
120	Mulitlayer Cloud Detection in the MODIS Collection 5 Cloud Product. , 2007, , .		2
121	Improvement of Cloud Thermodynamic Phase Assessment Using Infrared Hyperspectral Measurements. , 2007, , .		2
122	Exploration of the MODIS Cloud-Top Property Products for the Investigation of Equatorial Wave Systems. Journal of Applied Meteorology and Climatology, 2010, 49, 2050-2057.	0.6	1
123	Development of Ice Cloud Microphysical and Optical Models at Visible to Far-Infrared Wavelengths. , 2005, , .		1
124	The Next Generation of Ice Cloud Bulk Scattering/Absorption Models at Visible through Infrared Wavelengths. , 2011, , .		1
125	Hyperspectral Cloud and Aerosol Optical and Radiative Properties Modeling and Applications. , 2007, , .		0
126	Inference and Validation of Cloud Phase from MODIS, AIRS and CALIPSO Data. , 2007, , .		0

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127	Diurnal and seasonal contrasts in cloud properties from AIRS data. , 2007, , .		0
128	Sensitivity of Monthly Cloud Statistics to Space and Time Considerations. , 2011, , .		0