Warren J Wiscombe

List of Publications by Year
in descending order

101	11,013	76326 40	39675 94
papers	citations	h-index	g-index

105	105	105	6521
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Numerically stable algorithm for discrete-ordinate-method radiative transfer in multiple scattering and emitting layered media. Applied Optics, 1988, 27, 2502.	2.1	2,812
2	A Model for the Spectral Albedo of Snow. I: Pure Snow. Journals of the Atmospheric Sciences, 1980, 37, 2712-2733.	1.7	1,275
3	A Model for the Spectral Albedo of Snow. II: Snow Containing Atmospheric Aerosols. Journals of the Atmospheric Sciences, 1980, 37, 2734-2745.	1.7	1,048
4	The Albedo of Fractal Stratocumulus Clouds. Journals of the Atmospheric Sciences, 1994, 51, 2434-2455.	1.7	484
5	Multifractal characterizations of nonstationarity and intermittency in geophysical fields: Observed, retrieved, or simulated. Journal of Geophysical Research, 1994, 99, 8055.	3.3	308
6	Exponential-sum fitting of radiative transmission functions. Journal of Computational Physics, 1977, 24, 416-444.	3.8	241
7	The Backscattered Fraction in two-stream Approximations. Journals of the Atmospheric Sciences, 1976, 33, 2440-2451.	1.7	221
8	Independent Pixel and Monte Carlo Estimates of Stratocumulus Albedo. Journals of the Atmospheric Sciences, 1994, 51, 3776-3790.	1.7	212
9	Thin Liquid Water Clouds: Their Importance and Our Challenge. Bulletin of the American Meteorological Society, 2007, 88, 177-190.	3.3	195
10	Radiative smoothing in fractal clouds. Journal of Geophysical Research, 1995, 100, 26247.	3.3	183
11	The Landsat Scale Break in Stratocumulus as a Three-Dimensional Radiative Transfer Effect: Implications for Cloud Remote Sensing. Journals of the Atmospheric Sciences, 1997, 54, 241-260.	1.7	180
12	Modeling of the scattering and radiative properties of nonspherical dust-like aerosols. Journal of Aerosol Science, 2007, 38, 995-1014.	3.8	180
13	Dirty snow after nuclear war. Nature, 1985, 313, 467-470.	27.8	173
14	Efficiency Factors in Mie Scattering. Physical Review Letters, 1980, 45, 1490-1494.	7.8	168
15	Cirrus cloud detection from Airborne Imaging Spectrometer data using the 1.38 Âµm water vapor band. Geophysical Research Letters, 1993, 20, 301-304.	4.0	168
16	Scale Invariance of Liquid Water Distributions in Marine Stratocumulus. Part I: Spectral Properties and Stationarity Issues. Journals of the Atmospheric Sciences, 1996, 53, 1538-1558.	1.7	162
17	CLOUDS AND MORE: ARM Climate Modeling Best Estimate Data. Bulletin of the American Meteorological Society, 2010, 91, 13-20.	3.3	139
18	Bounded cascade models as nonstationary multifractals. Physical Review E, 1994, 49, 55-69.	2.1	134

#	Article	IF	Citations
19	Scattering from nonspherical Chebyshev particles I: cross sections, single-scattering albedo, asymmetry factor, and backscattered fraction. Applied Optics, 1986, 25, 1235.	2.1	124
20	An algorithm using visible and 1.38-Î¼m channels to retrieve cirrus cloud reflectances from aircraft and satellite data. IEEE Transactions on Geoscience and Remote Sensing, 2002, 40, 1659-1668.	6.3	120
21	On initialization, error and flux conservation in the doubling method. Journal of Quantitative Spectroscopy and Radiative Transfer, 1976, 16, 637-658.	2.3	119
22	Horizontal structure of marine boundary layer clouds from centimeter to kilometer scales. Journal of Geophysical Research, 1999, 104, 6123-6144.	3.3	93
23	Scale Invariance in Liquid Water Distributions in Marine Stratocumulus. Part II: Multifractal Properties and Intermittency Issues. Journals of the Atmospheric Sciences, 1997, 54, 1423-1444.	1.7	87
24	Corection of thin cirrus path radiances in the 0.4-1.0 Î¼m spectral region using the sensitive 1.375 Î¼m cirrus detecting channel. Journal of Geophysical Research, 1998, 103, 32169-32176.	3.3	80
25	Cloud-vegetation interaction: Use of normalized difference cloud index for estimation of cloud optical thickness. Geophysical Research Letters, 2000, 27, 1695-1698.	4.0	80
26	Radiative properties of cirrus clouds in the infrared (8â€“) spectral region. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 70, 473-504.	2.3	79
27	The verisimilitude of the independent pixel approximation used in cloud remote sensing. Remote Sensing of Environment, 1995, 52, 71-78.	11.0	76
28	Inherent and apparent scattering properties of coated or uncoated spheres embedded in an absorbing host medium. Applied Optics, 2002, 41, 2740.	2.1	76
29	Extension of the doubling method to inhomogeneous sources. Journal of Quantitative Spectroscopy and Radiative Transfer, 1976, 16, 477-489.	2.3	73
30	Spectral albedo and emissivity of CO₂ in Martian polar caps: Model results. Journal of Geophysical Research, 1990, 95, 14717-14741.	3.3	72
31	Intercomparison of Radiation Codes in Climate Models (ICRCCM): Longwave Clear-Sky Resultsâ€”A Workshop Summary. Bulletin of the American Meteorological Society, 1988, 69, 40-48.	3.3	69
32	Nonlocal independent pixel approximation: direct and inverse problems. IEEE Transactions on Geoscience and Remote Sensing, 1998, 36, 192-205.	6.3	67
33	Scattering from nonspherical Chebyshev particles 2: Means of angular scattering patterns. Applied Optics, 1988, 27, 2405.	2.1	64
34	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
35	Scattering from nonspherical Chebyshev particles 3: Variability in angular scattering patterns. Applied Optics, 1989, 28, 3061.	2.1	54
36	Cloud optical depth retrievals from the Aerosol Robotic Network (AERONET) cloud mode observations. Journal of Geophysical Research, 2010, 115, .	3.3	53

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37	Measurements of water vapor and high clouds over the Tibetan plateau with the terra modis instrument. IEEE Transactions on Geoscience and Remote Sensing, 2003, 41, 895-900.	6.3	52
38	Biases in Shortwave Column Absorption in the Presence of Fractal Clouds. Journal of Climate, 1998, 11, 431-446.	3.2	49
39	An algorithm for generating stochastic cloud fields from radar profile statistics. Atmospheric Research, 2004, 72, 263-289.	4.1	47
40	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
41	Radiative effects of sub-mean free path liquid water variability observed in stratiform clouds. Journal of Geophysical Research, 1998, 103, 19557-19567.	3.3	42
42	The â€œRED versus NIRâ€•Plane to Retrieve Broken-Cloud Optical Depth from Ground-Based Measurements. Journals of the Atmospheric Sciences, 2004, 61, 1911-1925.	1.7	42
43	Spectral Density of Cloud Liquid Water Content at High Frequencies. Journals of the Atmospheric Sciences, 2001, 58, 497-503.	1.7	41
44	Improving the description of sunglint for accurate prediction of remotely sensed radiances. Journal of Quantitative Spectroscopy and Radiative Transfer, 2008, 109, 2364-2375.	2.3	39
45	Wavelet-Based Multifractal Analysis of Non-Stationary and/or Intermittent Geophysical Signals. Wavelet Analysis and Its Applications, 1994, 4, 249-298.	0.2	39
46	Remote sensing of cloud properties using ground-based measurements of zenith radiance. Journal of Geophysical Research, 2006, 111, .	3.3	38
47	Inhomogeneity effects on cloud shortwave absorption measurements: Two-aircraft simulations. Journal of Geophysical Research, 1997, 102, 16619-16637.	3.3	37
48	Theory of near-critical-angle scattering from a curved interface. Physical Review A, 1991, 43, 1005-1038.	2.5	36
49	An absorbing mystery. Nature, 1995, 376, 466-467.	27.8	35
50	Physical interpretation of the spectral radiative signature in the transition zone between cloud-free and cloudy regions. Atmospheric Chemistry and Physics, 2009, 9, 1419-1430.	4.9	35
51	Cloud droplet size and liquid water path retrievals from zenith radiance measurements: examples from the Atmospheric Radiation Measurement Program and the Aerosol Robotic Network. Atmospheric Chemistry and Physics, 2012, 12, 10313-10329.	4.9	33
52	The Spectral Radiance Experiment (SPECTRE): Project Description and Sample Results. Bulletin of the American Meteorological Society, 1996, 77, 1967-1985.	3.3	32
53	NASA-GSFC nano-satellite technology for Earth science missions. Acta Astronautica, 2000, 46, 287-296.	3.2	31
54	The range of validity of the Eddington approximation. Icarus, 1977, 32, 362-377.	2.5	30

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55	Nano/Micro Satellite Constellations for Earth and Space Science. Acta Astronautica, 2003, 52, 785-791.	3.2	30
56	Diffraction as tunneling. Physical Review Letters, 1987, 59, 1667-1670.	7.8	28
57	Forward optical glory. Optics Letters, 1980, 5, 455.	3.3	26
58	Asymptotic solutions for optical properties of large particles with strong absorption. Applied Optics, 2001, 40, 1532.	2.1	26
59	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
60	Determination of cloud liquid water distribution using 3D cloud tomography. Journal of Geophysical Research, 2008, 113, .	3.3	25
61	Evaporation-Limited Tropical Temperatures as a Constraint on Climate Sensitivity. Journals of the Atmospheric Sciences, 1983, 40, 1659-1668.	1.7	24
62	Have Clouds Darkened Since 1995?. Science, 2003, 302, 1151-1152.	12.6	24
63	Complex angular momentum approximation to hard-core scattering. Physical Review A, 1991, 43, 2093-2112.	2.5	22
64	On the Removal of the Effect of Horizontal Fluxes In Twoâ€Aircraft Measurements of Cloud Absorption. Quarterly Journal of the Royal Meteorological Society, 1999, 125, 2153-2170.	2.7	21
65	Small-Scale Drop-Size Variability: Empirical Models for Drop-Size-Dependent Clustering in Clouds. Journals of the Atmospheric Sciences, 2005, 62, 551-558.	1.7	21
66	Cloud Impact on Surface Altimetry From a Spaceborne 532-nm Micropulse Photon-Counting Lidar: System Modeling for Cloudy and Clear Atmospheres. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4910-4919.	6.3	21
67	Uncertainties in Ice-Sheet Altimetry From a Spaceborne 1064-nm Single-Channel Lidar Due to Undetected Thin Clouds. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 250-259.	6.3	19
68	High resolution retrieval of liquid water vertical distributions using collocated Kaâ€band and Wâ€band cloud radars. Geophysical Research Letters, 2009, 36, .	4.0	18
69	In Situ Cloud Sensing with Multiple Scattering Lidar: Simulations and Demonstration. Journal of Atmospheric and Oceanic Technology, 2003, 20, 1505-1522.	1.3	17
70	Mie scattering between any two angles. Journal of the Optical Society of America, 1977, 67, 572.	1.2	15
71	Effect of particle asphericity on single-scattering parameters: comparison between Platonic solids and spheres. Applied Optics, 2004, 43, 4427.	2.1	15
72	Small-Scale Drop Size Variability: Impact on Estimation of Cloud Optical Properties. Journals of the Atmospheric Sciences, 2005, 62, 2555-2567.	1.7	15

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73	Cloud Optical Depth Retrievals From SolarBackground â€œSignalsâ€•of Micropulse Lidars. IEEE Geoscience and Remote Sensing Letters, 2007, 4, 456-460.	3.1	14
74	Retrievals of Thick Cloud Optical Depth from the Geoscience Laser Altimeter System (GLAS) by Calibration of Solar Background Signal. Journals of the Atmospheric Sciences, 2008, 65, 3513-3526.	1.7	14
75	Retrieval of Physical and Optical Cloud Thicknesses from Space-Borne and Wide-Angle Imaging Lidar. , 1997, , 193-196.		12
76	Single-scattering properties of Platonic solids in geometrical-optics regime. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 106, 595-603.	2.3	11
77	Airborne Intrumentation Needs for Climate and Atmospheric Research. Bulletin of the American Meteorological Society, 2011, 92, 1193-1196.	3.3	11
78	A Missing Solution to the Transport Equation and Its Effect on Estimation of Cloud Absorptive Properties. Journals of the Atmospheric Sciences, 2002, 59, 3572-3585.	1.7	11
79	The Role of Radiation and Other Renascent Subfields in Atmospheric Science. Bulletin of the American Meteorological Society, 1985, 66, 1278-1287.	3.3	11
80	Atmospheric radiation: 1975â€“1983. Reviews of Geophysics, 1983, 21, 997-1021.	23.0	10
81	Cloud tomography: Role of constraints and a new algorithm. Journal of Geophysical Research, 2008, 113, .	3.3	10
82	Light Reflection from Water Waves: Suitable Setup for a Polarimetric Investigation under Controlled Laboratory Conditions. Journal of Atmospheric and Oceanic Technology, 2008, 25, 715-728.	1.3	10
83	Doubling initialization revisited. Journal of Quantitative Spectroscopy and Radiative Transfer, 1977, 18, 245-248.	2.3	9
84	The Discrete Ordinate Algorithm, DISORT for Radiative Transfer. , 2016, , 3-65.		9
85	Interactions: Solar and Laser Beams in Stratus Clouds, Fractals & Multifractals in Climate & Remote-Sensing Studies. Fractals, 1997, 05, 129-166.	3.7	7
86	Stratospheric Satellites for Earth Observations. Bulletin of the American Meteorological Society, 2009, 90, 1109-1119.	3.3	7
87	Comment on â€œradiative properties of snow for clear sky solar radiationâ€• Cold Regions Science and Technology, 1981, 5, 177-180.	3.5	6
88	Performance of Commercial Radiometers in Very Low Temperature and Pressure Environments Typical of Polar Regions and of the Stratosphere: A Laboratory Study. Journal of Atmospheric and Oceanic Technology, 2008, 25, 558-569.	1.3	6
89	Tomographic retrieval of cloud liquid water fields from a single scanning microwave radiometer aboard a moving platform â€“ Part 2: Observation system simulation experiments. Atmospheric Chemistry and Physics, 2010, 10, 6699-6709.	4.9	5
90	Tomographic retrieval of cloud liquid water fields from a single scanning microwave radiometer aboard a moving platform â€“ Part 1: Field trial results from the Wakasa Bay experiment. Atmospheric Chemistry and Physics, 2010, 10, 6685-6697.	4.9	3

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91	GEOScan: a geoscience facility from space. Proceedings of SPIE, 2012, , .	0.8	2
92	INSIGHT INTO THREE-DIMENSIONAL RADIATION TRANSPORT PROCESSES FROM DIFFUSION THEORY, WITH APPLICATIONS TO THE ATMOSPHERE. , 1997, , .		2
93	Spectral Radiation Modeling for the Antarctic Plateau: Effects of Clouds, Ozone and CO₂ ON THE Radiation Budget(Abstract only). Annals of Glaciology, 1982, 3, 356-356.	1.4	1
94	Characteristics of tropical cirrus cloud optical thickness fields using MODIS level-3 data. , 2004, , .		1
95	Replacing pixel representations by point-function schemes for reducing discretization error in ill-posed remote sensing problems, with examples from cloud tomography. Remote Sensing Letters, 2010, 1, 95-102.	1.4	1
96	Note on the Scattering of Radiation by Moderately Nonspherical Particles. Journals of the Atmospheric Sciences, 1982, 39, 1886-1888.	1.7	1
97	Methods for discerning cloud reflectivity changes due to the indirect effect of aerosol: a pilot study for Triana. , 2002, , .		0
98	Seasonal and global variations of water vapor and high clouds observed with MODIS near-IR channels. , 2003, , .		0
99	New Cloud Micro Sensors for the Aerosonde UAV. , 2005, , .		0
100	On spectral invariance of single scattering albedo for water droplets and ice crystals at weakly absorbing wavelengths. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 715-720.	2.3	0
101	Retrievals of Cloud Optical Properties from a Two-Channel Narrow-Field-of-View Radiometer. , 2005, , .		0