

# Warren J Wiscombe

## List of Publications by Year in descending order

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101  
papers

11,013  
citations

76196

40  
h-index

39575

94  
g-index

105  
all docs

105  
docs citations

105  
times ranked

6521  
citing authors

#	ARTICLE	IF	CITATIONS
1	Numerically stable algorithm for discrete-ordinate-method radiative transfer in multiple scattering and emitting layered media. <i>Applied Optics</i> , 1988, 27, 2502.	2.1	2,812
2	A Model for the Spectral Albedo of Snow. I: Pure Snow. <i>Journals of the Atmospheric Sciences</i> , 1980, 37, 2712-2733.	0.6	1,275
3	A Model for the Spectral Albedo of Snow. II: Snow Containing Atmospheric Aerosols. <i>Journals of the Atmospheric Sciences</i> , 1980, 37, 2734-2745.	0.6	1,048
4	The Albedo of Fractal Stratocumulus Clouds. <i>Journals of the Atmospheric Sciences</i> , 1994, 51, 2434-2455.	0.6	484
5	Multifractal characterizations of nonstationarity and intermittency in geophysical fields: Observed, retrieved, or simulated. <i>Journal of Geophysical Research</i> , 1994, 99, 8055.	3.3	308
6	Exponential-sum fitting of radiative transmission functions. <i>Journal of Computational Physics</i> , 1977, 24, 416-444.	1.9	241
7	The Backscattered Fraction in two-stream Approximations. <i>Journals of the Atmospheric Sciences</i> , 1976, 33, 2440-2451.	0.6	221
8	Independent Pixel and Monte Carlo Estimates of Stratocumulus Albedo. <i>Journals of the Atmospheric Sciences</i> , 1994, 51, 3776-3790.	0.6	212
9	Thin Liquid Water Clouds: Their Importance and Our Challenge. <i>Bulletin of the American Meteorological Society</i> , 2007, 88, 177-190.	1.7	195
10	Radiative smoothing in fractal clouds. <i>Journal of Geophysical Research</i> , 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. <i>Journals of the Atmospheric Sciences</i> , 1997, 54, 241-260.	0.6	180
12	Modeling of the scattering and radiative properties of nonspherical dust-like aerosols. <i>Journal of Aerosol Science</i> , 2007, 38, 995-1014.	1.8	180
13	Dirty snow after nuclear war. <i>Nature</i> , 1985, 313, 467-470.	13.7	173
14	Efficiency Factors in Mie Scattering. <i>Physical Review Letters</i> , 1980, 45, 1490-1494.	2.9	168
15	Cirrus cloud detection from Airborne Imaging Spectrometer data using the 1.38 $\mu\text{m}$ water vapor band. <i>Geophysical Research Letters</i> , 1993, 20, 301-304.	1.5	168
16	Scale Invariance of Liquid Water Distributions in Marine Stratocumulus. Part I: Spectral Properties and Stationarity Issues. <i>Journals of the Atmospheric Sciences</i> , 1996, 53, 1538-1558.	0.6	162
17	CLOUDS AND MORE: ARM Climate Modeling Best Estimate Data. <i>Bulletin of the American Meteorological Society</i> , 2010, 91, 13-20.	1.7	139
18	Bounded cascade models as nonstationary multifractals. <i>Physical Review E</i> , 1994, 49, 55-69.	0.8	134

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19	Scattering from nonspherical Chebyshev particles I: cross sections, single-scattering albedo, asymmetry factor, and backscattered fraction. <i>Applied Optics</i> , 1986, 25, 1235.	2.1	124
20	An algorithm using visible and 1.38- $\hat{1}$ / <sub>4</sub> m channels to retrieve cirrus cloud reflectances from aircraft and satellite data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2002, 40, 1659-1668.	2.7	120
21	On initialization, error and flux conservation in the doubling method. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1976, 16, 637-658.	1.1	119
22	Horizontal structure of marine boundary layer clouds from centimeter to kilometer scales. <i>Journal of Geophysical Research</i> , 1999, 104, 6123-6144.	3.3	93
23	Scale Invariance in Liquid Water Distributions in Marine Stratocumulus. Part II: Multifractal Properties and Intermittency Issues. <i>Journals of the Atmospheric Sciences</i> , 1997, 54, 1423-1444.	0.6	87
24	Corection of thin cirrus path radiances in the 0.4-1.0 $\hat{1}$ / <sub>4</sub> m spectral region using the sensitive 1.375 $\hat{1}$ / <sub>4</sub> m cirrus detecting channel. <i>Journal of Geophysical Research</i> , 1998, 103, 32169-32176.	3.3	80
25	Cloud-vegetation interaction: Use of normalized difference cloud index for estimation of cloud optical thickness. <i>Geophysical Research Letters</i> , 2000, 27, 1695-1698.	1.5	80
26	Radiative properties of cirrus clouds in the infrared (8 $\hat{a}$ €“) spectral region. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2001, 70, 473-504.	1.1	79
27	The verisimilitude of the independent pixel approximation used in cloud remote sensing. <i>Remote Sensing of Environment</i> , 1995, 52, 71-78.	4.6	76
28	Inherent and apparent scattering properties of coated or uncoated spheres embedded in an absorbing host medium. <i>Applied Optics</i> , 2002, 41, 2740.	2.1	76
29	Extension of the doubling method to inhomogeneous sources. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1976, 16, 477-489.	1.1	73
30	Spectral albedo and emissivity of CO <sub>2</sub> in Martian polar caps: Model results. <i>Journal of Geophysical Research</i> , 1990, 95, 14717-14741.	3.3	72
31	Intercomparison of Radiation Codes in Climate Models (ICRCCM): Longwave Clear-Sky Results $\hat{a}$ €“A Workshop Summary. <i>Bulletin of the American Meteorological Society</i> , 1988, 69, 40-48.	1.7	69
32	Nonlocal independent pixel approximation: direct and inverse problems. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 1998, 36, 192-205.	2.7	67
33	Scattering from nonspherical Chebyshev particles 2: Means of angular scattering patterns. <i>Applied Optics</i> , 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. <i>Journal of Geophysical Research</i> , 2001, 106, 17267-17291.	3.3	60
35	Scattering from nonspherical Chebyshev particles 3: Variability in angular scattering patterns. <i>Applied Optics</i> , 1989, 28, 3061.	2.1	54
36	Cloud optical depth retrievals from the Aerosol Robotic Network (AERONET) cloud mode observations. <i>Journal of Geophysical Research</i> , 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. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2003, 41, 895-900.	2.7	52
38	Biases in Shortwave Column Absorption in the Presence of Fractal Clouds. <i>Journal of Climate</i> , 1998, 11, 431-446.	1.2	49
39	An algorithm for generating stochastic cloud fields from radar profile statistics. <i>Atmospheric Research</i> , 2004, 72, 263-289.	1.8	47
40	Spectral signature of ice clouds in the far-infrared region: Single-scattering calculations and radiative sensitivity study. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	46
41	Radiative effects of sub-mean free path liquid water variability observed in stratiform clouds. <i>Journal of Geophysical Research</i> , 1998, 103, 19557-19567.	3.3	42
42	The $\alpha$ RED versus NIR $\alpha$ Plane to Retrieve Broken-Cloud Optical Depth from Ground-Based Measurements. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 1911-1925.	0.6	42
43	Spectral Density of Cloud Liquid Water Content at High Frequencies. <i>Journals of the Atmospheric Sciences</i> , 2001, 58, 497-503.	0.6	41
44	Improving the description of sunglint for accurate prediction of remotely sensed radiances. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2008, 109, 2364-2375.	1.1	39
45	Wavelet-Based Multifractal Analysis of Non-Stationary and/or Intermittent Geophysical Signals. <i>Wavelet Analysis and Its Applications</i> , 1994, 4, 249-298.	0.2	39
46	Remote sensing of cloud properties using ground-based measurements of zenith radiance. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	38
47	Inhomogeneity effects on cloud shortwave absorption measurements: Two-aircraft simulations. <i>Journal of Geophysical Research</i> , 1997, 102, 16619-16637.	3.3	37
48	Theory of near-critical-angle scattering from a curved interface. <i>Physical Review A</i> , 1991, 43, 1005-1038.	1.0	36
49	An absorbing mystery. <i>Nature</i> , 1995, 376, 466-467.	13.7	35
50	Physical interpretation of the spectral radiative signature in the transition zone between cloud-free and cloudy regions. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 1419-1430.	1.9	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. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 10313-10329.	1.9	33
52	The Spectral Radiance Experiment (SPECTRE): Project Description and Sample Results. <i>Bulletin of the American Meteorological Society</i> , 1996, 77, 1967-1985.	1.7	32
53	NASA-GSFC nano-satellite technology for Earth science missions. <i>Acta Astronautica</i> , 2000, 46, 287-296.	1.7	31
54	The range of validity of the Eddington approximation. <i>Icarus</i> , 1977, 32, 362-377.	1.1	30

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55	Nano/Micro Satellite Constellations for Earth and Space Science. <i>Acta Astronautica</i> , 2003, 52, 785-791.	1.7	30
56	Diffraction as tunneling. <i>Physical Review Letters</i> , 1987, 59, 1667-1670.	2.9	28
57	Forward optical glory. <i>Optics Letters</i> , 1980, 5, 455.	1.7	26
58	Asymptotic solutions for optical properties of large particles with strong absorption. <i>Applied Optics</i> , 2001, 40, 1532.	2.1	26
59	Use of circular cylinders as surrogates for hexagonal pristine ice crystals in scattering calculations at infrared wavelengths. <i>Applied Optics</i> , 2003, 42, 2653.	2.1	25
60	Determination of cloud liquid water distribution using 3D cloud tomography. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	25
61	Evaporation-Limited Tropical Temperatures as a Constraint on Climate Sensitivity. <i>Journals of the Atmospheric Sciences</i> , 1983, 40, 1659-1668.	0.6	24
62	Have Clouds Darkened Since 1995?. <i>Science</i> , 2003, 302, 1151-1152.	6.0	24
63	Complex angular momentum approximation to hard-core scattering. <i>Physical Review A</i> , 1991, 43, 2093-2112.	1.0	22
64	On the Removal of the Effect of Horizontal Fluxes In Two Aircraft Measurements of Cloud Absorption. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1999, 125, 2153-2170.	1.0	21
65	Small-Scale Drop-Size Variability: Empirical Models for Drop-Size-Dependent Clustering in Clouds. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 551-558.	0.6	21
66	Cloud Impact on Surface Altimetry From a Spaceborne 532-nm Micropulse Photon-Counting Lidar: System Modeling for Cloudy and Clear Atmospheres. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2011, 49, 4910-4919.	2.7	21
67	Uncertainties in Ice-Sheet Altimetry From a Spaceborne 1064-nm Single-Channel Lidar Due to Undetected Thin Clouds. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2010, 48, 250-259.	2.7	19
68	High resolution retrieval of liquid water vertical distributions using collocated Ka-band and W-band cloud radars. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	18
69	In Situ Cloud Sensing with Multiple Scattering Lidar: Simulations and Demonstration. <i>Journal of Atmospheric and Oceanic Technology</i> , 2003, 20, 1505-1522.	0.5	17
70	Mie scattering between any two angles. <i>Journal of the Optical Society of America</i> , 1977, 67, 572.	1.2	15
71	Effect of particle asphericity on single-scattering parameters: comparison between Platonic solids and spheres. <i>Applied Optics</i> , 2004, 43, 4427.	2.1	15
72	Small-Scale Drop Size Variability: Impact on Estimation of Cloud Optical Properties. <i>Journals of the Atmospheric Sciences</i> , 2005, 62, 2555-2567.	0.6	15

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73	Cloud Optical Depth Retrievals From SolarBackground "Signals" of Micropulse Lidars. IEEE Geoscience and Remote Sensing Letters, 2007, 4, 456-460.	1.4	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.	0.6	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.	1.1	11
77	Airborne Instrumentation Needs for Climate and Atmospheric Research. Bulletin of the American Meteorological Society, 2011, 92, 1193-1196.	1.7	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.	0.6	11
79	The Role of Radiation and Other Renascent Subfields in Atmospheric Science. Bulletin of the American Meteorological Society, 1985, 66, 1278-1287.	1.7	11
80	Atmospheric radiation: 1975"1983. Reviews of Geophysics, 1983, 21, 997-1021.	9.0	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.	0.5	10
83	Doubling initialization revisited. Journal of Quantitative Spectroscopy and Radiative Transfer, 1977, 18, 245-248.	1.1	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.	1.8	7
86	Stratospheric Satellites for Earth Observations. Bulletin of the American Meteorological Society, 2009, 90, 1109-1119.	1.7	7
87	Comment on "radiative properties of snow for clear sky solar radiation". Cold Regions Science and Technology, 1981, 5, 177-180.	1.6	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.	0.5	6
89	Tomographic retrieval of cloud liquid water fields from a single scanning microwave radiometer aboard a moving platform " Part 2: Observation system simulation experiments. Atmospheric Chemistry and Physics, 2010, 10, 6699-6709.	1.9	5
90	Tomographic retrieval of cloud liquid water fields from a single scanning microwave radiometer aboard a moving platform " Part 1: Field trial results from the Wakasa Bay experiment. Atmospheric Chemistry and Physics, 2010, 10, 6685-6697.	1.9	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 CO <sub>2</sub> ON THE Radiation Budget(Abstract only). Annals of Glaciology, 1982, 3, 356-356.	2.8	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.	0.6	1
96	Note on the Scattering of Radiation by Moderately Nonspherical Particles. Journals of the Atmospheric Sciences, 1982, 39, 1886-1888.	0.6	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.	1.1	0
101	Retrievals of Cloud Optical Properties from a Two-Channel Narrow-Field-of-View Radiometer. , 2005, , .		0