Timo P Nousiainen

List of Publications by Year
in descending order

69 papers	2,834 citations	126907 33 h-index	189892 50 g-index
81 all docs	81 docs citations	81 times ranked	1723 citing authors

#	Article	IF	Citations
1	Optical modeling of mineral dust particles: A review. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1261-1279.	2.3	165
2	Impact of small ice crystal assumptions on ice sedimentation rates in cirrus clouds and GCM simulations. Geophysical Research Letters, 2008, 35, .	4.0	106
3	Light scattering modeling of small feldspar aerosol particles using polyhedral prisms and spheroids. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 101, 471-487.	2.3	87
4	Optical properties of light absorbing carbon aggregates mixed with sulfate: assessment of different model geometries for climate forcing calculations. Optics Express, 2012, 20, 10042.	3.4	87
5	Radar Backscattering from Snowflakes: Comparison of Fractal, Aggregate, and Soft Spheroid Models. Journal of Atmospheric and Oceanic Technology, 2011, 28, 1365-1372.	1.3	86
6	Validity criteria of the discrete dipole approximation. Applied Optics, 2010, 49, 1267.	2.1	83
7	Scattering of light by large Saharan dust particles in a modified ray optics approximation. Journal of Geophysical Research, 2003, 108, AAC 12-1.	3.3	76
8	Scattering matrix of large Saharan dust particles: Experiments and computations. Journal of Geophysical Research, 2007, 112, .	3.3	74
9	Modelling light scattering by mineral dust using spheroids: assessment of applicability. Atmospheric Chemistry and Physics, 2011, 11, 5347-5363.	4.9	74
10	Light scattering by feldspar particles: Comparison of model agglomerate debris particles with laboratory samples. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 131, 175-187.	2.3	72
11	Mie simulations as an error source in mineral aerosol radiative forcing calculations. Quarterly Journal of the Royal Meteorological Society, 2007, 133, 299-307.	2.7	71
12	Spherical and spheroidal model particles as an error source in aerosol climate forcing and radiance computations: A case study for feldspar aerosols. Journal of Geophysical Research, 2005, 110, .	3.3	70
13	Single scattering by realistic, inhomogeneous mineral dust particles with stereogrammetric shapes. Atmospheric Chemistry and Physics, 2014, 14, 143-157.	4.9	70
14	Can particle shape information be retrieved from light-scattering observations using spheroidal model particles?. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 2213-2225.	2.3	69
15	Light Scattering by Quasi-Spherical Ice Crystals. Journals of the Atmospheric Sciences, 2004, 61, 2229-2248.	1.7	66
16	Scattering of light by roughened Gaussian random particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 106, 604-615.	2.3	65
17	Evidence of nonspheroidal behavior in millimeterâ€wavelength radar observations of snowfall. Journal of Geophysical Research, 2012, 117, .	3.3	62
18	Comparison of measured single-scattering matrix of feldspar particles with T-matrix simulations using spheroids. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 1031-1042.	2.3	61

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19	Light scattering by small feldspar particles simulated using the Gaussian random sphere geometry. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 100, 393-405.	2.3	61
20	Models for integrated and differential scattering optical properties of encapsulated light absorbing carbon aggregates. Optics Express, 2013, 21, 7974.	3.4	60
21	Review: Model particles in atmospheric optics. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 146, 41-58.	2.3	58
22	Light scattering by Gaussian particles with internal inclusions and roughened surfaces using ray optics. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1628-1639.	2.3	56
23	TEM analysis of the internal structures and mineralogy of Asian dust particles and the implications for optical modeling. Atmospheric Chemistry and Physics, 2014, 14, 7233-7254.	4.9	52
24	Comparison of scattering by different nonspherical, wavelength-scale particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 2391-2405.	2.3	46
25	Light scattering by particles with small-scale surface roughness: Comparison of four classes of model geometries. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 2356-2367.	2.3	45
26	Retrieving simulated volcanic, desert dust and sea-salt particle properties from two/three-component particle mixtures using UV-VIS polarization lidar and T matrix. Atmospheric Chemistry and Physics, 2013, 13, 6757-6776.	4.9	45
27	Singleâ€scattering modeling of thin, birefringent mineralâ€dust flakes using the discreteâ€dipole approximation. Journal of Geophysical Research, 2009, 114, .	3.3	44
28	Volcanic ash infrared signature: porous non-spherical ash particle shapes compared to homogeneous spherical ash particles. Atmospheric Measurement Techniques, 2014, 7, 919-929.	3.1	44
29	Climate Models and Remote Sensing Retrievals Neglect Substantial Desert Dust Asphericity. Geophysical Research Letters, 2020, 47, e2019GL086592.	4.0	41
30	Light scattering by Gaussian particles: a solution with finite-difference time-domain technique. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 79-80, 1083-1090.	2.3	39
31	Surface-roughness effects on single-scattering properties of wavelength-scale particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 106, 389-397.	2.3	39
32	The impact of surface roughness on scattering by realistically shaped wavelength-scale dust particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 150, 55-67.	2.3	39
33	Parameterization of single-scattering properties of snow. Cryosphere, 2015, 9, 1277-1301.	3.9	36
34	Uncertainties in measured and modelled asymmetry parameters of mineral dust aerosols. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 100, 173-178.	2.3	35
35	Light scattering by large Saharan dust particles: Comparison of modeling and experimental data for two samples. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 420-433.	2.3	34
36	Iceâ€cloud particle habit classification using principal components. Journal of Geophysical Research, 2012, 117, .	3.3	33

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37	Light scattering by coated Gaussian and aggregate particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1398-1410.	2.3	32
38	On the impact of non-sphericity and small-scale surface roughness on the optical properties of hematite aerosols. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1815-1824.	2.3	32
39	Optical modeling of vesicular volcanic ash particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1871-1880.	2.3	31
40	Mineralogical properties and internal structures of individual fine particles of Saharan dust. Atmospheric Chemistry and Physics, 2016, 16, 12397-12410.	4.9	30
41	Linking snowflake microstructure to multiâ€frequency radar observations. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3259-3270.	3.3	29
42	Small Irregular Ice Crystals in Tropical Cirrus. Journals of the Atmospheric Sciences, 2011, 68, 2614-2627.	1.7	28
43	Applicability of the Rayleighâ€Gans approximation for scattering by snowflakes at microwave frequencies in vertical incidence. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1826-1839.	3.3	25
44	Light scattering by Gaussian, randomly oscillating raindrops. Journal of Quantitative Spectroscopy and Radiative Transfer, 1999, 63, 643-666.	2.3	23
45	Light scattering by atmospheric mineral dust particles. , 2015, , 3-52.		23
46	Effects of dust particle internal structure on light scattering. Atmospheric Chemistry and Physics, 2015, 15, 12011-12027.	4.9	22
47	Investigating the size, shape and surface roughness dependence of polarization lidars with light-scattering computations on real mineral dust particles: Application to dust particles' external mixtures and dust mass concentration retrievals. Atmospheric Research, 2018, 203, 44-61.	4.1	22
48	Retrieving microphysical properties of dust-like particles using ellipsoids: the case of refractive index. Atmospheric Chemistry and Physics, 2015, 15, 11117-11132.	4.9	21
49	On the Quantitative Low-Level Aerosol Measurements Using Ceilometer-Type Lidar. Journal of Atmospheric and Oceanic Technology, 2009, 26, 2340-2352.	1.3	20
50	Impact of dust particle nonâ€sphericity on climate simulations. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 2222-2232.	2.7	20
51	Microwave backscattering by nonspherical ice particles at using second-order perturbation series. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 70, 639-661.	2.3	18
52	Sensitivity of the shortwave radiative effect of dust on particle shape: Comparison of spheres and spheroids. Journal of Geophysical Research, 2012, 117, .	3.3	17
53	Light scattering by the Martian dust analog, palagonite, modeled with ellipsoids. Optics Express, 2013, 21, 17972.	3.4	17
54	Optical modeling of volcanic ash particles using ellipsoids. Journal of Geophysical Research D: Atmospheres, 2015, 120, 4102-4116.	3.3	16

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55	Variational data-analysis method for combining laboratory-measured light-scattering phase functions and forward-scattering computations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 103, 27-42.	2.3	15
56	Impact of particle shape on refractive-index dependence of scattering in resonance domain. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 108, 464-473.	2.3	14
57	On the application of scattering matrix measurements to detection and identification of major types of airborne aerosol particles: volcanic ash, desert dust and pollen. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, , 107761.	2.3	14
58	Experimental and simulated scattering matrices of small calcite particles at 647nm. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 124, 62-78.	2.3	13
59	Modeling the scattering phase matrix of red clays. Optics Letters, 2016, 41, 4879.	3.3	13
60	Modeling radar backscattering from melting snowflakes using spheroids with nonuniform distribution of water. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 133, 504-519.	2.3	12
61	Disk and circumsolar radiances in the presence of ice clouds. Atmospheric Chemistry and Physics, 2017, 17, 6865-6882.	4.9	12
62	Modeling -band single scattering properties of hydrometeors using discrete-dipole approximation and -matrix method. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1654-1664.	2.3	10
63	The influence of observed cirrus microphysical properties on shortwave radiation: A case study over Oklahoma. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	10
64	Scattering of Light by Raindrops with Single-Mode Oscillations. Journals of the Atmospheric Sciences, 2000, 57, 789-802.	1.7	7
65	Effect of the orientation of the optic axis on simulated scattering matrix elements of small birefringent particles. Optics Letters, 2012, 37, 3252.	3.3	6
66	Modelling light scattering by absorbing smooth and slightly rough facetted particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 157, 71-80.	2.3	5
67	Discussion of a physical optics method and its application to absorbing smooth and slightly rough hexagonal prisms. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 218, 54-67.	2.3	5
68	Morphological Models for Inhomogeneous Particles: Light Scattering by Aerosols, Cometary Dust, and Living Cells. , 2016, , 299-337.		3
69	CITYZER observation network and data delivery system. Geoscientific Instrumentation, Methods and Data Systems, 2020, 9, 397-406.	1.6	0