

Antti Ilmari Penttilä

List of Publications by Year in descending order

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Version: 2024-02-01

84
papers

1,772
citations

279798

23
h-index

315739

38
g-index

101
all docs

101
docs citations

101
times ranked

1757
citing authors

#	ARTICLE	IF	CITATIONS
1	A three-parameter magnitude phase function for asteroids. <i>Icarus</i> , 2010, 209, 542-555.	2.5	147
2	Comparison between discrete dipole implementations and exact techniques. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 106, 417-436.	2.3	139
3	European component of the AIDA mission to a binary asteroid: Characterization and interpretation of the impact of the DART mission. <i>Advances in Space Research</i> , 2018, 62, 2261-2272.	2.6	118
4	COHERENT BACKSCATTERING VERIFIED NUMERICALLY FOR A FINITE VOLUME OF SPHERICAL PARTICLES. <i>Astrophysical Journal</i> , 2012, 760, 118.	4.5	81
5	Mineralogy, reflectance spectra, and physical properties of the Chelyabinsk LL5 chondrite – Insight into shock-induced changes in asteroid regoliths. <i>Icarus</i> , 2014, 228, 78-85.	2.5	81
6	Online multi-parameter phase-curve fitting and application to a large corpus of asteroid photometric data. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1919-1929.	2.3	61
7	Statistical analysis of asteroidal and cometary polarization phase curves. <i>Astronomy and Astrophysics</i> , 2005, 432, 1081-1090.	5.1	57
8	Automated image analysis detects aging in clinical-grade mesenchymal stromal cell cultures. <i>Stem Cell Research and Therapy</i> , 2018, 9, 6.	5.5	53
9	Asteroid taxonomic signatures from photometric phase curves. <i>Icarus</i> , 2012, 219, 283-296.	2.5	49
10	Asteroid observations at low phase angles. IV. Average parameters for the new H , G 1 , G 2 magnitude system. <i>Planetary and Space Science</i> , 2016, 123, 101-116.	1.7	49
11	H, G1, G2 photometric phase function extended to low-accuracy data. <i>Planetary and Space Science</i> , 2016, 123, 117-125.	1.7	49
12	Rationale for BepiColombo Studies of Mercury’s Surface and Composition. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	46
13	Filler-nanocellulose substrate for printed electronics: experiments and model approach to structure and conductivity. <i>Cellulose</i> , 2013, 20, 1413-1424.	4.9	39
14	Asteroid photometric and polarimetric phase curves: Joint linear–exponential modeling. <i>Meteoritics and Planetary Science</i> , 2009, 44, 1937-1946.	1.6	38
15	Multiple scattering of light in discrete random media using incoherent interactions. <i>Optics Letters</i> , 2018, 43, 683.	3.3	37
16	The BepiColombo Mercury Imaging X-Ray Spectrometer: Science Goals, Instrument Performance and Operations. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	36
17	Interpretation of the Phase Functions Measured by the OSIRIS Instrument for Comet 67P/Churyumov–Gerasimenko. <i>Astrophysical Journal Letters</i> , 2018, 868, L16.	8.3	34
18	Model of light scattering by dust particles in the solar system: Applications to cometary comae and planetary regoliths. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1658-1670.	2.3	29

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19	sbpy: A Python module for small-body planetary astronomy. <i>Journal of Open Source Software</i> , 2019, 4, 1426.	4.6	28
20	Polarization of light backscattered by small particles. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 2193-2212.	2.3	27
21	Feasibility of asteroid exploration using CubeSats – ASPECT case study. <i>Advances in Space Research</i> , 2018, 62, 2239-2244.	2.6	27
22	Asteroid spin axis longitudes from the Lowell Observatory database. <i>Meteoritics and Planetary Science</i> , 2014, 49, 95-102.	1.6	25
23	Optimal cubature on the sphere and other orientation averaging schemes. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1741-1746.	2.3	24
24	Ray optics for absorbing particles with application to ice crystals at near-infrared wavelengths. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 217, 329-337.	2.3	20
25	Scattering and absorption in dense discrete random media of irregular particles. <i>Optics Letters</i> , 2018, 43, 2925.	3.3	18
26	Theoretical analysis of the particle properties and polarization measurements made in microgravity. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2003, 79-80, 1043-1049.	2.3	17
27	Effects of surface roughness with two scales on light scattering by hexagonal ice crystals large compared to the wavelength: DDA results. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2016, 182, 225-239.	2.3	17
28	Radiative transfer with reciprocal transactions: Numerical method and its implementation. <i>PLoS ONE</i> , 2019, 14, e0210155.	2.5	17
29	Selecting asteroids for a targeted spectroscopic survey. <i>Astronomy and Astrophysics</i> , 2014, 572, A29.	5.1	16
30	Rigorous light-scattering simulations of nanophase iron space-weathering effects on reflectance spectra of olivine grains. <i>Icarus</i> , 2020, 345, 113727.	2.5	15
31	Asteroid spectral taxonomy using neural networks. <i>Astronomy and Astrophysics</i> , 2021, 649, A46.	5.1	15
32	Laboratory spectroscopy of meteorite samples at UV-vis-NIR wavelengths: Analysis and discrimination by principal components analysis. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 206, 189-197.	2.3	14
33	Asteroid lightcurve inversion with Bayesian inference. <i>Astronomy and Astrophysics</i> , 2020, 642, A138.	5.1	14
34	Analysis of the adequate size of a cord blood bank and comparison of HLA haplotype distributions between four populations. <i>Human Immunology</i> , 2013, 74, 189-195.	2.4	13
35	Spectral modeling of meteorites at UV-vis-NIR wavelengths. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 204, 144-151.	2.3	13
36	Omnidirectional microscopy by ultrasonic sample control. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	13

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37	Asteroid absolute magnitudes and phase curve parameters from <i>Gaia</i> photometry. <i>Astronomy and Astrophysics</i> , 2021, 649, A98.	5.1	13
38	Experimental constraints on the ordinary chondrite shock darkening caused by asteroid collisions. <i>Astronomy and Astrophysics</i> , 2020, 639, A146.	5.1	13
39	Scattering Properties of Large Irregular Cosmic Dust Particles at Visible Wavelengths. <i>Astrophysical Journal</i> , 2017, 838, 74.	4.5	12
40	The effect of particle shape on scatteringâ€”A study with a collection of axisymmetric particles and sphere clusters. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2004, 89, 303-310.	2.3	11
41	Quasi-specular reflection from particulate media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2013, 131, 130-137.	2.3	11
42	Inferring asteroid surface properties from radar albedos and circularâ€”polarization ratios. <i>Meteoritics and Planetary Science</i> , 2014, 49, 86-94.	1.6	11
43	Non-destructive controlled single-particle light scattering measurement. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 204, 159-164.	2.3	11
44	Where is the machine looking? Locating discriminative light-scattering features by class-activation mapping. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2020, 247, 106936.	2.3	11
45	Comparison of space weathering spectral changes induced by solar wind and micrometeoroid impacts using ion- and femtosecond-laser-irradiated olivine and pyroxene. <i>Astronomy and Astrophysics</i> , 2021, 654, A143.	5.1	11
46	Distinguishing between Shock-darkening and Space-weathering Trends in Ordinary Chondrite Reflectance Spectra. <i>Planetary Science Journal</i> , 2020, 1, 37.	3.6	11
47	Light-scattering efficiency of starch acetate pigments as a function of size and packing density. <i>Applied Optics</i> , 2006, 45, 3501.	2.1	10
48	Circular polarization of spherical-particle aggregates at backscattering. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2013, 126, 150-159.	2.3	10
49	Nanospacecraft fleet for multi-asteroid touring with electric solar wind sails. , 2018, , .		10
50	How much is enough? The convergence of finite sample scattering properties to those of infinite media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2021, 262, 107524.	2.3	10
51	Phase integral of asteroids. <i>Astronomy and Astrophysics</i> , 2019, 626, A87.	5.1	9
52	The effect of the properties of porous media on light scattering. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2009, 110, 1993-2001.	2.3	8
53	Radar albedos and circular-polarization ratios for realistic inhomogeneous media using the discrete-dipole approximation. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2014, 146, 480-491.	2.3	8
54	Inhomogeneous particle model for light-scattering by cometary dust. <i>Planetary and Space Science</i> , 2015, 118, 164-172.	1.7	8

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55	Multiple Scattering in Discrete Random Media Using First-Order Incoherent Interactions. <i>Radio Science</i> , 2017, 52, 1419-1431.	1.6	8
56	Comparison of discrete exterior calculus and discrete-dipole approximation for electromagnetic scattering. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2014, 146, 417-423.	2.3	7
57	Simulations of Effects of Nanophase Iron Space Weather Products on Lunar Regolith Reflectance Spectra. <i>Astrophysical Journal</i> , 2018, 853, 71.	4.5	7
58	Scattering And Absorption of Light in Planetary Regoliths. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	7
59	Multifrequency Acoustic Levitation. , 2019, , .		7
60	C-band scattering simulation of a Scots pine shoot. <i>Waves in Random and Complex Media</i> , 2007, 17, 85-98.	2.7	6
61	Multiple scattering of light in particulate planetary media. , 2015, , 114-129.		6
62	Added-value interfaces to asteroid photometric and spectroscopic data in the Gaia database. <i>Advances in Space Research</i> , 2018, 62, 464-476.	2.6	6
63	4π Scatterometer: A new technique for understanding the general and complete scattering properties of particulate media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2020, 246, 106910.	2.3	6
64	Taxonomy of Asteroids From the Legacy Survey of Space and Time Using Neural Networks. <i>Frontiers in Astronomy and Space Sciences</i> , 2022, 9, .	2.8	6
65	Modelling light scattering by absorbing smooth and slightly rough faceted particles. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2015, 157, 71-80.	2.3	5
66	Discussion of a physical optics method and its application to absorbing smooth and slightly rough hexagonal prisms. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 218, 54-67.	2.3	5
67	Absolute spectral modelling of asteroid (4) Vesta. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019, 483, 1952-1956.	4.4	5
68	Laser processing of minerals common on asteroids. <i>Optics and Laser Technology</i> , 2021, 135, 106724.	4.6	5
69	Asteroid Photometric Phase Functions From Bayesian Lightcurve Inversion. <i>Frontiers in Astronomy and Space Sciences</i> , 0, 9, .	2.8	5
70	Multiple scattering by dense random media: Volume-element extinction. , 2016, , .		2
71	Validation of radiative transfer and coherent backscattering for discrete random media. , 2016, , .		2
72	Coherent backscattering effects with Discrete Dipole Approximation method. , 2007, , .		2

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73	Temporal Variation of the Shortwave Spherical Albedo of the Earth. <i>Frontiers in Remote Sensing</i> , 2022, 3, .	3.5	2
74	Spectral properties and surface uniformity of black glass gloss references. <i>Optical Engineering</i> , 2009, 48, 033603.	1.0	1
75	Spectroscopic investigations of meteorites. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2014, 146, 391-401.	2.3	1
76	Multiple scattering by dense random media: Numerical solution. , 2016, , .		1
77	Simulating Acoustic Orientation Trapping for Stable Levitation. , 2019, , .		1
78	Spectral Reflectance Processing via Local Wavelength-Direction Correlations. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2020, 17, 948-952.	3.1	1
79	Noise reduction in asteroid imaging using a miniaturized spectral imager. , 2021, , .		1
80	Asteroids, comets, meteors, and their interrelations. Part II: Editorial review. <i>Planetary and Space Science</i> , 2016, 123, 1-3.	1.7	0
81	Experimental light scattering by small particles: first results with a novel Mueller matrix scatterometer. , 2017, , .		0
82	Experimental light scattering by small particles: system design and calibration. <i>Proceedings of SPIE</i> , 2017, , .	0.8	0
83	Super-resolution photonic nanojet interferometry: photonic nanojet interaction with a polymer sample. , 2017, , .		0
84	Light scattering by ultrasonically-controlled small particles: system design, calibration, and measurement results. , 2018, , .		0