Karri Muinonen

List of Publications by Year
in descending order

76 papers	12,737 citations	257450 24 h-index	114465 63 g-index
90 all docs	90 docs citations	90 times ranked	11296 citing authors

#	Article	IF	Citations
1	Gaia Data Release 2. Astronomy and Astrophysics, 2018, 616, A1.	5.1	6,364
2	TheGaiamission. Astronomy and Astrophysics, 2016, 595, A1.	5.1	4,509
3	Light scattering by Gaussian random particles: Ray optics approximation. Journal of Quantitative Spectroscopy and Radiative Transfer, 1996, 55, 577-601.	2.3	197
4	A three-parameter magnitude phase function for asteroids. Icarus, 2010, 209, 542-555.	2.5	147
5	Coherent backscattering of light by complex random media of spherical scatterers: numerical solution. Waves in Random and Complex Media, 2004, 14, 365-388.	1.5	124
6	COHERENT BACKSCATTERING VERIFIED NUMERICALLY FOR A FINITE VOLUME OF SPHERICAL PARTICLES. Astrophysical Journal, 2012, 760, 118.	4.5	81
7	GaiaData Release 2. Astronomy and Astrophysics, 2018, 616, A13.	5.1	78
8	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
9	Asteroid Orbit Determination Using Bayesian Probabilities. Icarus, 1993, 104, 255-279.	2.5	71
10	Investigating Mercuryâ€™s Environment with the Two-Spacecraft BepiColombo Mission. Space Science Reviews, 2020, 216, 1.	8.1	71
11	Effect of absorption on light scattering by agglomerated debris particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1741-1749.	2.3	65
12	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
13	Asteroid observations at low phase angles. IV. Average parameters for the new H , G 1 , G 2 magnitude system. Planetary and Space Science, 2016, 123, 101-116.	1.7	49
14	H, G1, G2 photometric phase function extended to low-accuracy data. Planetary and Space Science, 2016, 123, 117-125.	1.7	49
15	SIMBIO-SYS: Scientific Cameras and Spectrometer for the BepiColombo Mission. Space Science Reviews, 2020, 216, 1.	8.1	47
16	Rationale for BepiColombo Studies of Mercuryâ€™s Surface and Composition. Space Science Reviews, 2020, 216, 1.	8.1	46
17	Dust in Comet C/1975 V1 (West). Monthly Notices of the Royal Astronomical Society, 2014, 440, 2928-2943.	4.4	41
18	Multiple scattering of light in discrete random media using incoherent interactions. Optics Letters, 2018, 43, 683.	3.3	37

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19	The BepiColombo Mercury Imaging X-Ray Spectrometer: Science Goals, Instrument Performance and Operations. Space Science Reviews, 2020, 216, 1.	8.1	36
20	Interpretation of the Phase Functions Measured by the OSIRIS Instrument for Comet 67P/Churyumovâ€“Gerasimenko. Astrophysical Journal Letters, 2018, 868, L16.	8.3	34
21	Iceâ€cloud particle habit classification using principal components. Journal of Geophysical Research, 2012, 117, .	3.3	33
22	Asteroid shape and spin statistics from convex models. Icarus, 2008, 198, 91-107.	2.5	28
23	Disk-integrated brightness of a Lommel-Seeliger scattering ellipsoidal asteroid. Astronomy and Astrophysics, 2015, 584, A23.	5.1	27
24	Feasibility of asteroid exploration using CubeSatsâ€”ASPECT case study. Advances in Space Research, 2018, 62, 2239-2244.	2.6	27
25	Asteroid spinâ€axis longitudes from the Lowell Observatory database. Meteoritics and Planetary Science, 2014, 49, 95-102.	1.6	25
26	Asteroid lightcurve inversion with Lommelâ€“Seeliger ellipsoids. Planetary and Space Science, 2015, 118, 227-241.	1.7	22
27	Asteroid orbital ranging using Markovâ€Chain Monte Carlo. Meteoritics and Planetary Science, 2009, 44, 1897-1904.	1.6	20
28	Ray optics for absorbing particles with application to ice crystals at near-infrared wavelengths. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 217, 329-337.	2.3	20
29	Solar Intensity X-Ray and Particle Spectrometer SIXS: Instrument Design and First Results. Space Science Reviews, 2020, 216, 1.	8.1	20
30	Scattering and absorption in dense discrete random media of irregular particles. Optics Letters, 2018, 43, 2925.	3.3	18
31	Light scattering by Gaussian random ellipsoid particles: First results with discrete-dipole approximation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1747-1752.	2.3	17
32	Radiative transfer with reciprocal transactions: Numerical method and its implementation. PLoS ONE, 2019, 14, e0210155.	2.5	17
33	Inversion of sparse photometric data of asteroids using triaxial ellipsoid shape models and a Lommelâ€“Seeliger scattering law. Planetary and Space Science, 2015, 118, 221-226.	1.7	16
34	Rigorous light-scattering simulations of nanophase iron space-weathering effects on reflectance spectra of olivine grains. Icarus, 2020, 345, 113727.	2.5	15
35	Asteroid spectral taxonomy using neural networks. Astronomy and Astrophysics, 2021, 649, A46.	5.1	15
36	Asteroid lightcurve inversion with Bayesian inference. Astronomy and Astrophysics, 2020, 642, A138.	5.1	14

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37	Asteroid orbital inversion using a virtual-observation Markov-chain Monte Carlo method. Planetary and Space Science, 2012, 73, 15-20.	1.7	13
38	Spectral modeling of meteorites at UV-vis-NIR wavelengths. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 204, 144-151.	2.3	13
39	Omnidirectional microscopy by ultrasonic sample control. Applied Physics Letters, 2020, 116, .	3.3	13
40	Asteroid absolute magnitudes and phase curve parameters from Gaia photometry. Astronomy and Astrophysics, 2021, 649, A98.	5.1	13
41	Scattering Properties of Large Irregular Cosmic Dust Particles at Visible Wavelengths. Astrophysical Journal, 2017, 838, 74.	4.5	12
42	Inferring asteroid surface properties from radar albedos and circularâ€polarization ratios. Meteoritics and Planetary Science, 2014, 49, 86-94.	1.6	11
43	Photometry of dark atmosphereless planetary bodies: an efficient numerical model. Planetary and Space Science, 2015, 118, 250-255.	1.7	11
44	Non-destructive controlled single-particle light scattering measurement. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 204, 159-164.	2.3	11
45	Nanospacecraft fleet for multi-asteroid touring with electric solar wind sails. , 2018, , .		10
46	How much is enough? The convergence of finite sample scattering properties to those of infinite media. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 262, 107524.	2.3	10
47	Dynamics of small particles in electromagnetic radiation fields: A numerical solution. Radio Science, 2017, 52, 1016-1029.	1.6	9
48	Multiple Scattering in Discrete Random Media Using Firstâ€Order Incoherent Interactions. Radio Science, 2017, 52, 1419-1431.	1.6	8
49	Photometric analysis for the spin and shape parameters of the C-type main-belt asteroids (171) Ophelia and (360) Carlova. Astronomy and Astrophysics, 2015, 581, A55.	5.1	7
50	Scattering And Absorption of Light in Planetary Regoliths. Journal of Visualized Experiments, 2019, , .	0.3	7
51	Multifrequency Acoustic Levitation. , 2019, , .		7
52	Added-value interfaces to asteroid photometric and spectroscopic data in the Gaia database. Advances in Space Research, 2018, 62, 464-476.	2.6	6
53	Inversion of HIPPARCOS andGaiaphotometric data for asteroids. Astronomy and Astrophysics, 2019, 631, A67.	5.1	6
54	Non-spherical particles in optical tweezers: A numerical solution. PLoS ONE, 2019, 14, e0225773.	2.5	6

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55	4ï€ Scatterometer: A new technique for understanding the general and complete scattering properties of particulate media. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 246, 106910.	2.3	6
56	Taxonomy of Asteroids From the Legacy Survey of Space and Time Using Neural Networks. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	6
57	Asteroid lightcurve phase shift from roughâ€surface shadowing. Meteoritics and Planetary Science, 2014, 49, 1-7.	1.6	5
58	Absolute spectral modelling of asteroid (4) Vesta. Monthly Notices of the Royal Astronomical Society, 2019, 483, 1952-1956.	4.4	5
59	Scattering of light by a large, densely packed agglomerate of small silica spheres. Optics Letters, 2020, 45, 1679.	3.3	5
60	Asteroid Photometric Phase Functions From Bayesian Lightcurve Inversion. Frontiers in Astronomy and Space Sciences, 0, 9, .	2.8	5
61	Photometric analysis for the spin parameters and shapes of asteroids (362) Havnia and (506) Marion. Planetary and Space Science, 2015, 118, 242-249.	1.7	4
62	Polarized scattering by Gaussian random particles under radiative torques. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 205, 40-49.	2.3	4
63	Light curve inversion of asteroid (585) Bilkis with Lommel-Seeliger ellipsoid method. Research in Astronomy and Astrophysics, 2016, 16, 180.	1.7	3
64	New Polarimetric Data for the Galilean Satellites: Europa Observations and Modeling. Planetary Science Journal, 2022, 3, 134.	3.6	3
65	Multiple scattering by dense random media: Volume-element extinction. , 2016, , .		2
66	Validation of radiative transfer and coherent backscattering for discrete random media. , 2016, , .		2
67	A COMPOSITE MODEL FOR REFLECTANCE AND POLARISATION OF LIGHT FROM GRANULATE MATERIALS. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 0, V-1-2020, 375-382.	0.0	2
68	Simulating Acoustic Orientation Trapping for Stable Levitation. , 2019, , .		1
69	Spectral Reflectance Processing via Local Wavelength-Direction Correlations. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 948-952.	3.1	1
70	Radiation fields in radiative transfer: Spherical-wavelet representation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 243, 106821.	2.3	1
71	Studies for slowly rotating asteroids (168) Sibylla and (346) Hermentaria. Proceedings of the International Astronomical Union, 2015, 10, 185-192.	0.0	0
72	Spherical albedo of a Lommel-Seeliger scattering ellipsoidal asteroid. Proceedings of the International Astronomical Union, 2015, 10, 206-211.	0.0	0

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73	Non-spherical particles in optical tweezers: A numerical solution. , 2019, 14, e0225773.		0
74	Non-spherical particles in optical tweezers: A numerical solution. , 2019, 14, e0225773.		0
75	Non-spherical particles in optical tweezers: A numerical solution. , 2019, 14, e0225773.		0
76	Non-spherical particles in optical tweezers: A numerical solution. , 2019, 14, e0225773.		0