Gerhard Wurm

List of Publications by Year
in descending order

98 papers	3,037 citations	218677 26 h-index	189892 50 g-index
101 all docs	101 docs citations	101 times ranked	1664 citing authors

#	Article	IF	Citations
1	Aggregation of sub-mm particles in strong electric fields under microgravity conditions. Icarus, 2022, 373, 114766.	2.5	4
2	Measuring electric dipole moments of trapped sub-mm particles. Journal of Electrostatics, 2022, 115, 103637.	1.9	2
3	Charge transfer of pre-charged dielectric grains impacting electrodes in strong electric fields. Journal of Electrostatics, 2022, 117, 103705.	1.9	4
4	A Smoking Gun for Planetesimal Formation: Charge-driven Growth into a New Size Range. Astrophysical Journal Letters, 2021, 908, L22.	8.3	12
5	Cosmic radiation does not prevent collisional charging in (pre)-planetary atmospheres. Icarus, 2021, 355, 114127.	2.5	5
6	Experimental study of clusters in dense granular gas and implications for the particle stopping time in protoplanetary disks. Icarus, 2021, 360, 114307.	2.5	5
7	Understanding planet formation using microgravity experiments. Nature Reviews Physics, 2021, 3, 405-421.	26.6	22
8	Observation of bottom-up formation for charged grain aggregates related to pre-planetary evolution beyond the bouncing barrier. Astronomy and Astrophysics, 2021, 650, A77.	5.1	7
9	Corona discharge of a vibrated insulating box with granular medium. Granular Matter, 2021, 23, 1.	2.2	5
10	Violation of triboelectric charge conservation on colliding particles. Physical Review E, 2021, 104, L022601.	2.1	6
11	Lifting of Tribocharged Grains by Martian Winds. Planetary Science Journal, 2021, 2, 238.	3.6	6
12	Wind erosion on Mars and other small terrestrial planets. Icarus, 2020, 337, 113438.	2.5	14
13	Lifting grains by the transient low pressure in a martian dust devil. Icarus, 2020, 339, 113569.	2.5	14
14	Electrical charging overcomes the bouncing barrier in planet formation. Nature Physics, 2020, 16, 225-229.	16.7	48
15	Planetesimals in rarefied gas: wind erosion in slip flow. Monthly Notices of the Royal Astronomical Society, 2020, 493, 5456-5463.	4.4	11
16	Laboratory impact splash experiments to simulate asteroid surfaces. Icarus, 2020, 341, 113646.	2.5	7
17	Drifting inwards in protoplanetary discs I Sticking of chondritic dust at increasing temperatures. Astronomy and Astrophysics, 2020, 638, A151.	5.1	8
18	Accretion of eroding pebbles and planetesimals in planetary envelopes. Astronomy and Astrophysics, 2020, 641, A99.	5.1	5

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19	Destruction of eccentric planetesimals by ram pressure and erosion. Astronomy and Astrophysics, 2020, 644, A20.	5.1	3
20	Measurements of dipole moments and a Q-patch model of collisionally charged grains. New Journal of Physics, 2020, 22, 093025.	2.9	16
21	Composition and Size Dependent Sorting in Preplanetary Growth: Seeding the Formation of Mercury-like Planets. Planetary Science Journal, 2020, 1, 23.	3.6	18
22	ARISE: A granular matter experiment on the International Space Station. Review of Scientific Instruments, 2019, 90, .	1.3	11
23	Are Pebble Pile Planetesimals Doomed?. Monthly Notices of the Royal Astronomical Society, 2019, 484, 2779-2785.	4.4	13
24	A challenge for martian lightning: Limits of collisional charging at low pressure. Icarus, 2019, 331, 103-109.	2.5	18
25	Dense Particle Clouds in Laboratory Experiments in Context of Drafting and Streaming Instability. Astrophysical Journal, 2019, 872, 3.	4.5	12
26	Sticking Properties of Silicates in Planetesimal Formation Revisited. Astrophysical Journal, 2019, 874, 60.	4.5	66
27	Contacts of Water Ice in Protoplanetary Disksâ€"Laboratory Experiments. Astrophysical Journal, 2019, 873, 58.	4.5	100
28	Onset of planet formation in the warm inner disk. Astronomy and Astrophysics, 2019, 629, A66.	5.1	8
29	Laboratory Experiments on the Motion of Dense Dust Clouds in Protoplanetary Disks. Astrophysical Journal Letters, 2019, 886, L36.	8.3	7
30	Analog experiments on thermal creep gas flow through Martian soil. Planetary and Space Science, 2019, 166, 131-134.	1.7	7
31	Constraints on compound chondrule formation from laboratory high-temperature collisions. Icarus, 2019, 319, 133-139.	2.5	11
32	Traveling to the origins of the Solar System. Science, 2019, 364, 230-231.	12.6	3
33	Saltation under Martian gravity and its influence on the global dust distribution. Icarus, 2018, 306, 25-31.	2.5	33
34	Sticking and restitution in collisions of charged sub-mm dielectric grains. Journal of Physics Communications, 2018, 2, 095009.	1.2	30
35	Selective Aggregation Experiments on Planetesimal Formation and Mercury-Like Planets. Geosciences (Switzerland), 2018, 8, 310.	2.2	3
36	Seeding the Formation of Mercurys: An Iron-sensitive Bouncing Barrier in Disk Magnetic Fields. Astrophysical Journal, 2018, 869, 45.	4.5	26

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37	Planetesimal Formation in the Warm, Inner Disk: Experiments with Tempered Dust. Astrophysical Journal, 2017, 837, 59.	4.5	8
38	The Allende multicompound chondrule (<scp>ACC</scp>)â€"Chondrule formation in a local superâ€dense region of the early solar system. Meteoritics and Planetary Science, 2017, 52, 906-924.	1.6	16
39	Analog Experiments on Tensile Strength of Dusty and Cometary Matter. Icarus, 2017, 296, 110-116.	2.5	8
40	Tracing Thermal Creep Through Granular Media. Microgravity Science and Technology, 2017, 29, 325-330.	1.4	8
41	Gas flow within Martian soil: experiments on granular Knudsen compressors. Astrophysics and Space Science, 2017, 362, 1.	1.4	12
42	Is There a Temperature Limit in Planet Formation at 1000 K?. Astrophysical Journal, 2017, 846, 48.	4.5	21
43	Lifting particles in martian dust devils by pressure excursions. Planetary and Space Science, 2017, 145, 9-13.	1.7	4
44	Tracing Thermal Creep and Thermophoresis in Porous Structures at Low Ambient Pressure and Low Gravity. Microgravity Science and Technology, 2017, 29, 485-491.	1.4	4
45	Growing into and out of the bouncing barrier in planetesimal formation. Astronomy and Astrophysics, 2017, 600, A103.	5.1	23
46	COLLISIONS OF CO₂ ICE GRAINS IN PLANET FORMATION. Astrophysical Journal, 2016, 818, 16.	4.5	80
47	ICE GRAIN COLLISIONS IN COMPARISON: CO₂, H₂O, AND THEIR MIXTURES. Astrophysical Journal, 2016, 827, 63.	4.5	48
48	FAILED GROWTH AT THE BOUNCING BARRIER IN PLANETESIMAL FORMATION. Astrophysical Journal, 2016, 827, 110.	4.5	27
49	Amplification of dust loading in Martian dust devils by self-shadowing. Icarus, 2016, 274, 249-252.	2.5	7
50	Photophoretic force on aggregate grains. Monthly Notices of the Royal Astronomical Society, 2016, 455, 2582-2591.	4.4	9
51	Thermal creep-assisted dust lifting on Mars: Wind tunnel experiments for the entrainment threshold velocity. Journal of Geophysical Research E: Planets, 2015, 120, 1346-1356.	3.6	20
52	An insolation activated dust layer on Mars. Icarus, 2015, 260, 23-28.	2.5	18
53	Scattering matrices of martian dust analogs at 488nm and 647nm. Icarus, 2015, 250, 83-94.	2.5	22
54	Ice aggregate contacts at the nm-scale. Monthly Notices of the Royal Astronomical Society, 2014, 437, 690-702.	4.4	26

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55	PHOTOPHORETIC STRENGTH ON CHONDRULES. 2. EXPERIMENT. Astrophysical Journal, 2014, 792, 73.	4.5	10
56	The martian soil as a planetary gas pump. Nature Physics, 2014, 10, 17-20.	16.7	42
57	Photophoresis on polydisperse basalt microparticles under microgravity. Journal of Aerosol Science, 2014, 76, 126-137.	3.8	14
58	PHOTOPHORETIC SEPARATION OF METALS AND SILICATES: THE FORMATION OF MERCURY-LIKE PLANETS AND METAL DEPLETION IN CHONDRITES. Astrophysical Journal, 2013, 769, 78.	4.5	78
59	FROM PLANETESIMALS TO DUST: LOW-GRAVITY EXPERIMENTS ON RECYCLING SOLIDS AT THE INNER EDGES OF PROTOPLANETARY DISKS. Astrophysical Journal, 2013, 763, 11.	4.5	40
60	PHOTOPHORETIC STRENGTH ON CHONDRULES. 1. MODELING. Astrophysical Journal, 2013, 778, 101.	4.5	7
61	Radiative forces on macroscopic porous bodies in protoplanetary disks: laboratory experiments. Astronomy and Astrophysics, 2013, 558, A70.	5.1	4
62	Preplanetary scavengers: Growing tall in dust collisions. Astronomy and Astrophysics, 2013, 559, A123.	5.1	25
63	The implications of particle rotation on the effect of photophoresis. Monthly Notices of the Royal Astronomical Society, 2012, 420, 183-186.	4.4	27
64	Ice particles trapped by temperature gradients at mbar pressure. Review of Scientific Instruments, 2011, 82, 115105.	1.3	5
65	Breaking the ice: planetesimal formation at the snowline. Monthly Notices of the Royal Astronomical Society: Letters, 2011, 418, L1-L5.	3.3	38
66	Impact angle influence in high velocity dust collisions during planetesimal formation. Icarus, 2011, 215, 596-598.	2.5	41
67	Radiative cooling within illuminated layers of dust on (pre)-planetary surfaces and its effect on dust ejection. Icarus, 2011, 211, 832-838.	2.5	17
68	Dust ejection from planetary bodies by temperature gradients: Laboratory experiments. Icarus, 2011, 212, 935-940.	2.5	24
69	Experiments on the photophoretic motion of chondrules and dust aggregatesâ€"Indications for the transport of matter in protoplanetary disks. Icarus, 2010, 208, 482-491.	2.5	33
70	Self-Sustained Levitation of Dust Aggregate Ensembles by Temperature-Gradient-Induced Overpressures. Physical Review Letters, 2009, 103, 215502.	7.8	26
71	High-velocity dust collisions: forming planetesimals in a fragmentation cascade with final accretion. Monthly Notices of the Royal Astronomical Society, 2009, 393, 1584-1594.	4.4	107
72	Outward transport of CAIs during FUâ€Orionis events. Meteoritics and Planetary Science, 2009, 44, 689-699.	1.6	27

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73	Experiments on negative photophoresis and application to the atmosphere. Atmospheric Environment, 2008, 42, 2682-2690.	4.1	30
74	The Growth Mechanisms of Macroscopic Bodies in Protoplanetary Disks. Annual Review of Astronomy and Astrophysics, 2008, 46, 21-56.	24.3	672
75	Greenhouse and thermophoretic effects in dust layers: The missing link for lifting of dust on Mars. Geophysical Research Letters, 2008, 35, .	4.0	33
76	Impacts into weak dust targets under microgravity and the formation of planetesimals. Icarus, 2007, 191, 779-789.	2.5	21
77	Light-induced disassembly of dusty bodies in inner protoplanetary discs: implications for the formation of planets. Monthly Notices of the Royal Astronomical Society, 2007, 380, 683-690.	4.4	42
78	Dust Eruptions by Photophoresis and Solid State Greenhouse Effects. Physical Review Letters, 2006, 96, 134301.	7.8	45
79	Eolian Erosion of Dusty Bodies in Protoplanetary Disks. Astrophysical Journal, 2006, 648, 1219-1227.	4.5	26
80	Concentration and sorting of chondrules and CAIs in the late Solar Nebula. Icarus, 2006, 180, 487-495.	2.5	48
81	Growth of planetesimals by impacts at â^¼25 m/s. Icarus, 2005, 178, 253-263.	2.5	156
82	Ejection of dust by elastic waves in collisions between millimeter- and centimeter-sized dust aggregates at16.5to37.5mâ^•simpact velocities. Physical Review E, 2005, 71, 021304.	2.1	29
83	Radiation pressure forces on individual micron-size dust particles: a new experimental approach. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 89, 179-189.	2.3	15
84	Light scattering experiments with micron-sized dust aggregates: results on ensembles of SiO2 monospheres and of irregularly shaped graphite particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 89, 371-384.	2.3	10
85	On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. Astrophysical Journal, 2004, 606, 983-987.	4.5	28
86	Experimental Study of Light Scattering by Large Dust Aggregates Consisting of Micronâ€sized SiO2Monospheres. Astrophysical Journal, 2003, 595, 891-899.	4.5	13
87	Optical particle and particle motion analysis with PATRICIA*. Measurement Science and Technology, 2002, 13, 796-802.	2.6	2
88	Experiments on light scattering and extinction by small, micrometer-sized aggregates of spheres. Applied Optics, 2002, 41, 1175.	2.1	7
89	Fractal Aggregates in Space. , 2002, , 89-102.		3
90	Coagulation as Unifying Element for Interstellar Polarization. Astrophysical Journal, 2002, 567, 370-375.	4.5	18

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91	Aerodynamical sticking of dust aggregates. Physical Review E, 2001, 64, 046301.	2.1	36
92	Drop tower experiments on sticking, restructuring, and fragmentation of preplanetary dust aggregates. Microgravity Science and Technology, 2001, 13, 29-34.	1.4	1
93	An Experimental Study on the Structure of Cosmic Dust Aggregates and Their Alignment by Motion Relative to Gas. Astrophysical Journal, 2000, 529, L57-L60.	4.5	30
94	The cosmic dust aggregation experiment CODAG. Measurement Science and Technology, 1999, 10, 836-844.	2.6	13
95	Experiments on Preplanetary Dust Aggregation. Icarus, 1998, 132, 125-136.	2.5	172
96	The Brownian Motion of Dust Particles in the Solar Nebula: An Experimental Approach to the Problem of Pre-planetary Dust Aggregation. Icarus, 1996, 124, 441-451.	2.5	70
97	The deâ€agglomeration and dispersion of small dust particlesâ€"Principles and applications. Review of Scientific Instruments, 1996, 67, 589-595.	1.3	20
98	Collisional Charging in the Low Pressure Range of Protoplanetary Disks. Monthly Notices of the Royal Astronomical Society, 0, , .	4.4	1