

Carsten Gättler

List of Publications by Year in descending order

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106
papers

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citations

66343

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107
times ranked

2222
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#	ARTICLE	IF	CITATIONS
1	On the nucleus structure and activity of comet 67P/Churyumov-Gerasimenko. <i>Science</i> , 2015, 347, aaa1044.	12.6	366
2	Dust measurements in the coma of comet 67P/Churyumov-Gerasimenko inbound to the Sun. <i>Science</i> , 2015, 347, aaa3905.	12.6	310
3	The morphological diversity of comet 67P/Churyumov-Gerasimenko. <i>Science</i> , 2015, 347, aaa0440.	12.6	259
4	The global shape, density and rotation of Comet 67P/Churyumov-Gerasimenko from preperihelion Rosetta/OSIRIS observations. <i>Icarus</i> , 2016, 277, 257-278.	2.5	252
5	The landing(s) of Philae and inferences about comet surface mechanical properties. <i>Science</i> , 2015, 349, aaa9816.	12.6	212
6	Shape model, reference system definition, and cartographic mapping standards for comet 67P/Churyumov-Gerasimenko – Stereo-photogrammetric analysis of Rosetta/OSIRIS image data. <i>Astronomy and Astrophysics</i> , 2015, 583, A33.	5.1	188
7	Spectrophotometric properties of the nucleus of comet 67P/Churyumov-Gerasimenko from the OSIRIS instrument onboard the ROSETTA spacecraft. <i>Astronomy and Astrophysics</i> , 2015, 583, A30.	5.1	188
8	Insolation, erosion, and morphology of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A34.	5.1	173
9	Large heterogeneities in comet 67P as revealed by active pits from sinkhole collapse. <i>Nature</i> , 2015, 523, 63-66.	27.8	158
10	EVOLUTION OF THE DUST SIZE DISTRIBUTION OF COMET 67P/CHURYUMOV-GERASIMENKO FROM 2.2 au TO PERIHELION. <i>Astrophysical Journal</i> , 2016, 821, 19.	4.5	158
11	Regional surface morphology of comet 67P/Churyumov-Gerasimenko from Rosetta/OSIRIS images. <i>Astronomy and Astrophysics</i> , 2015, 583, A26.	5.1	153
12	Redistribution of particles across the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A17.	5.1	149
13	Two independent and primitive envelopes of the bilobate nucleus of comet 67P. <i>Nature</i> , 2015, 526, 402-405.	27.8	141
14	THE PHYSICS OF PROTOPLANETESIMAL DUST AGGLOMERATES. III. COMPACTION IN MULTIPLE COLLISIONS. <i>Astrophysical Journal</i> , 2009, 696, 2036-2043.	4.5	115
15	Summer fireworks on comet 67P. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S184-S194.	4.4	112
16	Seasonal mass transfer on the nucleus of comet 67P/Chuyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S357-S371.	4.4	111
17	Free collisions in a microgravity many-particle experiment. I. Dust aggregate sticking at low velocities. <i>Icarus</i> , 2012, 218, 688-700.	2.5	110
18	Size-frequency distribution of boulders >7 m on comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A37.	5.1	108

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19	The global meter-level shape model of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2017, 607, L1.	5.1	107
20	Are fractured cliffs the source of cometary dust jets? Insights from OSIRIS/Rosetta at 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2016, 587, A14.	5.1	102
21	The pristine interior of comet 67P revealed by the combined Aswan outburst and cliff collapse. <i>Nature Astronomy</i> , 2017, 1, .	10.1	100
22	Synthesis of the morphological description of cometary dust at comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2019, 630, A24.	5.1	100
23	OSIRIS observations of meter-sized exposures of H ₂ O ice at the surface of 67P/Churyumov-Gerasimenko and interpretation using laboratory experiments. <i>Astronomy and Astrophysics</i> , 2015, 583, A25.	5.1	97
24	Rosetta's comet 67P/Churyumov-Gerasimenko sheds its dusty mantle to reveal its icy nature. <i>Science</i> , 2016, 354, 1566-1570.	12.6	97
25	THE PHYSICS OF PROTOPLANETESIMAL DUST AGGLOMERATES. IV. TOWARD A DYNAMICAL COLLISION MODEL. <i>Astrophysical Journal</i> , 2009, 701, 130-141.	4.5	96
26	LOW-VELOCITY COLLISIONS OF CENTIMETER-SIZED DUST AGGREGATES. <i>Astrophysical Journal</i> , 2011, 736, 34.	4.5	95
27	Regional surface morphology of comet 67P/Churyumov-Gerasimenko from Rosetta/OSIRIS images: The southern hemisphere. <i>Astronomy and Astrophysics</i> , 2016, 593, A110.	5.1	86
28	The rotation state of 67P/Churyumov-Gerasimenko from approach observations with the OSIRIS cameras on Rosetta. <i>Astronomy and Astrophysics</i> , 2014, 569, L2.	5.1	81
29	Energy dissipation in head-on collisions of spheres. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 435303.	2.8	74
30	Fractures on comet 67P/Churyumov-Gerasimenko observed by Rosetta/OSIRIS. <i>Geophysical Research Letters</i> , 2015, 42, 5170-5178.	4.0	71
31	Scientific assessment of the quality of OSIRIS images. <i>Astronomy and Astrophysics</i> , 2015, 583, A46.	5.1	67
32	Detection of exposed H ₂ O ice on the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2016, 595, A102.	5.1	67
33	Surface changes on comet 67P/Churyumov-Gerasimenko suggest a more active past. <i>Science</i> , 2017, 355, 1392-1395.	12.6	63
34	Free collisions in a microgravity many-particle experiment. III. The collision behavior of sub-millimeter-sized dust aggregates. <i>Icarus</i> , 2013, 225, 75-85.	2.5	60
35	Temporal morphological changes in the Imhotep region of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A36.	5.1	60
36	Geomorphology of the Imhotep region on comet 67P/Churyumov-Gerasimenko from OSIRIS observations. <i>Astronomy and Astrophysics</i> , 2015, 583, A35.	5.1	59

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37	Sunset jets observed on comet 67P/Churyumov-Gerasimenko sustained by subsurface thermal lag. <i>Astronomy and Astrophysics</i> , 2016, 586, A7.	5.1	55
38	Aswan site on comet 67P/Churyumov-Gerasimenko: Morphology, boulder evolution, and spectrophotometry. <i>Astronomy and Astrophysics</i> , 2016, 592, A69.	5.1	53
39	The nonmagnetic nucleus of comet 67P/Churyumov-Gerasimenko. <i>Science</i> , 2015, 349, aaa5102.	12.6	52
40	Acceleration of individual, decimetre-sized aggregates in the lower coma of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S78-S88.	4.4	52
41	THE PHYSICS OF PROTOPLANETESIMAL DUST AGGLOMERATES. V. MULTIPLE IMPACTS OF DUSTY AGGLOMERATES AT VELOCITIES ABOVE THE FRAGMENTATION THRESHOLD. <i>Astrophysical Journal</i> , 2010, 725, 1242-1251.	4.5	47
42	How comets work: nucleus erosion versus dehydration. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 493, 4039-4044.	4.4	46
43	Evidence of sub-surface energy storage in comet 67P from the outburst of 2016 July 03. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, s606-s625.	4.4	45
44	Seasonal erosion and restoration of the dust cover on comet 67P/Churyumov-Gerasimenko as observed by OSIRIS onboard Rosetta. <i>Astronomy and Astrophysics</i> , 2017, 604, A114.	5.1	43
45	Dust mass distribution around comet 67P/Churyumov-Gerasimenko determined via parallax measurements using Rosetta's OSIRIS cameras. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S276-S284.	4.4	43
46	Variegation of comet 67P/Churyumov-Gerasimenko in regions showing activity. <i>Astronomy and Astrophysics</i> , 2016, 586, A80.	5.1	43
47	Geomorphology and spectrophotometry of Philae's landing site on comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A41.	5.1	41
48	The MASCOT Magnetometer. <i>Space Science Reviews</i> , 2017, 208, 433-449.	8.1	41
49	The pebbles/boulders size distributions on Sais: Rosetta's final landing site on comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S636-S645.	4.4	40
50	Large-scale dust jets in the coma of 67P/Churyumov-Gerasimenko as seen by the OSIRIS instrument onboard Rosetta. <i>Astronomy and Astrophysics</i> , 2015, 583, A9.	5.1	39
51	Thermal modelling of water activity on comet 67P/Churyumov-Gerasimenko with global dust mantle and plural dust-to-ice ratio. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S295-S311.	4.4	39
52	CHANGES IN THE PHYSICAL ENVIRONMENT OF THE INNER COMA OF 67P/CHURYUMOV-GERASIMENKO WITH DECREASING HELIOCENTRIC DISTANCE. <i>Astronomical Journal</i> , 2016, 152, 130.	4.7	36
53	Gas outflow and dust transport of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S533-S546.	4.4	34
54	Free collisions in a microgravity many-particle experiment II: The collision dynamics of dust-coated chondrules. <i>Icarus</i> , 2012, 218, 701-706.	2.5	33

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55	Morphology and dynamics of the jets of comet 67P/Churyumov-Gerasimenko: Early-phase development. <i>Astronomy and Astrophysics</i> , 2015, 583, A11.	5.1	33
56	Meter-scale thermal contraction crack polygons on the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Icarus</i> , 2018, 301, 173-188.	2.5	33
57	Regional unit definition for the nucleus of comet 67P/Churyumov-Gerasimenko on the SHAP7 model. <i>Planetary and Space Science</i> , 2018, 164, 19-36.	1.7	32
58	Experiments on the consolidation of chondrites and the formation of dense rims around chondrules. <i>Icarus</i> , 2013, 225, 558-569.	2.5	31
59	The highly active Anhurâ€“Bes regions in the 67P/Churyumovâ€“Gerasimenko comet: results from OSIRIS/ROSETTA observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S93-S107.	4.4	30
60	The stratification of regolith on celestial objects. <i>Icarus</i> , 2015, 257, 33-46.	2.5	27
61	Geologic mapping of the Comet 67P/Churyumovâ€“Gerasimenko's Northern hemisphere. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S352-S367.	4.4	27
62	The southern hemisphere of 67P/Churyumov-Gerasimenko: Analysis of the preperihelion size-frequency distribution of boulders ≥ 7 m. <i>Astronomy and Astrophysics</i> , 2016, 592, L2.	5.1	27
63	Characterization of the Abydos region through OSIRIS high-resolution images in support of CIVA measurements. <i>Astronomy and Astrophysics</i> , 2016, 585, L1.	5.1	26
64	Decimetre-scaled spectrophotometric properties of the nucleus of comet 67P/Churyumovâ€“Gerasimenko from OSIRIS observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S287-S303.	4.4	26
65	Long-term survival of surface water ice on comet 67P. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S582-S597.	4.4	24
66	Orbital elements of the material surrounding comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A16.	5.1	23
67	Geomorphological mapping of comet 67P/Churyumovâ€“Gerasimenkoâ€™s Southern hemisphere. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S573-S592.	4.4	23
68	Physical properties and dynamical relation of the circular depressions on comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2016, 591, A132.	5.1	22
69	The opposition effect of 67P/Churyumovâ€“Gerasimenko on post-perihelion Rosetta images. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S550-S567.	4.4	22
70	A three-dimensional modelling of the layered structure of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S741-S754.	4.4	22
71	Bilobate comet morphology and internal structure controlled by shear deformation. <i>Nature Geoscience</i> , 2019, 12, 157-162.	12.9	22
72	On deviations from free-radial outflow in the inner coma of comet 67P/Churyumovâ€“Gerasimenko. <i>Icarus</i> , 2018, 311, 1-22.	2.5	21

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73	Exposing metal and silicate charges to electrical discharges: Did chondrules form by nebular lightning?. <i>Icarus</i> , 2008, 195, 504-510.	2.5	20
74	Spectrophotometry of the Khonsu region on the comet 67P/Churyumov-Gerasimenko using OSIRIS instrument images. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S274-S286.	4.4	20
75	The phase function and density of the dust observed at comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 476, 2835-2839.	4.4	20
76	Models of Rosetta/OSIRIS 67P Dust Coma Phase Function. <i>Astronomical Journal</i> , 2018, 156, 237.	4.7	20
77	Coma morphology of comet 67P controlled by insolation over irregular nucleus. <i>Nature Astronomy</i> , 2018, 2, 562-567.	10.1	19
78	Experimental Phase Function and Degree of Linear Polarization Curves of Millimeter-sized Cosmic Dust Analogs. <i>Astrophysical Journal, Supplement Series</i> , 2020, 247, 19.	7.7	19
79	Attitude reconstruction of ROSETTA's Lander PHILAE using two-point magnetic field observations by ROMAP and RPC-MAG. <i>Acta Astronautica</i> , 2016, 125, 174-182.	3.2	17
80	Compressive strength of comet 67P/Churyumov-Gerasimenko derived from Philae surface contacts. <i>Astronomy and Astrophysics</i> , 2019, 630, A2.	5.1	16
81	The Agilkia boulders/pebbles size-frequency distributions: OSIRIS and ROLIS joint observations of 67P surface. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S242-S252.	4.4	15
82	Surface evolution of the Anhur region on comet 67P/Churyumov-Gerasimenko from high-resolution OSIRIS images. <i>Astronomy and Astrophysics</i> , 2019, 630, A13.	5.1	15
83	67P/Churyumov-Gerasimenko's dust activity from pre- to post-perihelion as detected by Rosetta/GIADA. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 496, 125-137.	4.4	15
84	Long-term monitoring of comet 67P/Churyumov-Gerasimenko's jets with OSIRIS onboard Rosetta. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S380-S385.	4.4	13
85	Time evolution of dust deposits in the Hapi region of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2020, 636, A91.	5.1	13
86	Characterization of dust aggregates in the vicinity of the Rosetta spacecraft. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S312-S320.	4.4	12
87	Multidisciplinary analysis of the Hapi region located on Comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2019, 485, 2139-2154.	4.4	9
88	The search campaign to identify and image the Philae Lander on the surface of comet 67P/Churyumov-Gerasimenko. <i>Acta Astronautica</i> , 2019, 157, 199-214.	3.2	9
89	Diurnal variation of dust and gas production in comet 67P/Churyumov-Gerasimenko at the inbound equinox as seen by OSIRIS and VIRTIS-M on board Rosetta. <i>Astronomy and Astrophysics</i> , 2019, 630, A23.	5.1	9
90	Seasonal variations in source regions of the dust jets on comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2019, 630, A17.	5.1	9

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91	The Rocky-Like Behavior of Cometary Landslides on 67P/Churyumov-Gerasimenko. <i>Geophysical Research Letters</i> , 2019, 46, 14336-14346.	4.0	9
92	Characterization of OSIRIS NAC filters for the interpretation of multispectral data of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2015, 583, A45.	5.1	8
93	Distance determination method of dust particles using Rosetta OSIRIS NAC and WAC data. <i>Planetary and Space Science</i> , 2017, 143, 256-264.	1.7	8
94	Regional surface morphology of comet 67P/Churyumov-Gerasimenko from Rosetta/OSIRIS images: The southern hemisphere (Corrigendum). <i>Astronomy and Astrophysics</i> , 2017, 598, C2.	5.1	8
95	Geomorphological and spectrophotometric analysis of Seth's circular niches on comet 67P/Churyumov-Gerasimenko using OSIRIS images. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S238-S251.	4.4	8
96	Collision of a chondrule with matrix: Relation between static strength of matrix and impact pressure. <i>Icarus</i> , 2013, 226, 111-118.	2.5	7
97	The big lobe of 67P/Churyumov-Gerasimenko comet: morphological and spectrophotometric evidences of layering as from OSIRIS data. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 479, 1555-1568.	4.4	7
98	Long-term measurements of the erosion and accretion of dust deposits on comet 67P/Churyumov-Gerasimenko with the OSIRIS instrument. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 2895-2910.	4.4	7
99	Thermal metamorphoses of cosmic dust aggregates: Experiments by furnace, electrical gas discharge, and radiative heating. <i>Earth, Planets and Space</i> , 2010, 62, 53-56.	2.5	6
100	The CoPhyLab comet-simulation chamber. <i>Review of Scientific Instruments</i> , 2021, 92, 115102.	1.3	6
101	Global-scale brittle plastic rheology at the cometesimals merging of comet 67P/Churyumov-Gerasimenko. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 10181-10187.	7.1	5
102	Observational constraints to the dynamics of dust particles in the coma of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 4687-4705.	4.4	5
103	Reconstruction of the flight and attitude of Rosetta's lander Philae. <i>Acta Astronautica</i> , 2017, 140, 509-516.	3.2	4
104	Quantitative analysis of isolated boulder fields on comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2019, 630, A15.	5.1	4
105	AMBITION - comet nucleus cryogenic sample return. <i>Experimental Astronomy</i> , 2022, 54, 1077-1128.	3.7	4
106	Spectrophotometric characterization of the Philae landing site and surroundings with the Rosetta/OSIRIS cameras. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 498, 1221-1238.	4.4	3