

Masahiko Arakawa

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8938230/publications.pdf>

Version: 2024-02-01

68
papers

2,651
citations

236612

25
h-index

189595

50
g-index

73
all docs

73
docs citations

73
times ranked

1535
citing authors

#	ARTICLE	IF	CITATIONS
1	Hayabusa2 arrives at the carbonaceous asteroid 162173 Ryugu—A spinning top-shaped rubble pile. <i>Science</i> , 2019, 364, 268-272.	6.0	410
2	An artificial impact on the asteroid (162173) Ryugu formed a crater in the gravity-dominated regime. <i>Science</i> , 2020, 368, 67-71.	6.0	183
3	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. <i>Science</i> , 2020, 368, 654-659.	6.0	158
4	Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. <i>Nature Astronomy</i> , 2022, 6, 214-220.	4.2	136
5	Ice-on-Ice Impact Experiments. <i>Icarus</i> , 1995, 113, 423-441.	1.1	103
6	Hayabusa2: Scientific importance of samples returned from C-type near-Earth asteroid (162173) 1999 JU3. <i>Geochemical Journal</i> , 2014, 48, 571-587.	0.5	103
7	Mechanical strength of polycrystalline ice under uniaxial compression. <i>Cold Regions Science and Technology</i> , 1997, 26, 215-229.	1.6	101
8	Highly porous nature of a primitive asteroid revealed by thermal imaging. <i>Nature</i> , 2020, 579, 518-522.	13.7	100
9	Samples returned from the asteroid Ryugu are similar to Ivuna-type carbonaceous meteorites. <i>Science</i> , 2023, 379, .	6.0	97
10	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. <i>Planetary Science Journal</i> , 2022, 3, 160.	1.5	82
11	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. <i>Science</i> , 2022, 375, 1011-1016.	6.0	78
12	Thermal conductivity model for powdered materials under vacuum based on experimental studies. <i>AIP Advances</i> , 2017, 7, .	0.6	75
13	First compositional analysis of Ryugu samples by the MicrOmega hyperspectral microscope. <i>Nature Astronomy</i> , 2022, 6, 221-225.	4.2	65
14	Impact Experiments on Porous Icy-Silicate Cylindrical Blocks and the Implication for Disruption and Accumulation of Small Icy Bodies. <i>Icarus</i> , 2002, 158, 516-531.	1.1	63
15	Collisional Disruption of Ice by High-Velocity Impact. <i>Icarus</i> , 1999, 142, 34-45.	1.1	62
16	The Small Carry-on Impactor (SCI) and the Hayabusa2 Impact Experiment. <i>Space Science Reviews</i> , 2017, 208, 165-186.	3.7	58
17	Thermal conductivity of lunar regolith simulant JSC-1A under vacuum. <i>Icarus</i> , 2018, 309, 13-24.	1.1	54
18	Thermally altered subsurface material of asteroid (162173) Ryugu. <i>Nature Astronomy</i> , 2021, 5, 246-250.	4.2	47

#	ARTICLE	IF	CITATIONS
19	Scientific Objectives of Small Carry-on Impactor (SCI) and Deployable Camera 3 Digital (DCAM3-D): Observation of an Ejecta Curtain and a Crater Formed on the Surface of Ryugu by an Artificial High-Velocity Impact. <i>Space Science Reviews</i> , 2017, 208, 187-212.	3.7	44
20	Experimental study on impact-induced seismic wave propagation through granular materials. <i>Icarus</i> , 2015, 260, 320-331.	1.1	42
21	Collisional history of Ryugu's parent body from bright surface boulders. <i>Nature Astronomy</i> , 2021, 5, 39-45.	4.2	42
22	Compaction experiments on ice-silica particle mixtures: Implication for residual porosity of small icy bodies. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	39
23	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. <i>Nature Astronomy</i> , 2021, 5, 766-774.	4.2	30
24	Cratering of icy targets by different impactors: Laboratory experiments and implications for cratering in the Solar System. <i>Icarus</i> , 2005, 179, 274-288.	1.1	29
25	Ejecta velocity distribution of impact craters formed on quartz sand: Effect of projectile density on crater scaling law. <i>Icarus</i> , 2015, 262, 79-92.	1.1	26
26	In situ flash X-ray observation of projectile penetration processes and crater cavity growth in porous gypsum target analogous to low-density asteroids. <i>Icarus</i> , 2012, 221, 646-657.	1.1	25
27	Resurfacing processes on asteroid (162173) Ryugu caused by an artificial impact of Hayabusa2's Small Carry-on Impactor. <i>Icarus</i> , 2021, 366, 114530.	1.1	24
28	Ice-silicate fractionation among icy bodies due to the difference of impact strength between ice and ice-silicate mixture. <i>Icarus</i> , 2004, 170, 193-201.	1.1	22
29	Low-velocity collisions between centimeter-sized snowballs: Porosity dependence of coefficient of restitution for ice aggregates analogues in the Solar System. <i>Icarus</i> , 2012, 221, 310-319.	1.1	22
30	Impact Experiment on Asteroid (162173) Ryugu: Structure beneath the Impact Point Revealed by In Situ Observations of the Ejecta Curtain. <i>Astrophysical Journal Letters</i> , 2020, 899, L22.	3.0	19
31	Impact cratering of granular mixture targets made of H ₂ O ice-CO ₂ ice-pyrophyllite. <i>Planetary and Space Science</i> , 2000, 48, 1437-1446.	0.9	18
32	System Configuration and Operation Plan of Hayabusa2 DCAM3-D Camera System for Scientific Observation During SCI Impact Experiment. <i>Space Science Reviews</i> , 2017, 208, 125-142.	3.7	18
33	Experimental study on collisional disruption of highly porous icy bodies. <i>Icarus</i> , 2012, 218, 737-750.	1.1	17
34	Performance of Hayabusa2 DCAM3-D Camera for Short-Range Imaging of SCI and Ejecta Curtain Generated from the Artificial Impact Crater Formed on Asteroid 162137 Ryugu (1999 JU 3) Tj ETQq0 0 0 rgBT /Overdock 10 Tf 50 137 Td		
35	Experimental study on the collisional disruption of porous gypsum spheres. <i>Meteoritics and Planetary Science</i> , 2009, 44, 1947-1954.	0.7	15
36	Impact experiments with a new technique for acceleration of projectiles to velocities higher than Earth's escape velocity of 11.2 km/s. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	15

#	ARTICLE	IF	CITATIONS
37	Experimental study on the rate dependent strength of ice-silica mixture with silica volume fractions up to 0.63. <i>Geophysical Research Letters</i> , 2008, 35, n/a-n/a.	1.5	14
38	Laboratory experiments on crater scaling law for sedimentary rocks in the strength regime. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	14
39	Measurements of seismic waves induced by high-velocity impacts: Implications for seismic shaking surrounding impact craters on asteroids. <i>Icarus</i> , 2020, 338, 113520.	1.1	14
40	Hayabusa2's kinetic impact experiment: Operational planning and results. <i>Acta Astronautica</i> , 2020, 175, 362-374.	1.7	14
41	Measurements of target compressive and tensile strength for application to impact cratering on ice-silicate mixtures. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	13
42	Impact crater formed on sintered snow surface simulating porous icy bodies. <i>Icarus</i> , 2011, 216, 1-9.	1.1	13
43	Size of particles ejected from an artificial impact crater on asteroid 162173 Ryugu. <i>Astronomy and Astrophysics</i> , 2021, 647, A43.	2.1	12
44	Collisional disruption of weakly sintered porous targets at low-impact velocities. <i>Earth, Planets and Space</i> , 2007, 59, 319-324.	0.9	11
45	Impact experiments of porous gypsum-glass bead mixtures simulating parent bodies of ordinary chondrites: Implications for re-accumulation processes related to rubble-pile formation. <i>Icarus</i> , 2011, 214, 754-765.	1.1	11
46	The effect of a thin weak layer covering a basalt block on the impact cratering process. <i>Icarus</i> , 2012, 218, 751-759.	1.1	10
47	Rate-dependent strength of porous ice-silica mixtures and its implications for the shape of small to middle-sized icy satellites. <i>Icarus</i> , 2010, 210, 956-967.	1.1	8
48	Impact strength of small icy bodies that experienced multiple collisions. <i>Icarus</i> , 2014, 233, 293-305.	1.1	8
49	Impacts may provide heat for aqueous alteration and organic solid formation on asteroid parent bodies. <i>Communications Earth & Environment</i> , 2021, 2, .	2.6	8
50	Effects of oblique impacts on the impact strength of porous gypsum and glass spheres: Implications for the collisional disruption of planetesimals in thermal evolution. <i>Icarus</i> , 2020, 335, 113414.	1.1	7
51	Motion reconstruction of the small carry-on impactor aboard Hayabusa2. <i>Astrodynamics</i> , 2020, 4, 289-308.	1.5	7
52	Laboratory experiments of crater formation on ice-silicate mixture targets. <i>Advances in Space Research</i> , 2007, 39, 392-399.	1.2	6
53	Laboratory impact experiments and numerical simulations on shock pressure attenuation in water ice. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	5
54	High-resolution observations of bright boulders on asteroid Ryugu: 2. Spectral properties. <i>Icarus</i> , 2021, 369, 114591.	1.1	5

#	ARTICLE	IF	CITATIONS
55	Impacts experiments onto heterogeneous targets simulating impact breccia: Implications for impact strength of asteroids and formation of the asteroid families. <i>Icarus</i> , 2014, 235, 147-155.	1.1	4
56	System Configuration and Operation Plan of Hayabusa2 DCAM3-D Camera System for Scientific Observation During SCI Impact Experiment. , 2017, , 125-142.		4
57	Site selection for the Hayabusa2 artificial cratering and subsurface material sampling on Ryugu. <i>Planetary and Space Science</i> , 2022, 219, 105519.	0.9	4
58	Tensile strength and elastic properties of fine-grained ice aggregates: Implications for crater formation on small icy bodies. <i>Icarus</i> , 2021, 369, 114646.	1.1	3
59	Mission objectives, planning, and achievements of Hayabusa2. , 2022, , 5-23.		3
60	High-resolution observations of bright boulders on asteroid Ryugu: 1. Size frequency distribution and morphology. <i>Icarus</i> , 2021, 369, 114529.	1.1	2
61	Performance of Hayabusa2 DCAM3-D Camera for Short-Range Imaging of SCI and Ejecta Curtain Generated from the Artificial Impact Crater Formed on Asteroid 162137 Ryugu (1999) TJ ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 49		
62	Dispersion and shattering strength of rocky and frozen planetesimals studied by laboratory experiments and numerical simulations. <i>Icarus</i> , 2022, 373, 114777.	1.1	2
63	Compression experiments of high-density snow I-Plastic-type and destructive-type deformations. <i>Journal of the Japanese Society of Snow and Ice</i> , 2006, 68, 123-130.	0.0	1
64	The Small Carry-on Impactor (SCI) and the Hayabusa2 Impact Experiment. , 2016, , 165-186.		1
65	A weak and active surface of Bennu. <i>Nature Geoscience</i> , 2022, 15, 430-431.	5.4	1
66	Experimental study on the mechanical strength of ice-silica particle mixtures. <i>Journal of the Japanese Society of Snow and Ice</i> , 2009, 71, 377-385.	0.0	0
67	Hayabusa2's kinetic impact experiment. , 2022, , 291-312.		0
68	Experimental Investigation of Visible-Light and X-ray Emissions during Rock and Mineral Fracture: Role of Electrons Traveling between Fracture Surfaces. <i>Minerals (Basel, Switzerland)</i> , 2022, 12, 778.	0.8	0