Masahiko Arakawa

List of Publications by Year
in descending order

68	2,651	25	50
papers	citations	h-index	g-index
		236925	189892

73	73	73	1535
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hayabusa2 arrives at the carbonaceous asteroid 162173 Ryuguâ€"A spinning topâ€"shaped rubble pile. Science, 2019, 364, 268-272.	12.6	410
2	An artificial impact on the asteroid (162173) Ryugu formed a crater in the gravity-dominated regime. Science, 2020, 368, 67-71.	12.6	183
3	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	12.6	158
4	Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. Nature Astronomy, 2022, 6, 214-220.	10.1	136
5	Ice-on-Ice Impact Experiments. Icarus, 1995, 113, 423-441.	2.5	103
6	Hayabusa2: Scientific importance of samples returned from C-type near-Earth asteroid (162173) 1999 JU3. Geochemical Journal, 2014, 48, 571-587.	1.0	103
7	Mechanical strength of polycrystalline ice under uniaxial compression. Cold Regions Science and Technology, 1997, 26, 215-229.	3.5	101
8	Highly porous nature of a primitive asteroid revealed by thermal imaging. Nature, 2020, 579, 518-522.	27.8	100
9	Samples returned from the asteroid Ryugu are similar to Ivuna-type carbonaceous meteorites. Science, 2023, 379, .	12.6	97
10	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. Planetary Science Journal, 2022, 3, 160.	3.6	82
11	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. Science, 2022, 375, 1011-1016.	12.6	78
12	Thermal conductivity model for powdered materials under vacuum based on experimental studies. AIP Advances, 2017, 7, .	1.3	75
13	First compositional analysis of Ryugu samples by the MicrOmega hyperspectral microscope. Nature Astronomy, 2022, 6, 221-225.	10.1	65
14	Impact Experiments on Porous Icy-Silicate Cylindrical Blocks and the Implication for Disruption and Accumulation of Small Icy Bodies. Icarus, 2002, 158, 516-531.	2.5	63
15	Collisional Disruption of Ice by High-Velocity Impact. Icarus, 1999, 142, 34-45.	2.5	62
16	The Small Carry-on Impactor (SCI) and the Hayabusa2 Impact Experiment. Space Science Reviews, 2017, 208, 165-186.	8.1	58
17	Thermal conductivity of lunar regolith simulant JSC-1A under vacuum. Icarus, 2018, 309, 13-24.	2.5	54
18	Thermally altered subsurface material of asteroid (162173) Ryugu. Nature Astronomy, 2021, 5, 246-250.	10.1	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. Space Science Reviews, 2017, 208, 187-212.	8.1	44
20	Experimental study on impact-induced seismic wave propagation through granular materials. Icarus, 2015, 260, 320-331.	2.5	42
21	Collisional history of Ryuguâ€™s parent body from bright surface boulders. Nature Astronomy, 2021, 5, 39-45.	10.1	42
22	Compaction experiments on iceâ€silica particle mixtures: Implication for residual porosity of small icy bodies. Journal of Geophysical Research, 2009, 114, .	3.3	39
23	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. Nature Astronomy, 2021, 5, 766-774.	10.1	30
24	Cratering of icy targets by different impactors: Laboratory experiments and implications for cratering in the Solar System. Icarus, 2005, 179, 274-288.	2.5	29
25	Ejecta velocity distribution of impact craters formed on quartz sand: Effect of projectile density on crater scaling law. Icarus, 2015, 262, 79-92.	2.5	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. Icarus, 2012, 221, 646-657.	2.5	25
27	Resurfacing processes on asteroid (162173) Ryugu caused by an artificial impact of Hayabusa2's Small Carry-on Impactor. Icarus, 2021, 366, 114530.	2.5	24
28	Iceâ€“silicate fractionation among icy bodies due to the difference of impact strength between ice and iceâ€“silicate mixture. Icarus, 2004, 170, 193-201.	2.5	22
29	Low-velocity collisions between centimeter-sized snowballs: Porosity dependence of coefficient of restitution for ice aggregates analogues in the Solar System. Icarus, 2012, 221, 310-319.	2.5	22
30	Impact Experiment on Asteroid (162173) Ryugu: Structure beneath the Impact Point Revealed by In Situ Observations of the Ejecta Curtain. Astrophysical Journal Letters, 2020, 899, L22.	8.3	19
31	Impact cratering of granular mixture targets made of H2O Iceâ€“CO2 Iceâ€“pyrophylite. Planetary and Space Science, 2000, 48, 1437-1446.	1.7	18
32	System Configuration and Operation Plan of Hayabusa2 DCAM3-D Camera System for Scientific Observation During SCI Impact Experiment. Space Science Reviews, 2017, 208, 125-142.	8.1	18
33	Experimental study on collisional disruption of highly porous icy bodies. Icarus, 2012, 218, 737-750.	2.5	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 /Overlock 10 Tf 50 137 Td	8.1	17
35	Experimental study on the collisional disruption of porous gypsum spheres. Meteoritics and Planetary Science, 2009, 44, 1947-1954.	1.6	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. Journal of Geophysical Research, 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. Geophysical Research Letters, 2008, 35, n/a-n/a.	4.0	14
38	Laboratory experiments on crater scalingâ€law for sedimentary rocks in the strength regime. Journal of Geophysical Research, 2012, 117, .	3.3	14
39	Measurements of seismic waves induced by high-velocity impacts: Implications for seismic shaking surrounding impact craters on asteroids. Icarus, 2020, 338, 113520.	2.5	14
40	Hayabusa2's kinetic impact experiment: Operational planning and results. Acta Astronautica, 2020, 175, 362-374.	3.2	14
41	Measurements of target compressive and tensile strength for application to impact cratering on iceâ€silicate mixtures. Journal of Geophysical Research, 2008, 113, .	3.3	13
42	Impact crater formed on sintered snow surface simulating porous icy bodies. Icarus, 2011, 216, 1-9.	2.5	13
43	Size of particles ejected from an artificial impact crater on asteroid 162173 Ryugu. Astronomy and Astrophysics, 2021, 647, A43.	5.1	12
44	Collisional disruption of weakly sintered porous targets at low-impact velocities. Earth, Planets and Space, 2007, 59, 319-324.	2.5	11
45	Impact experiments of porous gypsumâ€"glass bead mixtures simulating parent bodies of ordinary chondrites: Implications for re-accumulation processes related to rubble-pile formation. Icarus, 2011, 214, 754-765.	2.5	11
46	The effect of a thin weak layer covering a basalt block on the impact cratering process. Icarus, 2012, 218, 751-759.	2.5	10
47	Rate-dependent strength of porous iceâ€"silica mixtures and its implications for the shape of small to middle-sized icy satellites. Icarus, 2010, 210, 956-967.	2.5	8
48	Impact strength of small icy bodies that experienced multiple collisions. Icarus, 2014, 233, 293-305.	2.5	8
49	Impacts may provide heat for aqueous alteration and organic solid formation on asteroid parent bodies. Communications Earth & Environment, 2021, 2, .	6.8	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. Icarus, 2020, 335, 113414.	2.5	7
51	Motion reconstruction of the small carry-on impactor aboard Hayabusa2. Astrodynamics, 2020, 4, 289-308.	2.4	7
52	Laboratory experiments of crater formation on iceâ€"silicate mixture targets. Advances in Space Research, 2007, 39, 392-399.	2.6	6
53	Laboratory impact experiments and numerical simulations on shock pressure attenuation in water ice. Journal of Geophysical Research, 2008, 113, .	3.3	5
54	High-resolution observations of bright boulders on asteroid Ryugu: 2. Spectral properties. Icarus, 2021, 369, 114591.	2.5	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. Icarus, 2014, 235, 147-155.	2.5	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. Planetary and Space Science, 2022, 219, 105519.	1.7	4
58	Tensile strength and elastic properties of fine-grained ice aggregates: Implications for crater formation on small icy bodies. Icarus, 2021, 369, 114646.	2.5	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. Icarus, 2021, 369, 114529.	2.5	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		2
62	Dispersion and shattering strength of rocky and frozen planetesimals studied by laboratory experiments and numerical simulations. Icarus, 2022, 373, 114777.	2.5	2
63	Compression experiments of high-density snow I-Plastic-type and destructive-type deformations-. Journal of the Japanese Society of Snow and Ice, 2006, 68, 123-130.	0.1	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. Nature Geoscience, 2022, 15, 430-431.	12.9	1
66	Experimental study on the mechanical strength of ice-silica particle mixtures. Journal of the Japanese Society of Snow and Ice, 2009, 71, 377-385.	0.1	0
67	Hayabusa2â€™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. Minerals (Basel, Switzerland), 2022, 12, 778.	2.0	0