Masahiko Arakawa

List of Publications by Year
in descending order

68 papers	2,651 citations	236925 25 h-index	189892 50 g-index
73 all docs	73 docs citations	73 times ranked	1535 citing authors

#	Article	IF	Citations
1	Samples returned from the asteroid Ryugu are similar to Ivuna-type carbonaceous meteorites. Science, 2023, 379, .	12.6	97
2	Dispersion and shattering strength of rocky and frozen planetesimals studied by laboratory experiments and numerical simulations. Icarus, 2022, 373, 114777.	2.5	2
3	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. Science, 2022, 375, 1011-1016.	12.6	78
4	Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. Nature Astronomy, 2022, 6, 214-220.	10.1	136
5	First compositional analysis of Ryugu samples by the MicrOmega hyperspectral microscope. Nature Astronomy, 2022, 6, 221-225.	10.1	65
6	Mission objectives, planning, and achievements of Hayabusa2. , 2022, , 5-23.		3
7	Hayabusa2â€™s kinetic impact experiment. , 2022, , 291-312.		0
8	A weak and active surface of Bennu. Nature Geoscience, 2022, 15, 430-431.	12.9	1
9	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
10	Site selection for the Hayabusa2 artificial cratering and subsurface material sampling on Ryugu. Planetary and Space Science, 2022, 219, 105519.	1.7	4
11	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
12	Collisional history of Ryuguâ€™s parent body from bright surface boulders. Nature Astronomy, 2021, 5, 39-45.	10.1	42
13	Thermally altered subsurface material of asteroid (162173) Ryugu. Nature Astronomy, 2021, 5, 246-250.	10.1	47
14	Size of particles ejected from an artificial impact crater on asteroid 162173 Ryugu. Astronomy and Astrophysics, 2021, 647, A43.	5.1	12
15	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. Nature Astronomy, 2021, 5, 766-774.	10.1	30
16	Impacts may provide heat for aqueous alteration and organic solid formation on asteroid parent bodies. Communications Earth & Environment, 2021, 2, .	6.8	8
17	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
18	High-resolution observations of bright boulders on asteroid Ryugu: 1. Size frequency distribution and morphology. Icarus, 2021, 369, 114529.	2.5	2

#	Article	IF	Citations
19	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
20	High-resolution observations of bright boulders on asteroid Ryugu: 2. Spectral properties. Icarus, 2021, 369, 114591.	2.5	5
21	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
22	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
23	Motion reconstruction of the small carry-on impactor aboard Hayabusa2. Astrodynamics, 2020, 4, 289-308.	2.4	7
24	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	12.6	158
25	Hayabusa2's kinetic impact experiment: Operational planning and results. Acta Astronautica, 2020, 175, 362-374.	3.2	14
26	Highly porous nature of a primitive asteroid revealed by thermal imaging. Nature, 2020, 579, 518-522.	27.8	100
27	An artificial impact on the asteroid (162173) Ryugu formed a crater in the gravity-dominated regime. Science, 2020, 368, 67-71.	12.6	183
28	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
29	Hayabusa2 arrives at the carbonaceous asteroid 162173 Ryuguâ€"A spinning topâ€"shaped rubble pile. Science, 2019, 364, 268-272.	12.6	410
30	Thermal conductivity of lunar regolith simulant JSC-1A under vacuum. Icarus, 2018, 309, 13-24.	2.5	54
31	Thermal conductivity model for powdered materials under vacuum based on experimental studies. AIP Advances, 2017, 7, .	1.3	75
32	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
33	The Small Carry-on Impactor (SCI) and the Hayabusa2 Impact Experiment. Space Science Reviews, 2017, 208, 165-186.	8.1	58
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 150 137 Td	8.1	17
35	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
36	System Configuration and Operation Plan of Hayabusa2 DCAM3-D Camera System for Scientific Observation During SCI Impact Experiment. , 2017, , 125-142.		4

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37	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 73		2
38	The Small Carry-on Impactor (SCI) and the Hayabusa2 Impact Experiment. , 2016, , 165-186.		1
39	Experimental study on impact-induced seismic wave propagation through granular materials. Icarus, 2015, 260, 320-331.	2.5	42
40	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
41	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
42	Impact strength of small icy bodies that experienced multiple collisions. Icarus, 2014, 233, 293-305.	2.5	8
43	Hayabusa2: Scientific importance of samples returned from C-type near-Earth asteroid (162173) 1999 JU3. Geochemical Journal, 2014, 48, 571-587.	1.0	103
44	Laboratory experiments on crater scalingâ€‐law for sedimentary rocks in the strength regime. Journal of Geophysical Research, 2012, 117, .	3.3	14
45	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
46	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
47	The effect of a thin weak layer covering a basalt block on the impact cratering process. Icarus, 2012, 218, 751-759.	2.5	10
48	Experimental study on collisional disruption of highly porous icy bodies. Icarus, 2012, 218, 737-750.	2.5	17
49	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
50	Impact crater formed on sintered snow surface simulating porous icy bodies. Icarus, 2011, 216, 1-9.	2.5	13
51	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
52	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
53	Compaction experiments on iceâ€silica particle mixtures: Implication for residual porosity of small icy bodies. Journal of Geophysical Research, 2009, 114, .	3.3	39
54	Experimental study on the collisional disruption of porous gypsum spheres. Meteoritics and Planetary Science, 2009, 44, 1947-1954.	1.6	15

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55	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
56	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
57	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
58	Laboratory impact experiments and numerical simulations on shock pressure attenuation in water ice. Journal of Geophysical Research, 2008, 113, .	3.3	5
59	Collisional disruption of weakly sintered porous targets at low-impact velocities. Earth, Planets and Space, 2007, 59, 319-324.	2.5	11
60	Laboratory experiments of crater formation on iceâ€"silicate mixture targets. Advances in Space Research, 2007, 39, 392-399.	2.6	6
61	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
62	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
63	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
64	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
65	Impact cratering of granular mixture targets made of H2O Iceâ€"CO2 Iceâ€"pyrophylite. Planetary and Space Science, 2000, 48, 1437-1446.	1.7	18
66	Collisional Disruption of Ice by High-Velocity Impact. Icarus, 1999, 142, 34-45.	2.5	62
67	Mechanical strength of polycrystalline ice under uniaxial compression. Cold Regions Science and Technology, 1997, 26, 215-229.	3.5	101
68	Ice-on-Ice Impact Experiments. Icarus, 1995, 113, 423-441.	2.5	103