Shogo Tachibana

List of Publications by Year
in descending order

107 papers	4,830 citations	101543 36 h-index	98798 67 g-index
108 all docs	108 docs citations	108 times ranked	3427 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	Ongoing hydrothermal activities within Enceladus. Nature, 2015, 519, 207-210.	27.8	382
3	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. Science, 2019, 364, 252.	12.6	313
4	An artificial impact on the asteroid (162173) Ryugu formed a crater in the gravity-dominated regime. Science, 2020, 368, 67-71.	12.6	183
5	The Initial Abundance of 60 Fe in the Solar System. Astrophysical Journal, 2003, 588, L41-L44.	4.5	174
6	High precision SIMS oxygen three isotope study of chondrules in LL3 chondrites: Role of ambient gas during chondrule formation. Geochimica Et Cosmochimica Acta, 2010, 74, 6610-6635.	3.9	162
7	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	12.6	158
8	High-temperature waterâ€"rock interactions and hydrothermal environments in the chondrite-like core of Enceladus. Nature Communications, 2015, 6, 8604.	12.8	152
9	Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. Nature Astronomy, 2022, 6, 214-220.	10.1	136
10	Low thermal conductivity boulder with high porosity identified on C-type asteroid (162173) Ryugu. Nature Astronomy, 2019, 3, 971-976.	10.1	124
11	60 Fe in Chondrites: Debris from a Nearby Supernova in the Early Solar System?. Astrophysical Journal, 2006, 639, L87-L90.	4.5	123
12	Hayabusa2: Scientific importance of samples returned from C-type near-Earth asteroid (162173) 1999 JU3. Geochemical Journal, 2014, 48, 571-587.	1.0	103
13	Highly porous nature of a primitive asteroid revealed by thermal imaging. Nature, 2020, 579, 518-522.	27.8	100
14	The relative formation ages of ferromagnesian chondrules inferred from their initial aluminumâ€26/aluminumâ€27 ratios. Meteoritics and Planetary Science, 2002, 37, 421-438.	1.6	99
15	Samples returned from the asteroid Ryugu are similar to Ivuna-type carbonaceous meteorites. Science, 2023, 379, .	12.6	97
16	Compositional dependence of infrared absorption spectra of crystalline silicates. Astronomy and Astrophysics, 2002, 391, 267-273.	5.1	84
17	Hayabusa2 Sampler: Collection of Asteroidal Surface Material. Space Science Reviews, 2017, 208, 81-106.	8.1	84
18	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. Science, 2022, 375, 1011-1016.	12.6	78

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19	One-pot synthesis of amino acid precursors with insoluble organic matter in planetesimals with aqueous activity. Science Advances, 2017, 3, e1602093.	10.3	69
20	First compositional analysis of Ryugu samples by the MicrOmega hyperspectral microscope. Nature Astronomy, 2022, 6, 221-225.	10.1	65
21	A new X-ray fluorescence spectroscopy for extraterrestrial materials using a muon beam. Scientific Reports, 2014, 4, 5072.	3.3	59
22	Low-temperature single crystal reflection spectra of forsterite. Monthly Notices of the Royal Astronomical Society, 2006, 370, 1599-1606.	4.4	56
23	Injection of Shortâ€Lived Radionuclides into the Early Solar System from a Faint Supernova with Mixing Fallback. Astrophysical Journal, 2008, 688, 1382-1387.	4.5	55
24	Sulfur isotope composition of putative primary troilite in chondrules from Bishunpur and Semarkona. Geochimica Et Cosmochimica Acta, 2005, 69, 3075-3097.	3.9	54
25	Infrared reflection spectra of forsterite crystal. Astronomy and Astrophysics, 2006, 451, 357-361.	5.1	52
26	Evaporation of forsterite in the primordial solar nebula; rates and accompanied isotopic fractionation. Geochimica Et Cosmochimica Acta, 1999, 63, 2451-2466.	3.9	51
27	Martian moons exploration MMX: sample return mission to Phobos elucidating formation processes of habitable planets. Earth, Planets and Space, 2022, 74, .	2.5	51
28	Short-lived radioisotopes in meteorites from Galactic-scale correlated star formation. Monthly Notices of the Royal Astronomical Society, 2018, 480, 4025-4039.	4.4	50
29	Thermally altered subsurface material of asteroid (162173) Ryugu. Nature Astronomy, 2021, 5, 246-250.	10.1	47
30	The Importance of Phobos Sample Return for Understanding the Mars-Moon System. Space Science Reviews, 2020, 216, 1.	8.1	45
31	Correlation between relative ages inferred from ²⁶Al and bulk compositions of ferromagnesian chondrules in least equilibrated ordinary chondrites. Meteoritics and Planetary Science, 2003, 38, 939-962.	1.6	43
32	Oxygen, silicon, and Mn-Cr isotopes of fayalite in the Kaba oxidized CV3 chondrite: Constraints for its formation history. Geochimica Et Cosmochimica Acta, 2005, 69, 1333-1348.	3.9	42
33	Collisional history of Ryuguâ€™s parent body from bright surface boulders. Nature Astronomy, 2021, 5, 39-45.	10.1	42
34	The clearing of protoplanetary disks and of the proto-solar nebula. , 2010, , 263-298.		41
35	Formation of an ultracarbonaceous Antarctic micrometeorite through minimal aqueous alteration in a small porous icy body. Geochimica Et Cosmochimica Acta, 2017, 214, 172-190.	3.9	41
36	Variation of mineralogy and organic material during the early stages of aqueous activity recorded in Antarctic micrometeorites. Geochimica Et Cosmochimica Acta, 2017, 208, 119-144.	3.9	40

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37	Hayabusa2 Sample Catcher and Container: Metal-Seal System for Vacuum Encapsulation of Returned Samples with Volatiles and Organic Compounds Recovered from C-Type Asteroid Ryugu. Space Science Reviews, 2017, 208, 107-124.	8.1	39
38	Experimental study of incongruent evaporation kinetics of enstatite in vacuum and in hydrogen gas. Geochimica Et Cosmochimica Acta, 2002, 66, 713-728.	3.9	35
39	EFFECTS OF FORSTERITE GRAIN SHAPE ON INFRARED SPECTRA. Astrophysical Journal, 2010, 709, 983-992.	4.5	35
40	Dust formation and wind acceleration around the aluminum oxideâ€“rich AGB star W Hydrae. Science Advances, 2017, 3, eaao2149.	10.3	34
41	Evaporation of Interstellar Organic Materials in the Solar Nebula. Astrophysical Journal, 2003, 592, 1252-1262.	4.5	32
42	Liquid-like behavior of UV-irradiated interstellar ice analog at low temperatures. Science Advances, 2017, 3, eaao2538.	10.3	32
43	Extraterrestrial hexamethylenetetramine in meteoritesâ€”a precursor of prebiotic chemistry in the inner solar system. Nature Communications, 2020, 11, 6243.	12.8	32
44	Incongruent evaporation of troilite (FeS) in the primordial solar nebula: an experimental study. Geochimica Et Cosmochimica Acta, 1998, 62, 2005-2022.	3.9	31
45	Recalculation of data for shortâ€lived radionuclide systems using lessâ€biased ratio estimation. Meteoritics and Planetary Science, 2012, 47, 2013-2030.	1.6	30
46	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. Nature Astronomy, 2021, 5, 766-774.	10.1	30
47	Manganese enrichment in the Gowganda Formation of the Huronian Supergroup: A highly oxidizing shallow-marine environment after the last Huronian glaciation. Earth and Planetary Science Letters, 2011, 307, 201-210.	4.4	29
48	⁶⁰Fe AND²⁶Al IN CHONDRULES FROM UNEQUILIBRATED CHONDRITES: IMPLICATIONS FOR EARLY SOLAR SYSTEM PROCESSES. Astrophysical Journal Letters, 2010, 714, L217-L221.	8.3	28
49	Transmission Electron Microscopy Study of the Morphology of Ices Composed of H₂O, CO₂, and CO on Refractory Grains. Astrophysical Journal, 2021, 918, 45.	4.5	27
50	Morphology and crystal structures of solar and presolar Al2O3 in unequilibrated ordinary chondrites. Geochimica Et Cosmochimica Acta, 2014, 124, 309-327.	3.9	26
51	KINETIC CONDENSATION AND EVAPORATION OF METALLIC IRON AND IMPLICATIONS FOR METALLIC IRON DUST FORMATION. Astrophysical Journal, 2011, 736, 16.	4.5	25
52	Evaporation rates of forsterite in the system Mg2SiO4-H2.. Journal of the Mineralogical Society of Japan, 1998, 20, 113-126.	1.0	24
53	Non-destructive elemental analysis of a carbonaceous chondrite with direct current Muon beam at MuSIC. Scientific Reports, 2017, 7, 15478.	3.3	23
54	In situ 60Fe-60Ni systematics of chondrules from unequilibrated ordinary chondrites. Geochimica Et Cosmochimica Acta, 2018, 221, 342-357.	3.9	23

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55	ANISOTROPIC EVAPORATION OF FORSTERITE AND ITS IMPLICATION FOR DUST FORMATION CONDITIONS IN CIRCUMSTELLAR ENVIRONMENTS. Astrophysical Journal, 2009, 707, L97-L101.	4.5	21
56	Ultraviolet-photon fingerprints on chondritic large organic molecules. Geochemical Journal, 2019, 53, 21-32.	1.0	19
57	EVAPORATION AND CONDENSATION KINETICS OF CORUNDUM: THE ORIGIN OF THE 13Î¼m FEATURE OF OXYGEN-RICH AGB STARS. Astrophysical Journal, Supplement Series, 2015, 218, 2.	7.7	18
58	Anisotropy of Mg isotopic fractionation during evaporation and Mg self-diffusion of forsterite in vacuum. Planetary and Space Science, 2006, 54, 1096-1106.	1.7	17
59	Evolution of Morphological and Physical Properties of Laboratory Interstellar Organic Residues with Ultraviolet Irradiation. Astrophysical Journal, 2017, 837, 35.	4.5	17
60	Water Vapor Pressure Dependence of Crystallization Kinetics of Amorphous Forsterite. ACS Earth and Space Chemistry, 2018, 2, 778-786.	2.7	17
61	Hayabusa2 Landing Site Selection: Surface Topography of Ryugu and Touchdown Safety. Space Science Reviews, 2020, 216, 1.	8.1	17
62	Shockâ€induced silicate vaporization: The role of electrons. Journal of Geophysical Research, 2012, 117, .	3.3	16
63	Composition of the lunar magma ocean constrained by the conditions for the crust formation. Icarus, 2014, 229, 45-56.	2.5	16
64	Precometary organic matter: A hidden reservoir of water inside the snow line. Scientific Reports, 2020, 10, 7755.	3.3	16
65	Oxygen Isotopic Exchange between Amorphous Silicate and Water Vapor and Its Implications for Oxygen Isotopic Evolution in the Early Solar System. Astrophysical Journal, 2018, 865, 98.	4.5	15
66	Water diffusion in silica glass through pathways formed by hydroxyls. American Mineralogist, 2018, 103, 412-417.	1.9	13
67	Experiments quantifying elemental and isotopic fractionations during evaporation of CAI-like melts in low-pressure hydrogen and in vacuum: Constraints on thermal processing of CAIs in the protoplanetary disk. Geochimica Et Cosmochimica Acta, 2021, 292, 557-576.	3.9	13
68	Interdiffusion of Mgâ€“Fe in olivine at 1,400â€“1,600ÂÂ°C and 1Âatm total pressure. Physics and Chemistry of Minerals, 2013, 40, 511-519.	0.8	12
69	Conceptual study and key technology development for Mars Aeroflyby sample collection. Acta Astronautica, 2014, 93, 84-93.	3.2	12
70	Mineralogy and noble gas isotopes of micrometeorites collected from Antarctic snow. Earth, Planets and Space, 2015, 67, .	2.5	11
71	Environmental assessment in the prelaunch phase of Hayabusa2 for safety declaration of returned samples from the asteroid (162173) Ryugu: background monitoring and risk management during development of the sampler system. Earth, Planets and Space, 2022, 74, .	2.5	11
72	Spatial Distribution of AlO in a High-mass Protostar Candidate Orion Source I. Astrophysical Journal Letters, 2019, 875, L29.	8.3	10

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73	Inâ€situ spectroscopic observations of silicate vaporization due to >10 km/s impacts using laser driven projectiles. Geophysical Research Letters, 2010, 37, .	4.0	9
74	The GAs Extraction and Analyses system (GAEA) for immediate extraction and measurements of volatiles in the Hayabusa2 sample container. Earth, Planets and Space, 2022, 74, .	2.5	9
75	Towards understanding the dynamical evolution of asteroid 25143 Itokawa: constraints from sample analysis. Earth, Planets and Space, 2015, 67, .	2.5	8
76	Survivability of presolar oxygen isotopic signature of amorphous silicate dust in the protosolar disk. Meteoritics and Planetary Science, 2020, 55, 1281-1292.	1.6	8
77	Future Missions Related to the Determination of the Elemental and Isotopic Composition of Earth, Moon and the Terrestrial Planets. Space Science Reviews, 2020, 216, 1.	8.1	8
78	Analytical protocols for Phobos regolith samples returned by the Martian Moons eXploration (MMX) mission. Earth, Planets and Space, 2021, 73, 120.	2.5	8
79	An experimental study on oxygen isotope exchange reaction between CAI melt and low-pressure water vapor under simulated Solar nebular conditions. Geochimica Et Cosmochimica Acta, 2021, 314, 108-120.	3.9	8
80	Chemical assessment of the explosive chamber in the projector system of Hayabusa2 for asteroid sampling. Earth, Planets and Space, 2020, 72, .	2.5	8
81	Numerical modelling of medium-speed impacts on a granular surface in a low-gravity environment application to Hayabusa2 sampling mechanism. Monthly Notices of the Royal Astronomical Society, 2020, 491, 153-177.	4.4	7
82	Bulk chemical characteristics of soluble polar organic molecules formed through condensation of formaldehyde: Comparison with soluble organic molecules in Murchison meteorite. Geochemical Journal, 2019, 53, 41-51.	1.0	7
83	Heating duration of igneous rim formation on a chondrule in the Northwest Africa 3118 CV3oxA carbonaceous chondrite inferred from micro-scale migration of the oxygen isotopes. Chemie Der Erde, 2019, 79, 125524.	2.0	6
84	Editorial to the Topical Collection: Role of Sample Return in Addressing Major Questions in Planetary Sciences. Space Science Reviews, 2020, 216, 1.	8.1	6
85	Molecular and isotopic compositions of nitrogen-containing organic molecules formed during UV-irradiation of simulated interstellar ice. Geochemical Journal, 2019, 53, 5-20.	1.0	6
86	CRYSTALLOGRAPHICALLY ANISOTROPIC SHAPE OF FORSTERITE: NEW PROBE FOR EVALUATING DUST FORMATION HISTORY FROM INFRARED SPECTROSCOPY. Astrophysical Journal, 2012, 750, 149.	4.5	5
87	Exploration of Enceladus^|^apos; Water-Rich Plumes toward Understanding of Chemistry and Biology of the Interior Ocean. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2014, 12, Tk_7-Tk_11.	0.2	5
88	Kinetic effects on evaporation and condensation of Mg-silicate dust particles moving in the turbulent protoplanetary disk. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2001, 77, 37-42.	3.8	4
89	Time-resolved spectroscopic observations of shockinduced silicate ionization. AIP Conference Proceedings, 2012, , .	0.4	4
90	Hayabusa2: Sample Acquisition at a Near-Earth C-type Asteroid Ryugu and Analysis Plan of Returned Samples. Microscopy and Microanalysis, 2019, 25, 2442-2443.	0.4	4

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91	Fast diffusion path for water in silica glass. American Mineralogist, 2019, 104, 385-390.	1.9	4
92	The Hayabusa2 mission: what will we expect from samples from C-type near-Earth asteroid (162173) Ryugu?. , 2021, , 147-162.		4
93	Assessing the debris generated by the small carry-on impactor operated from the <i>Hayabusa2</i> mission. Geochemical Journal, 2021, 55, 223-239.	1.0	4
94	Site selection for the Hayabusa2 artificial cratering and subsurface material sampling on Ryugu. Planetary and Space Science, 2022, 219, 105519.	1.7	4
95	Effect of Structural Dynamical Property of Melt on Water Diffusion in Rhyolite Melt. ACS Earth and Space Chemistry, 2019, 3, 2058-2062.	2.7	3
96	Hayabusa2 Sampler: Collection of Asteroidal Surface Material. , 2017, , 81-106.		3
97	Chondrule formation and evolution of the early solar system. Journal of Mineralogical and Petrological Sciences, 2006, 101, 37-47.	0.9	3
98	Mission objectives, planning, and achievements of Hayabusa2. , 2022, , 5-23.		3
99	Feasibility Assessment of Nonstop Mars Sample Return System Using Aerocapture Technologies. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2010, 8, Pk_31-Pk_38.	0.2	2
100	Diffusivity and solubility of methane in ice Ih. Geochemical Journal, 2019, 53, 83-89.	1.0	2
101	Effect of Hydrogen Gas Pressure on Calciumâ€“Aluminum-rich Inclusion Formation in the Protosolar Disk: a Laboratory Simulation of Open-system Melt Crystallization. Astrophysical Journal Letters, 2021, 923, L12.	8.3	2
102	Preface: Evolution of refractory grains, volatiles, and organic molecules from the interstellar medium to the early solar system. Geochemical Journal, 2014, 48, 509-510.	1.0	1
103	Hayabusa2 Sample Catcher and Container: Metal-Seal System for Vacuum Encapsulation of Returned Samples with Volatiles and Organic Compounds Recovered from C-Type Asteroid Ryugu. , 2016, , 107-124.		1
104	Preface: Evolution of molecules in space: From interstellar clouds to protoplanetary nebulae. Geochemical Journal, 2019, 53, 1-3.	1.0	1
105	2016 Leonard Medal for Hiroko Nagahara. Meteoritics and Planetary Science, 2016, 51, 1730-1731.	1.6	0
106	Short-lived radioisotopes in meteorites from Galactic-scale correlated star formation. Proceedings of the International Astronomical Union, 2018, 14, 83-86.	0.0	0
107	What We Expect to Learn from Ryugu Samples. Vacuum and Surface Science, 2020, 63, 189-194.	0.1	0