

# Shogo Tachibana

## List of Publications by Year in descending order

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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	Samples returned from the asteroid Ryugu are similar to Ivuna-type carbonaceous meteorites. <i>Science</i> , 2023, 379, .	12.6	97
2	Martian moons exploration MMX: sample return mission to Phobos elucidating formation processes of habitable planets. <i>Earth, Planets and Space</i> , 2022, 74, .	2.5	51
3	Pebbles and sand on asteroid (162173) Ryugu: In situ observation and particles returned to Earth. <i>Science</i> , 2022, 375, 1011-1016.	12.6	78
4	Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. <i>Nature Astronomy</i> , 2022, 6, 214-220.	10.1	136
5	First compositional analysis of Ryugu samples by the MicrOmega hyperspectral microscope. <i>Nature Astronomy</i> , 2022, 6, 221-225.	10.1	65
6	Mission objectives, planning, and achievements of Hayabusa2. , 2022, , 5-23.		3
7	The GAs Extraction and Analyses system (GAEA) for immediate extraction and measurements of volatiles in the Hayabusa2 sample container. <i>Earth, Planets and Space</i> , 2022, 74, .	2.5	9
8	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. <i>Earth, Planets and Space</i> , 2022, 74, .	2.5	11
9	Site selection for the Hayabusa2 artificial cratering and subsurface material sampling on Ryugu. <i>Planetary and Space Science</i> , 2022, 219, 105519.	1.7	4
10	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. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 292, 557-576.	3.9	13
11	Collisional history of Ryugu's parent body from bright surface boulders. <i>Nature Astronomy</i> , 2021, 5, 39-45.	10.1	42
12	Thermally altered subsurface material of asteroid (162173) Ryugu. <i>Nature Astronomy</i> , 2021, 5, 246-250.	10.1	47
13	The Hayabusa2 mission: what will we expect from samples from C-type near-Earth asteroid (162173) Ryugu?. , 2021, , 147-162.		4
14	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. <i>Nature Astronomy</i> , 2021, 5, 766-774.	10.1	30
15	Analytical protocols for Phobos regolith samples returned by the Martian Moons eXploration (MMX) mission. <i>Earth, Planets and Space</i> , 2021, 73, 120.	2.5	8
16	Transmission Electron Microscopy Study of the Morphology of Ices Composed of H <sub>2</sub> O, CO <sub>2</sub> , and CO on Refractory Grains. <i>Astrophysical Journal</i> , 2021, 918, 45.	4.5	27
17	An experimental study on oxygen isotope exchange reaction between CAI melt and low-pressure water vapor under simulated Solar nebular conditions. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 314, 108-120.	3.9	8
18	Assessing the debris generated by the small carry-on impactor operated from the Hayabusa2 mission. <i>Geochemical Journal</i> , 2021, 55, 223-239.	1.0	4

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19	Effect of Hydrogen Gas Pressure on Calcium-Aluminum-rich Inclusion Formation in the Protosolar Disk: a Laboratory Simulation of Open-system Melt Crystallization. <i>Astrophysical Journal Letters</i> , 2021, 923, L12.	8.3	2
20	Survivability of presolar oxygen isotopic signature of amorphous silicate dust in the protosolar disk. <i>Meteoritics and Planetary Science</i> , 2020, 55, 1281-1292.	1.6	8
21	Numerical modelling of medium-speed impacts on a granular surface in a low-gravity environment application to Hayabusa2 sampling mechanism. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 491, 153-177.	4.4	7
22	Hayabusa2 Landing Site Selection: Surface Topography of Ryugu and Touchdown Safety. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	17
23	Future Missions Related to the Determination of the Elemental and Isotopic Composition of Earth, Moon and the Terrestrial Planets. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	8
24	Editorial to the Topical Collection: Role of Sample Return in Addressing Major Questions in Planetary Sciences. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	6
25	Extraterrestrial hexamethylenetetramine in meteorites—a precursor of prebiotic chemistry in the inner solar system. <i>Nature Communications</i> , 2020, 11, 6243.	12.8	32
26	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. <i>Science</i> , 2020, 368, 654-659.	12.6	158
27	Precometary organic matter: A hidden reservoir of water inside the snow line. <i>Scientific Reports</i> , 2020, 10, 7755.	3.3	16
28	Highly porous nature of a primitive asteroid revealed by thermal imaging. <i>Nature</i> , 2020, 579, 518-522.	27.8	100
29	An artificial impact on the asteroid (162173) Ryugu formed a crater in the gravity-dominated regime. <i>Science</i> , 2020, 368, 67-71.	12.6	183
30	The Importance of Phobos Sample Return for Understanding the Mars-Moon System. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	45
31	Chemical assessment of the explosive chamber in the projector system of Hayabusa2 for asteroid sampling. <i>Earth, Planets and Space</i> , 2020, 72, .	2.5	8
32	What We Expect to Learn from Ryugu Samples. <i>Vacuum and Surface Science</i> , 2020, 63, 189-194.	0.1	0
33	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. <i>Chemie Der Erde</i> , 2019, 79, 125524.	2.0	6
34	Hayabusa2: Sample Acquisition at a Near-Earth C-type Asteroid Ryugu and Analysis Plan of Returned Samples. <i>Microscopy and Microanalysis</i> , 2019, 25, 2442-2443.	0.4	4
35	Low thermal conductivity boulder with high porosity identified on C-type asteroid (162173) Ryugu. <i>Nature Astronomy</i> , 2019, 3, 971-976.	10.1	124
36	Effect of Structural Dynamical Property of Melt on Water Diffusion in Rhyolite Melt. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2058-2062.	2.7	3

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37	Spatial Distribution of AIO in a High-mass Protostar Candidate Orion Source I. <i>Astrophysical Journal Letters</i> , 2019, 875, L29.	8.3	10
38	Fast diffusion path for water in silica glass. <i>American Mineralogist</i> , 2019, 104, 385-390.	1.9	4
39	Hayabusa2 arrives at the carbonaceous asteroid 162173 Ryugu—A spinning top—shaped rubble pile. <i>Science</i> , 2019, 364, 268-272.	12.6	410
40	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. <i>Science</i> , 2019, 364, 252.	12.6	313
41	Diffusivity and solubility of methane in ice Ih. <i>Geochemical Journal</i> , 2019, 53, 83-89.	1.0	2
42	Ultraviolet-photon fingerprints on chondritic large organic molecules. <i>Geochemical Journal</i> , 2019, 53, 21-32.	1.0	19
43	Bulk chemical characteristics of soluble polar organic molecules formed through condensation of formaldehyde: Comparison with soluble organic molecules in Murchison meteorite. <i>Geochemical Journal</i> , 2019, 53, 41-51.	1.0	7
44	Molecular and isotopic compositions of nitrogen-containing organic molecules formed during UV-irradiation of simulated interstellar ice. <i>Geochemical Journal</i> , 2019, 53, 5-20.	1.0	6
45	Preface: Evolution of molecules in space: From interstellar clouds to protoplanetary nebulae. <i>Geochemical Journal</i> , 2019, 53, 1-3.	1.0	1
46	Water diffusion in silica glass through pathways formed by hydroxyls. <i>American Mineralogist</i> , 2018, 103, 412-417.	1.9	13
47	In situ <sup>60</sup> Fe- <sup>60</sup> Ni systematics of chondrules from unequilibrated ordinary chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 221, 342-357.	3.9	23
48	Short-lived radioisotopes in meteorites from Galactic-scale correlated star formation. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 480, 4025-4039.	4.4	50
49	Oxygen Isotopic Exchange between Amorphous Silicate and Water Vapor and Its Implications for Oxygen Isotopic Evolution in the Early Solar System. <i>Astrophysical Journal</i> , 2018, 865, 98.	4.5	15
50	Short-lived radioisotopes in meteorites from Galactic-scale correlated star formation. <i>Proceedings of the International Astronomical Union</i> , 2018, 14, 83-86.	0.0	0
51	Water Vapor Pressure Dependence of Crystallization Kinetics of Amorphous Forsterite. <i>ACS Earth and Space Chemistry</i> , 2018, 2, 778-786.	2.7	17
52	Hayabusa2 Sampler: Collection of Asteroidal Surface Material. <i>Space Science Reviews</i> , 2017, 208, 81-106.	8.1	84
53	Variation of mineralogy and organic material during the early stages of aqueous activity recorded in Antarctic micrometeorites. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 208, 119-144.	3.9	40
54	One-pot synthesis of amino acid precursors with insoluble organic matter in planetesimals with aqueous activity. <i>Science Advances</i> , 2017, 3, e1602093.	10.3	69

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55	Liquid-like behavior of UV-irradiated interstellar ice analog at low temperatures. <i>Science Advances</i> , 2017, 3, eaao2538.	10.3	32
56	Evolution of Morphological and Physical Properties of Laboratory Interstellar Organic Residues with Ultraviolet Irradiation. <i>Astrophysical Journal</i> , 2017, 837, 35.	4.5	17
57	Non-destructive elemental analysis of a carbonaceous chondrite with direct current Muon beam at MuSIC. <i>Scientific Reports</i> , 2017, 7, 15478.	3.3	23
58	Dust formation and wind acceleration around the aluminum oxide-rich AGB star W Hydrae. <i>Science Advances</i> , 2017, 3, eaao2149.	10.3	34
59	Formation of an ultracarbonaceous Antarctic micrometeorite through minimal aqueous alteration in a small porous icy body. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 214, 172-190.	3.9	41
60	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. <i>Space Science Reviews</i> , 2017, 208, 107-124.	8.1	39
61	Hayabusa2 Sampler: Collection of Asteroidal Surface Material. , 2017, , 81-106.		3
62	2016 Leonard Medal for Hiroko Nagahara. <i>Meteoritics and Planetary Science</i> , 2016, 51, 1730-1731.	1.6	0
63	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
64	Mineralogy and noble gas isotopes of micrometeorites collected from Antarctic snow. <i>Earth, Planets and Space</i> , 2015, 67, .	2.5	11
65	Towards understanding the dynamical evolution of asteroid 25143 Itokawa: constraints from sample analysis. <i>Earth, Planets and Space</i> , 2015, 67, .	2.5	8
66	EVAPORATION AND CONDENSATION KINETICS OF CORUNDUM: THE ORIGIN OF THE 13<i>C</i> FEATURE OF OXYGEN-RICH AGB STARS. <i>Astrophysical Journal, Supplement Series</i> , 2015, 218, 2.	7.7	18
67	Ongoing hydrothermal activities within Enceladus. <i>Nature</i> , 2015, 519, 207-210.	27.8	382
68	High-temperature water-rock interactions and hydrothermal environments in the chondrite-like core of Enceladus. <i>Nature Communications</i> , 2015, 6, 8604.	12.8	152
69	Conceptual study and key technology development for Mars Aeroflyby sample collection. <i>Acta Astronautica</i> , 2014, 93, 84-93.	3.2	12
70	Composition of the lunar magma ocean constrained by the conditions for the crust formation. <i>Icarus</i> , 2014, 229, 45-56.	2.5	16
71	Morphology and crystal structures of solar and presolar Al <sub>2</sub> O <sub>3</sub> in unequilibrated ordinary chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 124, 309-327.	3.9	26
72	Preface: Evolution of refractory grains, volatiles, and organic molecules from the interstellar medium to the early solar system. <i>Geochemical Journal</i> , 2014, 48, 509-510.	1.0	1

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73	Hayabusa2: Scientific importance of samples returned from C-type near-Earth asteroid (162173) 1999 JU3. <i>Geochemical Journal</i> , 2014, 48, 571-587.	1.0	103
74	A new X-ray fluorescence spectroscopy for extraterrestrial materials using a muon beam. <i>Scientific Reports</i> , 2014, 4, 5072.	3.3	59
75	Exploration of Enceladus' Water-Rich Plumes toward Understanding of Chemistry and Biology of the Interior Ocean. <i>Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan</i> , 2014, 12, Tk_7-Tk_11.	0.2	5
76	Interdiffusion of Mg-Fe in olivine at 1,400-1,600°C and 1 atm total pressure. <i>Physics and Chemistry of Minerals</i> , 2013, 40, 511-519.	0.8	12
77	Time-resolved spectroscopic observations of shock-induced silicate ionization. <i>AIP Conference Proceedings</i> , 2012, , .	0.4	4
78	CRYSTALLOGRAPHICALLY ANISOTROPIC SHAPE OF FORSTERITE: NEW PROBE FOR EVALUATING DUST FORMATION HISTORY FROM INFRARED SPECTROSCOPY. <i>Astrophysical Journal</i> , 2012, 750, 149.	4.5	5
79	Recalculation of data for short-lived radionuclide systems using less-biased ratio estimation. <i>Meteoritics and Planetary Science</i> , 2012, 47, 2013-2030.	1.6	30
80	Shock-induced silicate vaporization: The role of electrons. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	16
81	Manganese enrichment in the Gowganda Formation of the Huronian Supergroup: A highly oxidizing shallow-marine environment after the last Huronian glaciation. <i>Earth and Planetary Science Letters</i> , 2011, 307, 201-210.	4.4	29
82	KINETIC CONDENSATION AND EVAPORATION OF METALLIC IRON AND IMPLICATIONS FOR METALLIC IRON DUST FORMATION. <i>Astrophysical Journal</i> , 2011, 736, 16.	4.5	25
83	The clearing of protoplanetary disks and of the proto-solar nebula. , 2010, , 263-298.		41
84	<sup>60</sup> Fe AND <sup>26</sup> Al IN CHONDRULES FROM UNEQUILIBRATED CHONDRITES: IMPLICATIONS FOR EARLY SOLAR SYSTEM PROCESSES. <i>Astrophysical Journal Letters</i> , 2010, 714, L217-L221.	8.3	28
85	EFFECTS OF FORSTERITE GRAIN SHAPE ON INFRARED SPECTRA. <i>Astrophysical Journal</i> , 2010, 709, 983-992.	4.5	35
86	In-situ spectroscopic observations of silicate vaporization due to >10 km/s impacts using laser driven projectiles. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	9
87	High precision SIMS oxygen three isotope study of chondrules in LL3 chondrites: Role of ambient gas during chondrule formation. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 6610-6635.	3.9	162
88	Feasibility Assessment of Nonstop Mars Sample Return System Using Aerocapture Technologies. <i>Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan</i> , 2010, 8, Pk_31-Pk_38.	0.2	2
89	ANISOTROPIC EVAPORATION OF FORSTERITE AND ITS IMPLICATION FOR DUST FORMATION CONDITIONS IN CIRCUMSTELLAR ENVIRONMENTS. <i>Astrophysical Journal</i> , 2009, 707, L97-L101.	4.5	21
90	Injection of Short-lived Radionuclides into the Early Solar System from a Faint Supernova with Mixing Feedback. <i>Astrophysical Journal</i> , 2008, 688, 1382-1387.	4.5	55

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91	Infrared reflection spectra of forsterite crystal. <i>Astronomy and Astrophysics</i> , 2006, 451, 357-361.	5.1	52
92	$^{60}\text{Fe}$ in Chondrites: Debris from a Nearby Supernova in the Early Solar System?. <i>Astrophysical Journal</i> , 2006, 639, L87-L90.	4.5	123
93	Low-temperature single crystal reflection spectra of forsterite. <i>Monthly Notices of the Royal Astronomical Society</i> , 2006, 370, 1599-1606.	4.4	56
94	Anisotropy of Mg isotopic fractionation during evaporation and Mg self-diffusion of forsterite in vacuum. <i>Planetary and Space Science</i> , 2006, 54, 1096-1106.	1.7	17
95	Chondrule formation and evolution of the early solar system. <i>Journal of Mineralogical and Petrological Sciences</i> , 2006, 101, 37-47.	0.9	3
96	Sulfur isotope composition of putative primary troilite in chondrules from Bishunpur and Semarkona. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 3075-3097.	3.9	54
97	Oxygen, silicon, and Mn-Cr isotopes of fayalite in the Kaba oxidized CV3 chondrite: Constraints for its formation history. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 1333-1348.	3.9	42
98	Correlation between relative ages inferred from $^{26}\text{Al}$ and bulk compositions of ferromagnesian chondrules in least equilibrated ordinary chondrites. <i>Meteoritics and Planetary Science</i> , 2003, 38, 939-962.	1.6	43
99	The Initial Abundance of $^{60}\text{Fe}$ in the Solar System. <i>Astrophysical Journal</i> , 2003, 588, L41-L44.	4.5	174
100	Evaporation of Interstellar Organic Materials in the Solar Nebula. <i>Astrophysical Journal</i> , 2003, 592, 1252-1262.	4.5	32
101	Compositional dependence of infrared absorption spectra of crystalline silicates. <i>Astronomy and Astrophysics</i> , 2002, 391, 267-273.	5.1	84
102	Experimental study of incongruent evaporation kinetics of enstatite in vacuum and in hydrogen gas. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 713-728.	3.9	35
103	The relative formation ages of ferromagnesian chondrules inferred from their initial aluminum $^{26}$ /aluminum $^{27}$ ratios. <i>Meteoritics and Planetary Science</i> , 2002, 37, 421-438.	1.6	99
104	Kinetic effects on evaporation and condensation of Mg-silicate dust particles moving in the turbulent protoplanetary disk. <i>Proceedings of the Japan Academy Series B: Physical and Biological Sciences</i> , 2001, 77, 37-42.	3.8	4
105	Evaporation of forsterite in the primordial solar nebula; rates and accompanied isotopic fractionation. <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 2451-2466.	3.9	51
106	Incongruent evaporation of troilite (FeS) in the primordial solar nebula: an experimental study. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 2005-2022.	3.9	31
107	Evaporation rates of forsterite in the system $\text{Mg}_2\text{SiO}_4\text{-H}_2$ . <i>Journal of the Mineralogical Society of Japan</i> , 1998, 20, 113-126.	1.0	24