Takahiro Hiroi

List of Publications by Year
in descending order

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93	6,436	66343	64796
papers	citations	42 h-index	79 g-index

93	93	93	3253
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chelyabinsk Airburst, Damage Assessment, Meteorite Recovery, and Characterization. Science, 2013, 342, 1069-1073.	12.6	487
2	Production of iron nanoparticles by laser irradiation in a simulation of lunar-like space weathering. Nature, 2001, 410, 555-557.	27.8	359
3	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. Science, 2019, 364, 252.	12.6	313
4	The global distribution of pure anorthosite on the Moon. Nature, 2009, 461, 236-240.	27.8	265
5	The surface composition of asteroid 162173 Ryugu from Hayabusa2 near-infrared spectroscopy. Science, 2019, 364, 272-275.	12.6	262
6	The Tagish Lake Meteorite: A Possible Sample from a D-Type Asteroid. Science, 2001, 293, 2234-2236.	12.6	208
7	Radar-Enabled Recovery of the Sutterâ€™s Mill Meteorite, a Carbonaceous Chondrite Regolith Breccia. Science, 2012, 338, 1583-1587.	12.6	191
8	Thermal metamorphism of the C, G, B, and F asteroids seen from the 0.7 Î¼m, 3 Î¼m, and UV absorption strengths in comparison with carbonaceous chondrites. Meteoritics and Planetary Science, 1996, 31, 321-327.	1.6	190
9	Possible mantle origin of olivine around lunar impact basins detected by SELENE. Nature Geoscience, 2010, 3, 533-536.	12.9	184
10	Vesta, Vestoids, and the howardite, eucrite, diogenite group: Relationships and the origin of spectral differences. Meteoritics and Planetary Science, 2001, 36, 761-781.	1.6	173
11	Spectral reflectance properties of carbonaceous chondrites: 2. CM chondrites. Icarus, 2011, 216, 309-346.	2.5	172
12	Spectral reflectance properties of carbonaceous chondrites: 1. CI chondrites. Icarus, 2011, 212, 180-209.	2.5	162
13	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	12.6	158
14	Evidence of Thermal Metamorphism on the C, G, B, and F Asteroids. Science, 1993, 261, 1016-1018.	12.6	150
15	Simulation of space weathering of planet-forming materials: Nanosecond pulse laser irradiation and proton implantation on olivine and pyroxene samples. Earth, Planets and Space, 1999, 51, 1255-1265.	2.5	150
16	Near-Infrared Spectral Results of Asteroid Itokawa from the Hayabusa Spacecraft. Science, 2006, 312, 1334-1338.	12.6	147
17	Petrographic, chemical and spectroscopic evidence for thermal metamorphism in carbonaceous chondrites I: CI and CM chondrites. Geochimica Et Cosmochimica Acta, 2014, 126, 284-306.	3.9	142
18	Developing space weathering on the asteroid 25143 Itokawa. Nature, 2006, 443, 56-58.	27.8	97

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19	Lunar photometric properties at wavelengths 0.5â€“1.6 Î¼m acquired by SELENE Spectral Profiler and their dependency on local albedo and latitudinal zones. Icarus, 2011, 215, 639-660.	2.5	86
20	Grain size of the surface regolith of asteroid 4 Vesta estimated from its reflectance spectrum in comparison with HED meteorites. Meteoritics, 1994, 29, 394-396.	1.4	85
21	Asymmetric crustal growth on the Moon indicated by primitive farside highland materials. Nature Geoscience, 2012, 5, 384-388.	12.9	79
22	Spectral reflectance properties of carbonaceous chondrites 4: Aqueously altered and thermally metamorphosed meteorites. Icarus, 2012, 220, 586-617.	2.5	77
23	MULTIPLE AND FAST: THE ACCRETION OF ORDINARY CHONDRITE PARENT BODIES. Astrophysical Journal, 2014, 791, 120.	4.5	75
24	Pulse-laser irradiation experiments of Murchison CM2 chondrite for reproducing space weathering on C-type asteroids. Icarus, 2015, 254, 135-143.	2.5	72
25	Importance of space weathering simulation products in compositional modeling of asteroids: 349 Dembowska and 446 Aeternitas as examples. Meteoritics and Planetary Science, 2001, 36, 1587-1596.	1.6	68
26	Spectroscopic characteristics of synthetic olivine: An integrated multi-wavelength and multi-technique approach. American Mineralogist, 2009, 94, 883-898.	1.9	67
27	Deriving the Absolute Reflectance of Lunar Surface Using SELENE (Kaguya) Multiband Imager Data. Space Science Reviews, 2010, 154, 57-77.	8.1	67
28	Comparative studies of the reflectance and degree of linear polarization of particulate surfaces and independently scattering particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2006, 100, 340-358.	2.3	66
29	The lunar rock and mineral characterization consortium: Deconstruction and integrated mineralogical, petrologic, and spectroscopic analyses of mare basalts. Meteoritics and Planetary Science, 2011, 46, 228-251.	1.6	62
30	NIRS3: The Near Infrared Spectrometer on Hayabusa2. Space Science Reviews, 2017, 208, 317-337.	8.1	60
31	Olivine-rich exposures in the South Pole-Aitken Basin. Icarus, 2012, 218, 331-344.	2.5	57
32	Grain Sizes and Mineral Compositions of Surface Regoliths of Vesta-like Asteroids. Icarus, 1995, 115, 374-386.	2.5	56
33	Simulation of space weathering by nanosecond pulse laser heating: dependence on mineral composition, weathering trend of asteroids and discovery of nanophase iron particles. Advances in Space Research, 2002, 29, 783-788.	2.6	56
34	Modeling of S-Type Asteroid Spectra Using Primitive Achondrites and Iron Meteorites. Icarus, 1993, 102, 107-116.	2.5	54
35	Spectral reflectance properties of carbonaceous chondrites: 3. CR chondrites. Icarus, 2012, 217, 389-407.	2.5	54
36	Reflectance spectroscopy of beidellites and their importance for Mars. Clays and Clay Minerals, 2011, 59, 378-399.	1.3	52

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37	Spectral reflectance properties of carbonaceous chondrites: 6. CV chondrites. Icarus, 2012, 221, 328-358.	2.5	49
38	Mineralogy of new Antarctic achondrites with affinity to Lodran and a model of their evolution in an asteroid. Meteoritics, 1994, 29, 830-842.	1.4	48
39	Thermally altered subsurface material of asteroid (162173) Ryugu. Nature Astronomy, 2021, 5, 246-250.	10.1	47
40	Asteroid (21) Lutetia as a remnant of Earthâ€™s precursor planetesimals. Icarus, 2011, 216, 650-659.	2.5	45
41	Compositional evidence for an impact origin of the Moonâ€™s Procellarum basin. Nature Geoscience, 2012, 5, 775-778.	12.9	45
42	Almahata Sitta (=asteroid 2008 TC₃) and the search for the ureilite parent body. Meteoritics and Planetary Science, 2010, 45, 1590-1617.	1.6	44
43	COMPOSITIONAL HOMOGENEITY OF CM PARENT BODIES. Astronomical Journal, 2016, 152, 54.	4.7	44
44	Global mapping of the degree of space weathering on asteroid 25143 Itokawa by Hayabusa/AMICA observations. Meteoritics and Planetary Science, 2007, 42, 1791-1800.	1.6	43
45	Challenges in detecting olivine on the surface of 4 Vesta. Meteoritics and Planetary Science, 2013, 48, 2155-2165.	1.6	43
46	Spectroscopic analysis of Martian meteorite Allan Hills 84001 powder and applications for spectral identification of minerals and other soil components on Mars. Meteoritics and Planetary Science, 1998, 33, 699-707.	1.6	42
47	Collisional history of Ryuguâ€™s parent body from bright surface boulders. Nature Astronomy, 2021, 5, 39-45.	10.1	42
48	Spectral properties of simulated impact glasses produced from martian soil analogue JSC Mars-1. Icarus, 2009, 202, 336-353.	2.5	40
49	Midinfrared spectroscopy of synthetic olivines: Thermal emission, specular and diffuse reflectance, and attenuated total reflectance studies of forsterite to fayalite. Journal of Geophysical Research, 2011, 116, .	3.3	39
50	Spectral reflectance properties of carbonaceous chondrites: 8. â€œOtherâ€•carbonaceous chondrites: CH, ungrouped, polymict, xenolithic inclusions, and R chondrites. Icarus, 2012, 221, 984-1001.	2.5	38
51	A new type of pyroclastic deposit on the Moon containing Feâ€spinel and chromite. Geophysical Research Letters, 2013, 40, 4549-4554.	4.0	38
52	Wavelength dependence of scattering properties in the VISâ€“NIR and links with grain-scale physical and compositional properties. Icarus, 2016, 267, 296-314.	2.5	38
53	Global photometric properties of (162173) Ryugu. Astronomy and Astrophysics, 2020, 639, A83.	5.1	37
54	Preflight and In-Flight Calibration of the Spectral Profiler on Board SELENE (Kaguya). IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4660-4676.	6.3	35

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55	Discovery and Analysis of Minor Absorption Bands in S-Asteroid Visible Reflectance Spectra. Icarus, 1996, 119, 202-208.	2.5	34
56	Near-infrared spectrophotometry of Asteroid 25143 Itokawa from NIRS on the Hayabusa spacecraft. Icarus, 2008, 194, 137-145.	2.5	33
57	Spectral reflectance properties of carbonaceous chondrites â€“ 5: CO chondrites. Icarus, 2012, 220, 466-486.	2.5	32
58	Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist, 2015, 100, 66-82.	1.9	32
59	The first samples from Almahata Sitta showing contacts between ureilitic and chondritic lithologies: Implications for the structure and composition of asteroid 2008 <scp>TC</scp>₃. Meteoritics and Planetary Science, 2019, 54, 2769-2813.	1.6	32
60	Visible to near-infrared optical properties of pure synthetic olivine across the olivine solid solution. American Mineralogist, 2014, 99, 467-478.	1.9	30
61	The SariÃ§iÃ§ek howardite fall in Turkey: Source crater of <scp>HED</scp> meteorites on Vesta and impact risk of Vestoids. Meteoritics and Planetary Science, 2019, 54, 953-1008.	1.6	30
62	Spectral reflectance properties of carbonaceous chondrites: 7. CK chondrites. Icarus, 2012, 221, 911-924.	2.5	29
63	Olivineâ€“metal mixtures: Spectral reflectance properties and application to asteroid reflectance spectra. Icarus, 2015, 252, 39-82.	2.5	29
64	Space Weathering Simulation with Low-energy Laser Irradiation of Murchison CM Chondrite for Reproducing Micrometeoroid Bombardments on C-type Asteroids. Astrophysical Journal Letters, 2020, 890, L23.	8.3	27
65	Recognition of minor constituents in reflectance spectra of Allan Hills 84001 chips and the importance for remote sensing on Mars. Meteoritics and Planetary Science, 1998, 33, 693-698.	1.6	25
66	The mystery of 506.5 nm feature of reflectance spectra of Vesta and Vestoids: Evidence for space weathering?. Earth, Planets and Space, 2001, 53, 1071-1075.	2.5	24
67	Spectrally blue hydrated parent body of asteroid (162173) Ryugu. Nature Communications, 2021, 12, 5837.	12.8	23
68	Phase Functions of Typical Lunar Surface Minerals Derived for the Hapke Model and Implications for Visible to Nearâ€Infrared Spectral Unmixing. Journal of Geophysical Research E: Planets, 2019, 124, 31-60.	3.6	22
69	Detectability of hydrous minerals using ONC-T camera onboard the Hayabusa2 spacecraft. Advances in Space Research, 2015, 56, 1519-1524.	2.6	21
70	The impact and recovery of asteroid 2018 LA. Meteoritics and Planetary Science, 2021, 56, 844-893.	1.6	21
71	A method to determine silicate abundances from reflectance spectra with applications to asteroid 29 amphitrite associating it with primitive achondrite meteorites. Icarus, 1990, 88, 205-227.	2.5	20
72	Bidirectional visibleâ€NIR and biconical FTâ€IR reflectance spectra of Almahata Sitta meteorite samples. Meteoritics and Planetary Science, 2010, 45, 1836-1845.	1.6	20

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73	Spectroscopy of Yamato 984028. Polar Science, 2011, 4, 530-549.	1.2	17
74	Spectral properties and mineral compositions of acapulcoiteâ€“lodranite clan meteorites: Establishing Sâ€type asteroidâ€“meteorite connections. Meteoritics and Planetary Science, 2019, 54, 157-180.	1.6	16
75	Multivariable statistical analysis of spectrophotometry and spectra of (162173) Ryugu as observed by JAXA Hayabusa2 mission. Astronomy and Astrophysics, 2019, 629, A13.	5.1	15
76	Calibration of NIR 2 of Spectral Profiler Onboard Kaguya/SELENE. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 6882-6898.	6.3	14
77	Recalculation of the Isotropic H Functions. Icarus, 1994, 109, 313-317.	2.5	13
78	Synchrotron-based infrared microspectroscopy as a useful tool to study hydration states of meteorite constituents. Meteoritics and Planetary Science, 2006, 41, 1219-1230.	1.6	13
79	Global occurrence trend of high-Ca pyroxene on lunar highlands and its implications. Journal of Geophysical Research E: Planets, 2015, 120, 831-848.	3.6	13
80	Featureless spectra on the Moon as evidence of residual lunar primordial crust. Journal of Geophysical Research E: Planets, 2015, 120, 2190-2205.	3.6	13
81	A comparative study of size frequency distributions of Jupiter Trojans, Hildas and main belt asteroids: A clue to planet migration history. Planetary and Space Science, 2019, 169, 78-85.	1.7	12
82	Q-type asteroids: Possibility of non-fresh weathered surfaces. Publication of the Astronomical Society of Japan, 2019, 71, .	2.5	10
83	Characterization of the Ryugu surface by means of the variability of the near-infrared spectral slope in NIRS3 data. Icarus, 2020, 351, 113959.	2.5	9
84	Diverse space weathering effects on asteroid surfaces as inferred via laser irradiation of meteorites. Astronomy and Astrophysics, 2022, 659, A78.	5.1	8
85	Spectral decomposition of asteroid Itokawa based on principal component analysis. Icarus, 2018, 299, 386-395.	2.5	7
86	Visible and near-infrared spectral survey of lunar meteorites recovered by the National Institute of Polar Research. Polar Science, 2016, 10, 476-496.	1.2	6
87	Spectral and mineralogical alteration process of naturally-heated CM and CY chondrites. Geochimica Et Cosmochimica Acta, 2022, 316, 150-167.	3.9	6
88	High-resolution observations of bright boulders on asteroid Ryugu: 2. Spectral properties. Icarus, 2021, 369, 114591.	2.5	5
89	A New Type of Antarctic Achondrites and their Relationship to S Asteroids and Chondrites.. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 1992, 68, 115-120.	3.8	4
90	An evaluation method of reflectance spectra to be obtained by Hayabusa2 Near-Infrared Spectrometer (NIRS3) based on laboratory measurements of carbonaceous chondrites. Earth, Planets and Space, 2017, 69, .	2.5	4

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91	UV-visible-infrared spectral survey of Antarctic carbonaceous chondrite chips. Polar Science, 2021, 29, 100723.	1.2	4
92	High-resolution observations of bright boulders on asteroid Ryugu: 1. Size frequency distribution and morphology. Icarus, 2021, 369, 114529.	2.5	2
93	NIRS3 spectral analysis of the artificial Omusubi-Kororin crater on Ryugu. Monthly Notices of the Royal Astronomical Society, 2022, 514, 6173-6182.	4.4	1