Takahiro Hiroi

List of Publications by Year
in descending order

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Version: 2024-02-01

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	Spectral and mineralogical alteration process of naturally-heated CM and CY chondrites. Geochimica Et Cosmochimica Acta, 2022, 316, 150-167.	3.9	6
2	Diverse space weathering effects on asteroid surfaces as inferred via laser irradiation of meteorites. Astronomy and Astrophysics, 2022, 659, A78.	5.1	8
3	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
4	Collisional history of Ryuguâ€™s parent body from bright surface boulders. Nature Astronomy, 2021, 5, 39-45.	10.1	42
5	Thermally altered subsurface material of asteroid (162173) Ryugu. Nature Astronomy, 2021, 5, 246-250.	10.1	47
6	The impact and recovery of asteroid 2018 LA. Meteoritics and Planetary Science, 2021, 56, 844-893.	1.6	21
7	UV-visible-infrared spectral survey of Antarctic carbonaceous chondrite chips. Polar Science, 2021, 29, 100723.	1.2	4
8	High-resolution observations of bright boulders on asteroid Ryugu: 1. Size frequency distribution and morphology. Icarus, 2021, 369, 114529.	2.5	2
9	High-resolution observations of bright boulders on asteroid Ryugu: 2. Spectral properties. Icarus, 2021, 369, 114591.	2.5	5
10	Spectrally blue hydrated parent body of asteroid (162173) Ryugu. Nature Communications, 2021, 12, 5837.	12.8	23
11	Global photometric properties of (162173) Ryugu. Astronomy and Astrophysics, 2020, 639, A83.	5.1	37
12	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	12.6	158
13	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
14	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
15	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
16	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
17	Q-type asteroids: Possibility of non-fresh weathered surfaces. Publication of the Astronomical Society of Japan, 2019, 71, .	2.5	10
18	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

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19	The surface composition of asteroid 162173 Ryugu from Hayabusa2 near-infrared spectroscopy. Science, 2019, 364, 272-275.	12.6	262
20	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. Science, 2019, 364, 252.	12.6	313
21	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
22	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
23	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
24	Spectral decomposition of asteroid Itokawa based on principal component analysis. Icarus, 2018, 299, 386-395.	2.5	7
25	NIRS3: The Near Infrared Spectrometer on Hayabusa2. Space Science Reviews, 2017, 208, 317-337.	8.1	60
26	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
27	COMPOSITIONAL HOMOGENEITY OF CM PARENT BODIES. Astronomical Journal, 2016, 152, 54.	4.7	44
28	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
29	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
30	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
31	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
32	Olivineâ€“metal mixtures: Spectral reflectance properties and application to asteroid reflectance spectra. Icarus, 2015, 252, 39-82.	2.5	29
33	Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist, 2015, 100, 66-82.	1.9	32
34	Pulse-laser irradiation experiments of Murchison CM2 chondrite for reproducing space weathering on C-type asteroids. Icarus, 2015, 254, 135-143.	2.5	72
35	Detectability of hydrous minerals using ONC-T camera onboard the Hayabusa2 spacecraft. Advances in Space Research, 2015, 56, 1519-1524.	2.6	21
36	MULTIPLE AND FAST: THE ACCRETION OF ORDINARY CHONDRITE PARENT BODIES. Astrophysical Journal, 2014, 791, 120.	4.5	75

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37	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
38	Calibration of NIR 2 of Spectral Profiler Onboard Kaguya/SELENE. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 6882-6898.	6.3	14
39	Visible to near-infrared optical properties of pure synthetic olivine across the olivine solid solution. American Mineralogist, 2014, 99, 467-478.	1.9	30
40	Chelyabinsk Airburst, Damage Assessment, Meteorite Recovery, and Characterization. Science, 2013, 342, 1069-1073.	12.6	487
41	Challenges in detecting olivine on the surface of 4 Vesta. Meteoritics and Planetary Science, 2013, 48, 2155-2165.	1.6	43
42	A new type of pyroclastic deposit on the Moon containing Feâ€spinel and chromite. Geophysical Research Letters, 2013, 40, 4549-4554.	4.0	38
43	Radar-Enabled Recovery of the Sutterâ€™s Mill Meteorite, a Carbonaceous Chondrite Regolith Breccia. Science, 2012, 338, 1583-1587.	12.6	191
44	Asymmetric crustal growth on the Moon indicated by primitive farside highland materials. Nature Geoscience, 2012, 5, 384-388.	12.9	79
45	Spectral reflectance properties of carbonaceous chondrites 4: Aqueously altered and thermally metamorphosed meteorites. Icarus, 2012, 220, 586-617.	2.5	77
46	Spectral reflectance properties of carbonaceous chondrites â€“ 5: CO chondrites. Icarus, 2012, 220, 466-486.	2.5	32
47	Spectral reflectance properties of carbonaceous chondrites: 6. CV chondrites. Icarus, 2012, 221, 328-358.	2.5	49
48	Spectral reflectance properties of carbonaceous chondrites: 7. CK chondrites. Icarus, 2012, 221, 911-924.	2.5	29
49	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
50	Compositional evidence for an impact origin of the Moonâ€™s Procellarum basin. Nature Geoscience, 2012, 5, 775-778.	12.9	45
51	Spectral reflectance properties of carbonaceous chondrites: 3. CR chondrites. Icarus, 2012, 217, 389-407.	2.5	54
52	Olivine-rich exposures in the South Pole-Aitken Basin. Icarus, 2012, 218, 331-344.	2.5	57
53	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
54	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

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55	Spectroscopy of Yamato 984028. Polar Science, 2011, 4, 530-549.	1.2	17
56	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
57	Reflectance spectroscopy of beidellites and their importance for Mars. Clays and Clay Minerals, 2011, 59, 378-399.	1.3	52
58	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
59	Spectral reflectance properties of carbonaceous chondrites: 2. CM chondrites. Icarus, 2011, 216, 309-346.	2.5	172
60	Asteroid (21) Lutetia as a remnant of Earthâ€™s precursor planetesimals. Icarus, 2011, 216, 650-659.	2.5	45
61	Spectral reflectance properties of carbonaceous chondrites: 1. CI chondrites. Icarus, 2011, 212, 180-209.	2.5	162
62	Deriving the Absolute Reflectance of Lunar Surface Using SELENE (Kaguya) Multiband Imager Data. Space Science Reviews, 2010, 154, 57-77.	8.1	67
63	Possible mantle origin of olivine around lunar impact basins detected by SELENE. Nature Geoscience, 2010, 3, 533-536.	12.9	184
64	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
65	Almahata Sitta (=asteroid 2008 TC₃) and the search for the ureilite parent body. Meteoritics and Planetary Science, 2010, 45, 1590-1617.	1.6	44
66	The global distribution of pure anorthosite on the Moon. Nature, 2009, 461, 236-240.	27.8	265
67	Spectral properties of simulated impact glasses produced from martian soil analogue JSC Mars-1. Icarus, 2009, 202, 336-353.	2.5	40
68	Spectroscopic characteristics of synthetic olivine: An integrated multi-wavelength and multi-technique approach. American Mineralogist, 2009, 94, 883-898.	1.9	67
69	Near-infrared spectrophotometry of Asteroid 25143 Itokawa from NIRS on the Hayabusa spacecraft. Icarus, 2008, 194, 137-145.	2.5	33
70	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
71	Near-Infrared Spectral Results of Asteroid Itokawa from the Hayabusa Spacecraft. Science, 2006, 312, 1334-1338.	12.6	147
72	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

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73	Developing space weathering on the asteroid 25143 Itokawa. Nature, 2006, 443, 56-58.	27.8	97
74	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
75	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
76	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
77	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
78	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
79	Production of iron nanoparticles by laser irradiation in a simulation of lunar-like space weathering. Nature, 2001, 410, 555-557.	27.8	359
80	The Tagish Lake Meteorite: A Possible Sample from a D-Type Asteroid. Science, 2001, 293, 2234-2236.	12.6	208
81	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
82	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
83	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
84	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
85	Discovery and Analysis of Minor Absorption Bands in S-Asteroid Visible Reflectance Spectra. Icarus, 1996, 119, 202-208.	2.5	34
86	Grain Sizes and Mineral Compositions of Surface Regoliths of Vesta-like Asteroids. Icarus, 1995, 115, 374-386.	2.5	56
87	Recalculation of the Isotropic H Functions. Icarus, 1994, 109, 313-317.	2.5	13
88	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
89	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
90	Modeling of S-Type Asteroid Spectra Using Primitive Achondrites and Iron Meteorites. Icarus, 1993, 102, 107-116.	2.5	54

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91	Evidence of Thermal Metamorphism on the C, G, B, and F Asteroids. Science, 1993, 261, 1016-1018.	12.6	150
92	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
93	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