T Mark Harrison

List of Publications by Year
in descending order

143	27,556	8755 75	13771 129
papers	citations	h-index	g-index

146	146	146	9452
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Geologic Evolution of the Himalayan-Tibetan Orogen. Annual Review of Earth and Planetary Sciences, 2000, 28, 211-280.	11.0	4,643
2	Zircon saturation revisited: temperature and composition effects in a variety of crustal magma types. Earth and Planetary Science Letters, 1983, 64, 295-304.	4.4	3,363
3	Zircon saturation re-revisited. Chemical Geology, 2013, 351, 324-334.	3.3	822
4	Oxygen-isotope evidence from ancient zircons for liquid water at the Earth's surface 4,300â€‰Myr ago. Nature, 2001, 409, 178-181.	27.8	747
5	Diffusion of 40Ar in hornblende. Contributions To Mineralogy and Petrology, 1982, 78, 324-331.	3.1	735
6	Cretaceous-Tertiary shortening, basin development, and volcanism in central Tibet. Bulletin of the Geological Society of America, 2005, 117, 865.	3.3	675
7	Diffusion of 40Ar in muscovite. Geochimica Et Cosmochimica Acta, 2009, 73, 1039-1051.	3.9	549
8	The ⁴⁰Ar/³⁹Ar thermochronometry for slowly cooled samples having a distribution of diffusion domain sizes. Journal of Geophysical Research, 1989, 94, 17917-17935.	3.3	403
9	Mesozoic and Cenozoic tectonic evolution of the Shiquanhe area of western Tibet. Tectonics, 2003, 22, n/a-n/a.	2.8	390
10	Tectonic evolution of the early Mesozoic blueschist-bearing Qiangtang metamorphic belt, central Tibet. Tectonics, 2003, 22, n/a-n/a.	2.8	351
11	Kinetics of zircon dissolution and zirconium diffusion in granitic melts of variable water content. Contributions To Mineralogy and Petrology, 1983, 84, 66-72.	3.1	348
12	Potentially biogenic carbon preserved in a 4.1 billion-year-old zircon. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14518-14521.	7.1	345
13	The Hadean Crust: Evidence from >4 Ga Zircons. Annual Review of Earth and Planetary Sciences, 2009, 37, 479-505.	11.0	341
14	Tertiary structural evolution of the Gangdese Thrust System, southeastern Tibet. Journal of Geophysical Research, 1994, 99, 18175-18201.	3.3	340
15	Identification of inherited radiogenic Pb in monazite and its implications for Uâ€“Pb systematics. Nature, 1988, 333, 760-763.	27.8	331
16	Prograde destruction and formation of monazite and allanite during contact and regional metamorphism of pelites: petrology and geochronology. Contributions To Mineralogy and Petrology, 2003, 145, 228-250.	3.1	331
17	Late Miocene environmental change in Nepal and the northern Indian subcontinent: Stable isotopic evidence from paleosols. Bulletin of the Geological Society of America, 1995, 107, 1381-1397.	3.3	325
18	Geochronology and thermal history of the Coast Plutonic Complex, near Prince Rupert, British Columbia. Canadian Journal of Earth Sciences, 1979, 16, 400-410.	1.3	310

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19	Blueschist-bearing metamorphic core complexes in the Qiangtang block reveal deep crustal structure of northern Tibet. Geology, 2000, 28, 19.	4.4	306
20	Prolonged residence times for the youngest rhyolites associated with Long Valley Caldera:230Thâ€”238U ion microprobe dating of young zircons. Earth and Planetary Science Letters, 1997, 150, 27-39.	4.4	305
21	Activation of the Nyainqentanghla Shear Zone: Implications for uplift of the southern Tibetan Plateau. Tectonics, 1995, 14, 658-676.	2.8	288
22	Evidence for Early (> 44ÂMa) Himalayan Crustal Thickening, Tethyan Himalaya, southeastern Tibet. Earth and Planetary Science Letters, 2008, 274, 14-23.	4.4	288
23	Geochronologic and thermobarometric constraints on the evolution of the Main Central Thrust, central Nepal Himalaya. Journal of Geophysical Research, 2001, 106, 16177-16204.	3.3	281
24	Reconstruction of the Altyn Tagh fault based on U-Pb geochronology: Role of back thrusts, mantle sutures, and heterogeneous crustal strength in forming the Tibetan Plateau. Journal of Geophysical Research, 2003, 108, .	3.3	280
25	A Late Miocene-Pliocene origin for the Central Himalayan inverted metamorphism. Earth and Planetary Science Letters, 1997, 146, E1-E7.	4.4	279
26	Direct dating of left-lateral deformation along the Red River shear zone, China and Vietnam. Journal of Geophysical Research, 2003, 108, .	3.3	279
27	Excess40Ar in metamorphic rocks from Broken Hill, New South Wales: implications for40Ar/39Ar age spectra and the thermal history of the region. Earth and Planetary Science Letters, 1981, 55, 123-149.	4.4	271
28	Tertiary deformation history of southeastern and southwestern Tibet during the Indo-Asian collision. Bulletin of the Geological Society of America, 1999, 111, 1644.	3.3	271
29	A model for the origin of Himalayan anatexis and inverted metamorphism. Journal of Geophysical Research, 1998, 103, 27017-27032.	3.3	268
30	⁴⁰Ar/³⁹Ar age constraints on deformation and metamorphism in the main central thrust zone and Tibetan slab, eastern Nepal Himalaya. Tectonics, 1989, 8, 865-880.	2.8	265
31	Low heat flow inferred from >4â€‰Gyr zircons suggests Hadean plate boundary interactions. Nature, 2008, 456, 493-496.	27.8	259
32	Early (â‰¥4.5ÂGa) formation of terrestrial crust: Luâ€“Hf, Î´18O, and Ti thermometry results for Hadean zircons. Earth and Planetary Science Letters, 2008, 268, 476-486.	4.4	259
33	Structural, petrological and thermal evolution of a Tertiary ductile strikeâ€slip shear zone, Diancang Shan, Yunnan. Journal of Geophysical Research, 1993, 98, 6715-6743.	3.3	258
34	Temperature spectra of zircon crystallization in plutonic rocks. Geology, 2007, 35, 635.	4.4	253
35	⁴⁰Ar (super *) diffusion in Fe-rich biotite. American Mineralogist, 1996, 81, 940-951.	1.9	249
36	Tectonic evolution of the northeastern Pamir: Constraints from the northern portion of the Cenozoic Kongur Shan extensional system, western China. Bulletin of the Geological Society of America, 2004, 116, 953.	3.3	219

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37	Diffusion domains determined by ³⁹Ar released during step heating. Journal of Geophysical Research, 1991, 96, 2057-2069.	3.3	213
38	New insights into the origin of two contrasting Himalayan granite belts. Geology, 1997, 25, 899.	4.4	202
39	The Zedong Window: A record of superposed Tertiary convergence in southeastern Tibet. Journal of Geophysical Research, 2000, 105, 19211-19230.	3.3	196
40	Episodic rapid uplift in the Himalaya revealed by 40Ar/39Ar analysis of detrital K-feldspar and muscovite, Bengal fan. Geology, 1990, 18, 354.	4.4	191
41	Isotopic Preservation of Himalayan/Tibetan Uplift, Denudation, and Climatic Histories of Two Molasse Deposits. Journal of Geology, 1993, 101, 157-175.	1.4	188
42	Postcollisional potassic and ultrapotassic rocks in southern Tibet: Mantle and crustal origins in response to Indiaâ€“Asia collision and convergence. Geochimica Et Cosmochimica Acta, 2014, 143, 207-231.	3.9	187
43	The Kumaun and Garwhal Lesser Himalaya, India: Part 1. Structure and stratigraphy. Bulletin of the Geological Society of America, 2009, 121, 1262-1280.	3.3	186
44	Systematic analysis of K-feldspar step heating results: I. Significance of activation energy determinations. Geochimica Et Cosmochimica Acta, 1997, 61, 3171-3192.	3.9	177
45	Rapid early Miocene acceleration of uplift in the Gangdese Belt, Xizang (southern Tibet), and its bearing on accommodation mechanisms of the India-Asia collision. Earth and Planetary Science Letters, 1987, 86, 240-252.	4.4	173
46	Thermal evolution and slip history of the Renbu Zedong Thrust, southeastern Tibet. Journal of Geophysical Research, 1997, 102, 2659-2679.	3.3	170
47	Thermal evolution of the Gangdese batholith, southern Tibet: A history of episodic unroofing. Tectonics, 1995, 14, 223-236.	2.8	165
48	An Early Miocene Transition in deformation regime within the Red River Fault Zone, Yunnan, And its significance for Indoâ€Asian tectonics. Journal of Geophysical Research, 1992, 97, 7159-7182.	3.3	163
49	Perspectives on the source, segregation and transport of granitoid magmas. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 1988, 79, 135-156.	0.3	160
50	Constraints on Hadean zircon protoliths from oxygen isotopes, Ti-thermometry, and rare earth elements. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	2.5	160
51	Mass-spectrometric mining of Hadean zircons by automated SHRIMP multi-collector and single-collector U/Pb zircon age dating: The first 100,000 grains. International Journal of Mass Spectrometry, 2009, 286, 53-63.	1.5	158
52	Carbon isotopic composition of individual Precambrian microfossils. Geology, 2000, 28, 707.	4.4	157
53	The leading edge of the Greater Himalayan Crystalline complex revealed in the NW Indian Himalaya: Implications for the evolution of the Himalayan orogen. Geology, 2007, 35, 955.	4.4	155
54	Relationship between leucogranites and the Qomolangma detachment in the Rongbuk Valley, south Tibet. Geology, 1999, 27, 831.	4.4	151

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55	Nyainqentanglha Shan: A window into the tectonic, thermal, and geochemical evolution of the Lhasa block, southern Tibet. Journal of Geophysical Research, 2005, 110, .	3.3	149
56	Constraints on Hadean geodynamics from mineral inclusions in >4Ga zircons. Earth and Planetary Science Letters, 2010, 298, 367-376.	4.4	141
57	Significant late Neogene east-west extension in northern Tibet. Geology, 1999, 27, 787.	4.4	137
58	Tibetan tectonics from 40Ar/39Ar analysis of a single K-feldspar sample. Earth and Planetary Science Letters, 1991, 105, 266-278.	4.4	130
59	Age, Cooling History, and Origin of Post-Collisional Leucogranites in the Karakoram Batholith; A Multi-System Isotope Study. Journal of Geology, 1990, 98, 233-251.	1.4	122
60	Pressure-temperature-time path discontinuity in the Main Central thrust zone, central Nepal. Geology, 2001, 29, 571.	4.4	120
61	A chlorine disinfectant for excess argon released from K-felsspar during step heating. Earth and Planetary Science Letters, 1994, 123, 95-104.	4.4	110
62	The Kumaun and Garwhal Lesser Himalaya, India: Part 2. Thermal and deformation histories. Bulletin of the Geological Society of America, 2009, 121, 1281-1297.	3.3	108
63	High sensitivity mapping of Ti distributions in Hadean zircons. Earth and Planetary Science Letters, 2007, 261, 9-19.	4.4	106
64	An Early Pliocene thermal disturbance of the main central thrust, central Nepal: Implications for Himalayan tectonics. Journal of Geophysical Research, 1991, 96, 8475-8500.	3.3	102
65	Two phases of Mesozoic north-south extension in the eastern Altyn Tagh range, northern Tibetan Plateau. Tectonics, 2003, 22, n/a-n/a.	2.8	102
66	Diffusion of 40Ar in metamorphic hornblende. Contributions To Mineralogy and Petrology, 1990, 105, 691-703.	3.1	99
67	Illusory Late Heavy Bombardments. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10802-10806.	7.1	95
68	Warm storage for arc magmas. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13959-13964.	7.1	88
69	Th-Pb ion-microprobe dating of allanite. American Mineralogist, 2000, 85, 633-648.	1.9	85
70	Zircon xenocrysts in Tibetan ultrapotassic magmas: Imaging the deep crust through time. Geology, 2014, 42, 43-46.	4.4	85
71	Erosion in southern Tibet shut down at â^¼10 Ma due to enhanced rock uplift within the Himalaya. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12030-12035.	7.1	85
72	Age and cooling history of the Manaslu granite: implications for Himalayan tectonics. Journal of Volcanology and Geothermal Research, 1990, 44, 33-50.	2.1	84

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73	Recovering the primary geochemistry of Jack Hills zircons through quantitative estimates of chemical alteration. Geochimica Et Cosmochimica Acta, 2016, 191, 187-202.	3.9	84
74	How Did Early Earth Become Our Modern World?. Annual Review of Earth and Planetary Sciences, 2014, 42, 151-178.	11.0	82
75	Monazite Th-Pb age depth profiling. Geology, 1999, 27, 487.	4.4	81
76	Argon diffusion domains in K-feldspar II: kinetic properties of MH-10. Contributions To Mineralogy and Petrology, 1993, 113, 381-393.	3.1	77
77	A model of the thermal effects of igneous intrusion and uplift as applied to Quottoon pluton, British Columbia. Canadian Journal of Earth Sciences, 1979, 16, 411-420.	1.3	76
78	Early Archean crustal evolution of the Jack Hills Zircon source terrane inferred from Luâ€“Hf, 207Pb/206Pb, and Î´18O systematics of Jack Hills zircons. Geochimica Et Cosmochimica Acta, 2011, 75, 4816-4829.	3.9	76
79	Argon diffusion domains in K-feldspar I: microstructures in MH-10. Contributions To Mineralogy and Petrology, 1993, 113, 367-380.	3.1	72
80	The ⁴⁰Ar/³⁹Ar thermochronology of the eastern Mojave Desert, California, and adjacent western Arizona with implications for the evolution of metamorphic core complexes. Journal of Geophysical Research, 1990, 95, 20005-20024.	3.3	70
81	Thermal events documented in Hadean zircons by ion microprobe depth profiles. Geochimica Et Cosmochimica Acta, 2007, 71, 4044-4065.	3.9	64
82	Geochronologic studies in central New England I: Evidence for pre-Acadian metamorphism in eastern Vermont. Geology, 1989, 17, 181.	4.4	60
83	The origin of Eo- and Neo-himalayan granitoids, Eastern Tibet. Journal of Asian Earth Sciences, 2012, 58, 143-157.	2.3	60
84	Eoarchean crustal evolution of the Jack Hills zircon source and loss of Hadean crust. Geochimica Et Cosmochimica Acta, 2014, 146, 27-42.	3.9	59
85	Hadean Zircon Petrochronology. Reviews in Mineralogy and Geochemistry, 2017, 83, 329-363.	4.8	58
86	Extinct 244Pu in Ancient Zircons. Science, 2004, 306, 89-91.	12.6	57
87	Distinguishing primary and secondary inclusion assemblages in Jack Hills zircons. Lithos, 2015, 234-235, 15-26.	1.4	55
88	40Ar/39Ar age spectrum analysis of detrital microclines from the southern San Joaquin Basin, California: an approach to determining the thermal evolution of sedimentary basins. Earth and Planetary Science Letters, 1983, 64, 244-256.	4.4	54
89	Geochemical signatures and magmatic stability of terrestrial impact produced zircon. Earth and Planetary Science Letters, 2012, 321-322, 20-31.	4.4	53
90	Li zoning in zircon as a potential geospeedometer and peak temperature indicator. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	53

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91	Late Cretaceous magmatism in Mamba area, central Lhasa subterrane: Products of back-arc extension of Neo-Tethyan Ocean?. Gondwana Research, 2014, 26, 505-520.	6.0	51
92	Tracking chemical alteration in magmatic zircon using rare earth element abundances. Chemical Geology, 2019, 510, 56-71.	3.3	50
93	In vacuo crushing experiments and K-feldspar thermochronometry. Earth and Planetary Science Letters, 1993, 117, 169-180.	4.4	48
94	Age and thermal history of Eo- and Neohimalayan granitoids, eastern Himalaya. Journal of Asian Earth Sciences, 2012, 51, 85-97.	2.3	47
95	Post-Hadean transitions in Jack Hills zircon provenance: A signal of the Late Heavy Bombardment?. Earth and Planetary Science Letters, 2013, 364, 1-11.	4.4	44
96	⁴⁰Ar/³⁹Ar Geochronology of Postâ€Valles Caldera Rhyolites, Jemez Volcanic Field, New Mexico. Journal of Geophysical Research, 1993, 98, 8031-8051.	3.3	42
97	A search for thermal excursions from ancient extraterrestrial impacts using Hadean zircon Ti-U-Th-Pb depth profiles. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13486-13492.	7.1	40
98	Mesozoic thermal evolution of the Yukonâ€Tanana Composite Terrane: New evidence from ⁴⁰Ar/³⁹Ar data. Tectonics, 1991, 10, 51-76.	2.8	39
99	Effective closure temperature in leaky and/or saturating thermochronometers. Earth and Planetary Science Letters, 2013, 384, 209-218.	4.4	39
100	Fission track evidence for the source of accreted sandstones, Barbados. Tectonics, 1986, 5, 457-468.	2.8	38
101	Geochemical evidence for thin syn-collision crust and major crustal thickening between 45 and 32â€¯Ma at the southern margin of Tibet. Gondwana Research, 2019, 73, 123-135.	6.0	37
102	Aluminum in zircon as evidence for peraluminous and metaluminous melts from the H adean to present. Geochemistry, Geophysics, Geosystems, 2017, 18, 1580-1593.	2.5	34
103	Constraining crustal silica on ancient Earth. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21101-21107.	7.1	34
104	Potassic, high-silica Hadean crust. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6353-6356.	7.1	33
105	The P-T-t history of blocks in serpentinite-matrix mÃ©lange, west-central Baja California. Bulletin of the Geological Society of America, 1992, 104, 18-31.	3.3	30
106	In situ 40Kâ€“40Ca â€¯double-plusâ€™ SIMS dating resolves Klokken feldspar 40Kâ€“40Ar paradox. Earth and Planetary Science Letters, 2010, 299, 426-433.	4.4	29
107	Mineral inclusion assemblage and detrital zircon provenance. Chemical Geology, 2018, 477, 151-160.	3.3	28
108	Source region of a granite batholith: evidence from lower crustal xenoliths and inherited accessory minerals. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 1992, 83, 49-62.	0.3	27

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109	Constraints on the age of heating at the Fenton Hill Site, Valles Caldera, New Mexico. Journal of Geophysical Research, 1986, 91, 1899-1908.	3.3	26
110	The thermal history of the New York basement determined from40Ar/39Ar K-feldspar studies. Journal of Geophysical Research, 1998, 103, 29795-29814.	3.3	26
111	The multi-diffusion domain model: past, present and future. Geological Society Special Publication, 2014, 378, 91-106.	1.3	24
112	Thermal and unroofing history of the Lhasa area, Southern Tibetâ€"evidence from apatite fission track thermochronology. Nuclear Tracks and Radiation Measurements (1993), 1993, 21, 543-554.	0.1	23
113	From the Hadean to the Himalaya: 4.4 Ga of felsic terrestrial magmatism. American Mineralogist, 2016, 101, 1348-1359.	1.9	23
114	Did the Himalayan Crystallines extrude partially molten from beneath the Tibetan Plateau?. Geological Society Special Publication, 2006, 268, 237-254.	1.3	22
115	Hadean Earth. , 2020, , .		21
116	²³⁸U/²³⁵U measurement in single-zircon crystals: implications for the Hadean environment, magmatic differentiation and geochronology. Journal of Analytical Atomic Spectrometry, 2019, 34, 2035-2052.	3.0	19
117	Some observations on the interpretation of feldspar results. Chemical Geology: Isotope Geoscience Section, 1990, 80, 219-229.	0.6	18
118	Some observations on the interpretation of 40Ar/39Ar age spectra. Chemical Geology, 1983, 41, 319-338.	3.3	16
119	Geochronologic constraints across the Main Central Thrust shear zone, Bhagirathi River (NW India): Implications for Himalayan tectonics. , 2007, , .		16
120	Applications of biotite inclusion composition to zircon provenance determination. Earth and Planetary Science Letters, 2017, 473, 237-246.	4.4	16
121	Metamorphic replacement of mineral inclusions in detrital zircon from Jack Hills, Australia: Implications for the Hadean Earth: COMMENT. Geology, 2012, 40, e281-e281.	4.4	15
122	A meta-analysis of geochronologically relevant half-lives: whatâ€™s the best decay constant?. International Geology Review, 2014, 56, 905-914.	2.1	15
123	A model for meteoritic and lunar 40Ar/39Ar age spectra: Addressing the conundrum of multi-activation energies. Earth and Planetary Science Letters, 2016, 453, 267-275.	4.4	15
124	Pronounced and rapid exhumation of the Connecticut Valley Trough revealed through quartz in garnet Raman barometry and diffusion modelling of garnet dissolutionâ€“reprecipitation reactions. Journal of Metamorphic Geology, 2021, 39, 1045-1069.	3.4	10
125	Source region of a granite batholith: evidence from lower crustal xenoliths and inherited accessory minerals. Special Paper of the Geological Society of America, 1992, , 49-62.	0.5	8
126	Comment on â€œSystematic variations of argon diffusion in feldspars and implications for thermochronometryâ€•by Cassata and Renne. Geochimica Et Cosmochimica Acta, 2015, 151, 168-171.	3.9	7

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127	Degassing of argon from microclines within the thermal aureole of the Obsidian Dome Conduit, Long Valley Caldera, California: Constraints on emplacement history. Journal of Geophysical Research, 1990, 95, 2781-2792.	3.3	4
128	Comment on â€œMultipath Ar transport in K-feldspar deduced from isothermal heating experimentsâ€•by Igor Villa. Earth and Planetary Science Letters, 1996, 140, 281-283.	4.4	4
129	Stepwise chemical abrasionâ€“isotope dilutionâ€“thermal ionization mass spectrometry with trace element analysis of microfractured Hadean zircon. Geochronology, 2019, 1, 85-97.	2.5	4
130	Plate Boundary Interactions Through Geologic History. , 2020, , 123-142.		3
131	15. Continuous Thermal Histories from Inversion of Closure Profiles. , 2005, , 389-410.		1
132	The leading edge of the Greater Himalayan Crystalline complex revealed in the NW Indian Himalaya: Implications for the evolution of the Himalayan orogen. Geology, 2009, 37, e189-e190.	4.4	1
133	Could the Hadean Eon Have Been Habitable?. , 2020, , 217-248.		1
134	Why Hadean?. , 2020, , 1-18.		1
135	Hadean Jack Hills Zircon Geochemistry. , 2020, , 143-178.		1
136	23. Applications of Diffusion Data to High-Temperature Earth Systems. , 2010, , 997-1038.		0
137	The Hadean Eon: Hot, Cold, or Just Right?. , 2021, , 206-210.		0
138	Models of Continental Growth and Destruction. , 2020, , 101-122.		0
139	Morpho- and Chemo-Fossil Evidence of Early Life. , 2020, , 249-272.		0
140	Hadean Zircons Elsewhere in the Solar System. , 2020, , 179-193.		0
141	The Lunar Surface and Late Heavy Bombardment Concept. , 2020, , 59-100.		0
142	Radionuclide Produced Isotopic Variations in Mantle Rocks. , 2020, , 39-58.		0
143	Proposed Sources of Hadean Zircons. , 2020, , 195-216.		0