James Hein

List of Publications by Year
in descending order

94 papers	5,545 citations	71061 41 h-index	82499 72 g-index
115 all docs	115 docs citations	115 times ranked	3549 citing authors

#	Article	IF	Citations
1	Deep-ocean mineral deposits as a source of critical metals for high- and green-technology applications: Comparison with land-based resources. Ore Geology Reviews, 2013, 51, 1-14.	1.1	700
2	Comparison of the partitioning behaviours of yttrium, rare earth elements, and titanium between hydrogenetic marine ferromanganese crusts and seawater. Geochimica Et Cosmochimica Acta, 1996, 60, 1709-1725.	1.6	504
3	Uptake of elements from seawater by ferromanganese crusts: solid-phase associations and seawater speciation. Marine Geology, 2003, 198, 331-351.	0.9	376
4	Deep-ocean polymetallic nodules as a resource for critical materials. Nature Reviews Earth & Environment, 2020, 1, 158-169.	12.2	179
5	Global occurrence of tellurium-rich ferromanganese crusts and a model for the enrichment of tellurium. Geochimica Et Cosmochimica Acta, 2003, 67, 1117-1127.	1.6	146
6	Iron and manganese oxide mineralization in the Pacific. Geological Society Special Publication, 1997, 119, 123-138.	0.8	145
7	Two Major Cenozoic Episodes of Phosphogenesis Recorded in Equatorial Pacific Seamount Deposits. Paleoceanography, 1993, 8, 293-311.	3.0	136
8	Cobalt- and platinum-rich ferromanganese crusts and associated substrate rocks from the Marshall Islands. Marine Geology, 1988, 78, 255-283.	0.9	122
9	Climate and Ocean Dynamics and the Lead Isotopic Records in Pacific Ferromanganese Crusts. Science, 1997, 277, 913-918.	6.0	122
10	Critical metals in manganese nodules from the Cook Islands EEZ, abundances and distributions. Ore Geology Reviews, 2015, 68, 97-116.	1.1	115
11	New constraints on the sources and behavior of neodymium and hafnium in seawater from Pacific Ocean ferromanganese crusts. Geochimica Et Cosmochimica Acta, 2004, 68, 3827-3843.	1.6	113
12	Seamount Mineral Deposits: A Source of Rare Metals for High-Technology Industries. Oceanography, 2010, 23, 184-189.	0.5	111
13	Thallium isotope evidence for a permanent increase in marine organic carbon export in the early Eocene. Earth and Planetary Science Letters, 2009, 278, 297-307.	1.8	106
14	Sources, Dispersal, and Clay Mineral Composition of Fine-Grained Sediment off Central and Northern California. Journal of Geology, 1980, 88, 541-566.	0.7	101
15	The molecular mechanism of Mo isotope fractionation during adsorption to birnessite. Geochimica Et Cosmochimica Acta, 2011, 75, 5019-5031.	1.6	97
16	Osmium isotope variations in the oceans recorded by FeMn crusts. Earth and Planetary Science Letters, 1999, 171, 185-197.	1.8	95
17	Composition and origin of hydrothermal ironstones from central Pacific seamounts. Geochimica Et Cosmochimica Acta, 1994, 58, 179-189.	1.6	92
18	Variations in the Fineâ€Scale Composition of a Central Pacific Ferromanganese Crust: Paleoceanographic Implications. Paleoceanography, 1992, 7, 63-77.	3.0	87

#	Article	IF	Citations
19	Seamount Characteristics and Mine-Site Model Applied to Exploration- and Mining-Lease-Block Selection for Cobalt-Rich Ferromanganese Crusts. Marine Georesources and Geotechnology, 2009, 27, 160-176.	1.2	85
20	Diffuse flow hydrothermal manganese mineralization along the active Mariana and southern Izuâ€Bonin arc system, western Pacific. Journal of Geophysical Research, 2008, 113, .	3.3	83
21	Actual timing of neodymium isotopic variations recorded by FeMn crusts in the western North Atlantic. Earth and Planetary Science Letters, 1999, 171, 149-156.	1.8	72
22	A Cenozoic seawater redox record derived from 238U/235U in ferromanganese crusts. Numerische Mathematik, 2016, 316, 64-83.	0.7	70
23	Marine Ferromanganese Encrustations: Archives of Changing Oceans. Elements, 2017, 13, 177-182.	0.5	64
24	Controls on ferromanganese crust composition and reconnaissance resource potential, Ninetyeast Ridge, Indian Ocean. Deep-Sea Research Part I: Oceanographic Research Papers, 2016, 110, 1-19.	0.6	62
25	Formation of Fe-Mn crusts within a continental margin environment. Ore Geology Reviews, 2017, 87, 25-40.	1.1	62
26	The Line Islands revisited: New40Ar/39Ar geochronologic evidence for episodes of volcanism due to lithospheric extension. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-28.	1.0	61
27	Methanogenic calcite, 13C-depleted bivalve shells, and gas hydrate from a mud volcano offshore southern California. Geology, 2006, 34, 109.	2.0	58
28	Marine Phosphorites as Potential Resources for Heavy Rare Earth Elements and Yttrium. Minerals (Basel, Switzerland), 2016, 6, 88.	0.8	57
29	Phosphorites, Coâ€rich Mn nodules, and Feâ€Mn crusts from Galicia Bank, NE Atlantic: Reflections of Cenozoic tectonics and paleoceanography. Geochemistry, Geophysics, Geosystems, 2016, 17, 346-374.	1.0	57
30	Fractionation of the geochemical twins Zrâ€“Hf and Nbâ€“Ta during scavenging from seawater by hydrogenetic ferromanganese crusts. Geochimica Et Cosmochimica Acta, 2014, 140, 468-487.	1.6	56
31	Ferromanganese crusts as archives of deep water Cd isotope compositions. Geochemistry, Geophysics, Geosystems, 2010, 11, .	1.0	55
32	Deep-sea Fe-Mn Crusts from the Northeast Atlantic Ocean: Composition and Resource Considerations. Marine Georesources and Geotechnology, 2013, 31, 40-70.	1.2	54
33	Lithium contents and isotopic compositions of ferromanganese deposits from the global ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2007, 54, 1147-1162.	0.6	52
34	Hydrothermal mineralization along submarine rift zones, Hawaii. Marine Georesources and Geotechnology, 1996, 14, 177-203.	1.2	51
35	Platinum group elements and gold in ferromanganese crusts from Afanasiy-Nikitin seamount, equatorial Indian Ocean: Sources and fractionation. Journal of Earth System Science, 2007, 116, 3-13.	0.6	50
36	Ferromanganese crusts as indicators for paleoceanographic events in the NE Atlantic. Geologische Rundschau: Zeitschrift Fur Allgemeine Geologie, 1996, 85, 567-576.	1.3	49

#	Article	IF	Citations
37	Persistence of deeply sourced iron in the Pacific Ocean. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1292-1297.	3.3	49
38	Copperâ€nickelâ€rich, amalgamated ferromanganese crustâ€nodule deposits from Shatsky Rise, NW Pacific. Geochemistry, Geophysics, Geosystems, 2012, 13, .	1.0	44
39	Composition and characteristics of the ferromanganese crusts from the western Arctic Ocean. Ore Geology Reviews, 2017, 87, 88-99.	1.1	43
40	Formation and Occurrence of Ferromanganese Crusts: Earth's Storehouse for Critical Metals. Elements, 2018, 14, 313-318.	0.5	43
41	Integrated Geochemical and Morphological Data Provide Insights into the Genesis of Ferromanganese Nodules. Minerals (Basel, Switzerland), 2018, 8, 488.	0.8	43
42	Composition and genesis of ferromanganese deposits from the northern South China Sea. Journal of Asian Earth Sciences, 2017, 138, 110-128.	1.0	41
43	Arctic Deep Water Ferromanganeseâ€Oxide Deposits Reflect the Unique Characteristics of the Arctic Ocean. Geochemistry, Geophysics, Geosystems, 2017, 18, 3771-3800.	1.0	41
44	Mercury- and Silver-Rich Ferromanganese Oxides, Southern California Borderland: Deposit Model and Environmental Implications. Economic Geology, 2005, 100, 1151-1168.	1.8	40
45	Genesis and Evolution of Ferromanganese Crusts from the Summit of Rio Grande Rise, Southwest Atlantic Ocean. Minerals (Basel, Switzerland), 2020, 10, 349.	0.8	37
46	Influence of substrate rocks on Feâ€“Mn crust composition. Deep-Sea Research Part I: Oceanographic Research Papers, 1999, 46, 855-875.	0.6	36
47	Growth response of a deep-water ferromanganese crust to evolution of the Neogene Indian Ocean. Marine Geology, 2000, 162, 529-540.	0.9	36
48	Seawater osmium isotope evidence for a middle Miocene flood basalt event in ferromanganese crust records. Earth and Planetary Science Letters, 2008, 273, 175-183.	1.8	33
49	Platinum enrichment and phase associations in marine ferromanganese crusts and nodules based on a multi-method approach. Chemical Geology, 2020, 539, 119426.	1.4	31
50	Metalliferous Sediment and a Silica-Hematite Deposit within the Blanco Fracture Zone, Northeast Pacific. Marine Georesources and Geotechnology, 2008, 26, 317-339.	1.2	29
51	Celadonite and smectite formation in the ÃšrkÃºt Mn-carbonate ore deposit (Hungary). Sedimentary Geology, 2013, 294, 157-163.	1.0	29
52	New age for ferromanganese crust 109Dâ€C and implications for isotopic records of lead, neodymium, hafnium, and thallium in the Pliocene Indian Ocean. Paleoceanography, 2011, 26, .	3.0	28
53	Mineral and chemostratigraphy of a Toarcian black shale hosting Mn-carbonate microbialites (ÃšrkÃºt,) Tj ETQq1 1 0.784314 rgBT /Ov	1.0	27
54	Geochemical approach to the genesis of the Oligocene-stratiform manganese-oxide deposit, Chiatura (Georgia). Ore Geology Reviews, 2021, 128, 103910.	1.1	24

#	Article	IF	Citations
55	Tectonic and paleoceanographic conditions during the formation of ferromanganese nodules from the northern South China Sea based on the high-resolution geochemistry, mineralogy and isotopes. Marine Geology, 2019, 410, 146-163.	0.9	22
56	Hydrothermal palygorskite and ferromanganese mineralization at a central California margin fracture zone. Marine Geology, 1993, 115, 47-65.	0.9	21
57	Geochemistry and origins of carbonate fluorapatite in seamount Fe Mn crusts from the Pacific Ocean. Marine Geology, 2020, 423, 106135.	0.9	19
58	Clay mineralogy, fine-grained sediment dispersal, and inferred current patterns, lower Cook Inlet and Kodiak shelf, Alaska. Sedimentary Geology, 1979, 24, 291-306.	1.0	18
59	Multidisciplinary Scientific Cruise to the Rio Grande Rise. Frontiers in Marine Science, 2019, 6, .	1.2	17
60	Geographic and Oceanographic Influences on Ferromanganese Crust Composition Along a Pacific Ocean Meridional Transect, 14 N to 14S. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008716.	1.0	17
61	A framework for understanding Mo isotope records of Archean and Paleoproterozoic Fe- and Mn-rich sedimentary rocks: Insights from modern marine hydrothermal Fe-Mn oxides. Geochimica Et Cosmochimica Acta, 2020, 280, 221-236.	1.6	17
62	Clay-mineral suites, sources, and inferred dispersal routes: Southern California continental shelf. Marine Environmental Research, 2003, 56, 79-102.	1.1	16
63	The evolution of climatically driven weathering inputs into the western Arctic Ocean since the late Miocene: Radiogenic isotope evidence. Earth and Planetary Science Letters, 2015, 419, 111-124.	1.8	16
64	Distance-gradient-based variogram and Kriging to evaluate cobalt-rich crust deposits on seamounts. Ore Geology Reviews, 2017, 84, 218-227.	1.1	15
65	Magnetite magnetofossils record biogeochemical remanent magnetization in hydrogenetic ferromanganese crusts. Geology, 2020, 48, 298-302.	2.0	15
66	Layered Hydrothermal Barite-Sulfide Mound Field, East Diamante Caldera, Mariana Volcanic Arc. Economic Geology, 2014, 109, 2179-2206.	1.8	14
67	Seabed mining and blue growth: exploring the potential of marine mineral deposits as a sustainable source of rare earth elements (MaREEs) (IUPAC Technical Report). Pure and Applied Chemistry, 2022, 94, 329-351.	0.9	14
68	Ferromanganese crusts as recorders of marine dissolved oxygen. Earth and Planetary Science Letters, 2020, 533, 116057.	1.8	13
69	A possible link between seamount sector collapse and manganese nodule occurrence in the abyssal plains, NW Pacific Ocean. Ore Geology Reviews, 2021, 138, 104378.	1.1	12
70	Mineral Phase-Element Associations Based on Sequential Leaching of Ferromanganese Crusts, Amerasia Basin Arctic Ocean. Minerals (Basel, Switzerland), 2018, 8, 460.	0.8	11
71	A magnetic approach to unravelling the paleoenvironmental significance of nanometer-sized Fe hydroxide in NW Pacific ferromanganese deposits. Earth and Planetary Science Letters, 2021, 565, 116945.	1.8	10
72	Miocene Phosphatization of Rocks From the Summit of Rio Grande Rise, Southwest Atlantic Ocean. Paleoceanography and Paleoclimatology, 2021, 36, e2020PA004197.	1.3	10

#	Article	IF	Citations
73	Crystal Chemistry of Thallium in Marine Ferromanganese Deposits. ACS Earth and Space Chemistry, 2022, 6, 1269-1285.	1.2	9
74	Fe-Mn oxide indications in the feeder and mound zone of the Jurassic Mn-carbonate ore deposit, ÃšrkÃªt, Hungary. Ore Geology Reviews, 2017, 86, 839-855.	1.1	8
75	Spectroscopic Insights Into Ferromanganese Crust Formation and Diagenesis. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC009074.	1.0	8
76	Effects of Phosphatization on the Mineral Associations and Speciation of Pb in Ferromanganese Crusts. ACS Earth and Space Chemistry, 2020, 4, 1515-1526.	1.2	8
77	Gallium-aluminum systematics of marine hydrogenetic ferromanganese crusts: Inter-oceanic differences and fractionation during scavenging. Geochimica Et Cosmochimica Acta, 2021, 310, 187-204.	1.6	8
78	Abyssal Manganese Nodule Recording of Global Cooling and Tibetan Plateau Uplift Impacts on Asian Aridification. Geophysical Research Letters, 2022, 49, .	1.5	8
79	A porous silica rock (â€œtripoliâ€) in the footwall of the Jurassic ÃšrkÃªt manganese deposit, Hungary: Composition, and origin through carbonate dissolution. Sedimentary Geology, 2005, 177, 87-96.	1.0	7
80	Reconstructing the Evolution of the Submarine Monterey Canyon System From Os, Nd, and Pb Isotopes in Hydrogenetic Feâ€Mn Crusts. Geochemistry, Geophysics, Geosystems, 2017, 18, 3946-3963.	1.0	7
81	Progressive ocean oxygenation atÂ~2.2ÂGa inferred from geochemistry and molybdenum isotopes of the Nsuta Mn deposit, Ghana. Chemical Geology, 2021, 567, 120116.	1.4	6
82	Growth of ferromanganese crusts on bioturbated soft substrate, Tropic Seamount, northeast Atlantic ocean. Deep-Sea Research Part I: Oceanographic Research Papers, 2021, 175, 103586.	0.6	6
83	DIAGENETIC EVOLUTION OF SEAMOUNT PHOSPHORITE. , 2000, , 245-256.		6
84	Geochemical insights into formation of enigmatic ironstones from Rio Grande rise, South Atlantic Ocean. Marine Geology, 2022, 444, 106716.	0.9	5
85	Estimates of Metals Contained in Abyssal Manganese Nodules and Ferromanganese Crusts in the Global Ocean Based on Regional Variations and Genetic Types of Nodules. , 2022, , 53-80.		5
86	Mineralization at Oceanic Transform Faults and Fracture Zones. , 2019, , 105-118.		4
87	Evolution of a deep-water ferromanganese nodule in the South China Sea in response to Pacific deep-water circulation and continental weathering during the Plio-Pleistocene. Quaternary Science Reviews, 2020, 229, 106106.	1.4	4
88	Geochemical and mineralogical composition of ferromanganese precipitates from the southern Mariana arc: Evaluation, formation, and implications. Chemical Geology, 2021, 568, 120132.	1.4	4
89	Ferromanganese Crusts and Nodules: Rocks That Grow. Encyclopedia of Earth Sciences Series, 2018, , 477-483.	0.1	3
90	Changes in sediment source areas to the Amerasia Basin, Arctic Ocean, over the past 5.5 million years based on radiogenic isotopes (Sr, Nd, Pb) of detritus from ferromanganese crusts. Marine Geology, 2020, 428, 106280.	0.9	2

#	Article	IF	Citations
91	Co-Rich Manganese Crusts. , 2014, , 1-7.		2
92	Ocean Floor Manganese Deposits. , 2021, , 993-1001.		1
93	Ferromanganese Crusts and Nodules, Rocks that Grow. Encyclopedia of Earth Sciences Series, 2016, , 1-7.	0.1	1
94	Cobalt-rich Manganese Crusts. Encyclopedia of Earth Sciences Series, 2016, , 113-117.	0.1	0