

Adrian Brearley

List of Publications by Year in descending order

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107
papers

6,880
citations

61984

43
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62596

80
g-index

109
all docs

109
docs citations

109
times ranked

3659
citing authors

#	ARTICLE	IF	CITATIONS
1	Comet 81P/Wild 2 Under a Microscope. <i>Science</i> , 2006, 314, 1711-1716.	12.6	848
2	Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. <i>Science</i> , 2006, 314, 1735-1739.	12.6	589
3	The onset of metamorphism in ordinary and carbonaceous chondrites. <i>Meteoritics and Planetary Science</i> , 2005, 40, 87-122.	1.6	318
4	The Action of Water. , 2006, , 587-624.		284
5	Matrix and fine-grained rims in the unequilibrated CO3 chondrite, ALHA77307: Origins and evidence for diverse, primitive nebular dust components. <i>Geochimica Et Cosmochimica Acta</i> , 1993, 57, 1521-1550.	3.9	235
6	Early solar system processes recorded in the matrices of two highly pristine CR3 carbonaceous chondrites, MET 00426 and QUE 99177. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 1146-1171.	3.9	193
7	Chlorine isotope homogeneity of the mantle, crust and carbonaceous chondrites. <i>Nature</i> , 2007, 446, 1062-1065.	27.8	166
8	Bleached chondrules: Evidence for widespread aqueous processes on the parent asteroids of ordinary chondrites. <i>Meteoritics and Planetary Science</i> , 2000, 35, 467-486.	1.6	155
9	Evolution of organic matter in Orgueil, Murchison and Renazzo during parent body aqueous alteration: In situ investigations. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 131, 368-392.	3.9	149
10	Relationships between organics, water and early stages of aqueous alteration in the pristine CR3.0 chondrite MET 00426. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 131, 344-367.	3.9	129
11	Oxygen fugacity of martian basalts from electron microprobe oxygen and TEM-EELS analyses of Fe-Ti oxides. <i>American Mineralogist</i> , 2001, 86, 1015-1024.	1.9	125
12	Aqueous alteration of chondrules in the CM carbonaceous chondrite, Allan Hills 81002: implications for parent body alteration. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 495-518.	3.9	122
13	Structural characterization of terrestrial microbial Mn oxides from Pinal Creek, AZ. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 889-910.	3.9	112
14	The chlorine isotope composition of chondrites and Earth. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 107, 189-204.	3.9	112
15	Widespread oxidized and hydrated amorphous silicates in CR chondrites matrices: Implications for alteration conditions and H2 degassing of asteroids. <i>Earth and Planetary Science Letters</i> , 2015, 420, 162-173.	4.4	107
16	Aqueous alteration and brecciation in Bells, an unusual, saponite-bearing, CM chondrite. <i>Geochimica Et Cosmochimica Acta</i> , 1995, 59, 2291-2317.	3.9	105
17	Oxygen Isotopes of Chondritic Components. <i>Reviews in Mineralogy and Geochemistry</i> , 2008, 68, 141-186.	4.8	102
18	Mineralogy, aqueous alteration, and primitive textural characteristics of fine-grained rims in the Y-791198 CM2 carbonaceous chondrite: TEM observations and comparison to ALHA81002. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 602-625.	3.9	99

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19	Carbon-rich aggregates in type 3 ordinary chondrites: Characterization, origins, and thermal history. <i>Geochimica Et Cosmochimica Acta</i> , 1990, 54, 831-850.	3.9	90
20	Origin of Graphitic Carbon and Pentlandite in Matrix Olivines in the Allende Meteorite. <i>Science</i> , 1999, 285, 1380-1382.	12.6	90
21	Zoned chondrules in Semarkona: Evidence for high- and low-temperature processing. <i>Meteoritics and Planetary Science</i> , 2002, 37, 49-73.	1.6	90
22	The Shallowater aubrite: Evidence for origin by planetesimal impacts. <i>Geochimica Et Cosmochimica Acta</i> , 1989, 53, 3291-3307.	3.9	86
23	Effects of H ₂ O on the Disequilibrium Breakdown of Muscovite+Quartz. <i>Journal of Petrology</i> , 1990, 31, 925-956.	2.8	85
24	Disordered Biopyriboles, Amphibole, and Talc in the Allende Meteorite: Products of Nebular or Parent Body Aqueous Alteration?. <i>Science</i> , 1997, 276, 1103-1105.	12.6	83
25	Elevated Concentrations of U and Co-occurring Metals in Abandoned Mine Wastes in a Northeastern Arizona Native American Community. <i>Environmental Science & Technology</i> , 2015, 49, 8506-8514.	10.0	82
26	Mechanisms of the transformations between the α , β and γ polymorphs of Mg ₂ SiO ₄ at 15 GPa. <i>Physics and Chemistry of Minerals</i> , 1992, 18, 343.	0.8	78
27	Cl chondrite-like clasts in the Nilpena polymict ureilite: Implications for aqueous alteration processes in Cl chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 1992, 56, 1373-1386.	3.9	77
28	Origin and history of impact-melt rocks of enstatite chondrite parentage. <i>Geochimica Et Cosmochimica Acta</i> , 1995, 59, 161-175.	3.9	76
29	A TEM study of thermally modified comet 81P/Wild 2 dust particles by interactions with the aerogel matrix during the Stardust capture process. <i>Meteoritics and Planetary Science</i> , 2008, 43, 97-120.	1.6	73
30	Nature and origin of matrix in the unique type 3 chondrite, Kakangari. <i>Geochimica Et Cosmochimica Acta</i> , 1989, 53, 2395-2411.	3.9	66
31	Fe-Mn systematics of type IIA chondrules in unequilibrated CO, CR, and ordinary chondrites. <i>Meteoritics and Planetary Science</i> , 2011, 46, 513-533.	1.6	63
32	Metasomatism in the Early Solar System: The Record from Chondritic Meteorites. <i>Lecture Notes in Earth System Sciences</i> , 2013, , 659-789.	0.6	61
33	Mineralogy, petrography, bulk chemical, iodine-xenon, and oxygen-isotopic compositions of dark inclusions in the reduced CV3 chondrite Efremovka. <i>Meteoritics and Planetary Science</i> , 1999, 34, 67-89.	1.6	60
34	Iron-rich aureoles in the CM carbonaceous chondrites Murray, Murchison, and Allan Hills 81002: Evidence for <i>in situ</i> aqueous alteration. <i>Meteoritics and Planetary Science</i> , 2000, 35, 1291-1308.	1.6	59
35	Gadolinium-Based Contrast Agent Use, Their Safety, and Practice Evolution. <i>Kidney360</i> , 2020, 1, 561-568.	2.1	59
36	Chemical, isotopic and mineralogical evidence for the origin of matrix in ordinary chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 1989, 53, 2081-2093.	3.9	56

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37	Phyllosilicates in the matrix of the unique carbonaceous chondrite Lewis Cliff 85332 and possible implications for the aqueous alteration of CI chondrites. <i>Meteoritics and Planetary Science</i> , 1997, 32, 377-388.	1.6	55
38	Experimental aqueous alteration of the Allende meteorite under oxidizing conditions: Constraints on asteroidal alteration. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 1040-1058.	3.9	52
39	Chlorine distribution and its isotopic composition in "rusty rock" 66095. Implications for volatile element enrichments of "rusty rock" and lunar soils, origin of "rusty" alteration, and volatile element behavior on the Moon. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 139, 411-433.	3.9	52
40	A natural example of the disequilibrium breakdown of biotite at high temperature: TEM observations and comparison with experimental kinetic data. <i>Mineralogical Magazine</i> , 1987, 51, 93-106.	1.4	51
41	Amorphous silicates in the matrix of Semarkona: The first evidence for the localized preservation of pristine matrix materials in the most unequilibrated ordinary chondrites. <i>Meteoritics and Planetary Science</i> , 2020, 55, 649-668.	1.6	50
42	Thermal histories of IVA stony-iron and iron meteorites: Evidence for asteroid fragmentation and reaccretion. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 3103-3113.	3.9	48
43	Widespread hydrothermal alteration minerals in the fine-grained matrices of the Tieschitz unequilibrated ordinary chondrite. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1323-1349.	1.6	48
44	Evidence for low-temperature growth of fayalite and hedenbergite in MacAlpine Hills 88107, an ungrouped carbonaceous chondrite related to the CM CO clan. <i>Meteoritics and Planetary Science</i> , 2000, 35, 1365-1386.	1.6	46
45	Post Gold King Mine Spill Investigation of Metal Stability in Water and Sediments of the Animas River Watershed. <i>Environmental Science & Technology</i> , 2016, 50, 11539-11548.	10.0	45
46	Effects of secondary alteration on the composition of free and IOM-derived monocarboxylic acids in carbonaceous chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 2309-2323.	3.9	41
47	Coordinated NanoSIMS and FIB-TEM analyses of organic matter and associated matrix materials in CR3 chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 139, 1-25.	3.9	40
48	Mechanism of the β phase transformation of Mg_2SiO_4 at high temperature and pressure. <i>Nature</i> , 1990, 348, 628-631.	27.8	39
49	Amorphization and D/H fractionation of kerogens during experimental electron irradiation: Comparison with chondritic organic matter. <i>Icarus</i> , 2013, 226, 101-110.	2.5	39
50	Magnetite in ALH 84001: An origin by shock-induced thermal decomposition of iron carbonate. <i>Meteoritics and Planetary Science</i> , 2003, 38, 849-870.	1.6	36
51	An electron optical study of muscovite breakdown in pelitic xenoliths during pyrometamorphism. <i>Mineralogical Magazine</i> , 1986, 50, 385-397.	1.4	35
52	Paleomagnetism of the Middle Proterozoic Laramie anorthosite complex and Sherman Granite, southern Laramie Range, Wyoming and Colorado. <i>Journal of Geophysical Research</i> , 1994, 99, 17997-18020.	3.3	35
53	Respirable Uranyl-Vanadate-Containing Particulate Matter Derived From a Legacy Uranium Mine Site Exhibits Potentiated Cardiopulmonary Toxicity. <i>Toxicological Sciences</i> , 2018, 164, 101-114.	3.1	35
54	Occurrence and possible significance of rare Ti oxides (Magnéli phases) in carbonaceous chondrite matrices. <i>Meteoritics</i> , 1993, 28, 590-595.	1.4	34

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55	8. Oxygen Isotopes of Chondritic Components. , 2008, , 141-186.		34
56	Effect of Calcium on the Bioavailability of Dissolved Uranium(VI) in Plant Roots under Circumneutral pH. Environmental Science & Technology, 2018, 52, 13089-13098.	10.0	32
57	Rapid post-mortem maturation of diatom silica oxygen isotope values. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	31
58	Phase Transitions Between beta and gamma (Mg, Fe) ₂ SiO ₄ in the Earth's Mantle: Mechanisms and Rheological Implications. Science, 1994, 264, 1445-1448.	12.6	30
59	Deciphering the nebular and asteroidal record of silicates and organic material in the matrix of the reduced CV3 chondrite Vigarano. Meteoritics and Planetary Science, 2011, 46, 252-274.	1.6	30
60	Origin and mechanical significance of honeycomb garnet in high-pressure metasedimentary rocks from the Tauern Window, Eastern Alps. Journal of Metamorphic Geology, 2007, 25, 565-583.	3.4	29
61	Hydrothermal evolution of the morphology, molecular composition, and distribution of organic matter in <i>Renazzo</i> chondrites. Meteoritics and Planetary Science, 2018, 53, 1006-1029.	1.6	29
62	Primary iron sulfides in <i>CM</i> and <i>CR</i> carbonaceous chondrites: Insights into nebular processes. Meteoritics and Planetary Science, 2018, 53, 2078-2106.	1.6	29
63	Carbonates in Vigarano: Terrestrial, preterrestrial, or both?. Meteoritics and Planetary Science, 2005, 40, 609-625.	1.6	27
64	Transformation mechanisms of San Carlos olivine to (MgFe) ₂ SiO ₄ phase under subduction zone conditions. Physics of the Earth and Planetary Interiors, 1994, 86, 45-67.	1.9	26
65	The physical isolation and identification of carriers of geologically stable remanent magnetization: paleomagnetic and rock magnetic microanalysis and electron microscopy. Geophysical Research Letters, 1988, 15, 479-482.	4.0	25
66	Microstructural evidence for a disequilibrium condensation origin for hibonite-spinel inclusions in the <i>ALHA</i> 77307 <i>CO</i> 3.0 chondrite. Meteoritics and Planetary Science, 2015, 50, 2121-2136.	1.6	25
67	Episodic carbonate precipitation in the <i>CM</i> chondrite ALH 84049: An ion microprobe analysis of O and C isotopes. Geochimica Et Cosmochimica Acta, 2016, 175, 195-207.	3.9	24
68	Episodic weakening and strengthening during synmetamorphic deformation in a deep-crustal shear zone in the Alps. Geological Society Special Publication, 2001, 186, 141-156.	1.3	22
69	Mineralogy and petrology of a mullite-bearing pseudotachylyte: Constraints on the temperature of coseismic frictional fusion. American Mineralogist, 2004, 89, 1486-1495.	1.9	22
70	Extremely Na- and Cl-rich chondrule from the CV3 carbonaceous chondrite Allende. Geochimica Et Cosmochimica Acta, 2011, 75, 4752-4770.	3.9	22
71	Microstructural evidence for complex formation histories of amoeboid olivine aggregates from the <i>ALHA</i> 77307 <i>CO</i> 3.0 chondrite. Meteoritics and Planetary Science, 2015, 50, 904-925.	1.6	22
72	Distribution of moderately volatile trace elements in fine-grained chondrule rims in the unequilibrated <i>CO</i> 3 chondrite, ALH A77307. Geochimica Et Cosmochimica Acta, 1995, 59, 4307-4316.	3.9	21

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73	Mineralogy and possible origin of an unusual Cr-rich inclusion in the Los Martinez (L6) chondrite. <i>Meteoritics</i> , 1991, 26, 287-300.	1.4	20
74	Magnetite exsolution in almandine garnet. <i>Mineralogical Magazine</i> , 1986, 50, 621-633.	1.4	20
75	Aluminum-26 chronology of dust coagulation and early solar system evolution. <i>Science Advances</i> , 2019, 5, eaaw3350.	10.3	18
76	A Sim investigation of REE chemistry of garnet in garnetite associated with the Broken Hill Pb-Zn-Ag orebodies, Australia. <i>Canadian Mineralogist</i> , 1993, 31, 371-379.	1.0	17
77	Altered primary iron sulfides in <sc>CM</sc>2 and <sc>CR</sc>2 carbonaceous chondrites: Insights into parent body processes. <i>Meteoritics and Planetary Science</i> , 2020, 55, 496-523.	1.6	16
78	A Critical Evaluation of the Evidence for Hot Accretion. <i>Icarus</i> , 1996, 124, 86-96.	2.5	15
79	Microchondrules in two unequilibrated ordinary chondrites: Evidence for formation by splattering from chondrules during stochastic collisions in the solar nebula. <i>Meteoritics and Planetary Science</i> , 2016, 51, 884-905.	1.6	15
80	Microstructures and formation history of melilite-rich calcium-aluminum-rich inclusions from the ALHA77307 CO3.0 chondrite. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 201, 136-154.	3.9	15
81	Characterization of micron-sized Fe,Ni metal grains in fine-grained rims in the Y-91198 CM2 carbonaceous chondrite: Implications for asteroidal and preaccretionary models for aqueous alteration. <i>Meteoritics and Planetary Science</i> , 2008, 43, 1419-1438.	1.6	14
82	Plagioclase alteration and equilibration in ordinary chondrites: Metasomatism during thermal metamorphism. <i>Geochimica Et Cosmochimica Acta</i> , 2022, 316, 201-229.	3.9	13
83	Dust particle size evolution. , 2010, , 191-229.		12
84	Mineralogy and oxygen isotope systematics of magnetite grains and a magnetite-dolomite assemblage in hydrated fine-grained Antarctic micrometeorites. <i>Meteoritics and Planetary Science</i> , 2019, 54, 1973-1989.	1.6	12
85	Microstructural constraints on complex thermal histories of refractory CAI-like objects in an amoeboid olivine aggregate from the ALHA77307 CO3.0 chondrite. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 183, 176-197.	3.9	11
86	Uptake and Toxicity of Respirable Carbon-Rich Uranium-Bearing Particles: Insights into the Role of Particulates in Uranium Toxicity. <i>Environmental Science & Technology</i> , 2021, 55, 9949-9957.	10.0	10
87	Origin of 16O-rich fine-grained Ca-Al-rich inclusions of different mineralogy and texture. <i>Chemie Der Erde</i> , 2019, 79, 125543.	2.0	9
88	The effects of secondary processing in the unique carbonaceous chondrite Miller Range 07687. <i>Meteoritics and Planetary Science</i> , 2020, 55, 1228-1256.	1.6	8
89	Nanophase iron carbides in fine-grained rims in CM2 carbonaceous chondrites: Formation of organic material by Fischer-Tropsch catalysis in the solar nebula. <i>Meteoritics and Planetary Science</i> , 2021, 56, 108-126.	1.6	8
90	New observations on high-pressure phases in a shock melt vein in the Villabeto de la Peña meteorite: Insights into the shock behavior of diopside. <i>Meteoritics and Planetary Science</i> , 2019, 54, 2845-2863.	1.6	7

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91	Chondrites and the Solar Nebula. <i>Science</i> , 1997, 278, 76-77.	12.6	6
92	Chloritoid from Low-Grade Pelitic Rocks in North Wales. <i>Mineralogical Magazine</i> , 1988, 52, 394-396.	1.4	6
93	Iron-rich olivine in the unequilibrated ordinary chondrite, MET00526: Earliest stages of formation. <i>Meteoritics and Planetary Science</i> , 2020, 55, 2652-2669.	1.6	6
94	Halogens in Chondritic Meteorites. <i>Springer Geochemistry</i> , 2018, , 871-958.	0.1	5
95	Calcium in Carbonate Water Facilitates the Transport of U(VI) in Brassica juncea Roots and Enables Root-to-Shoot Translocation. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2190-2196.	2.7	5
96	Crystal Chemistry of Carnotite in Abandoned Mine Wastes. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 883.	2.0	5
97	The formation and alteration history of a forsterite-bearing Type C CAI from Allende: Evidence for a Type B CAI precursor, and implications for fluid-assisted metasomatism on the CV chondrite parent body. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 293, 277-307.	3.9	3
98	Microstructures of enstatite in fine-grained CAIs from CV3 chondrites: Implications for mechanisms and conditions of formation. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 296, 131-151.	3.9	3
99	Xenoliths in ordinary chondrites and ureilites: Implications for early solar system dynamics. <i>Meteoritics and Planetary Science</i> , 2021, 56, 1949-1987.	1.6	3
100	Smooth rims in Queen Alexandra Range (QUE) 99177: Fluid-chondrule interactions and clues on the geochemical conditions of the primordial fluid that altered CR carbonaceous chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2022, 325, 39-64.	3.9	3
101	Emerging investigator series: entrapment of uranium-phosphorus nanocrystals inside root cells of <i>Tamarix</i> plants from a mine waste site. <i>Environmental Sciences: Processes and Impacts</i> , 2021, 23, 73-85.	3.5	2
102	Fayalite formation through hydrothermal experiments: Insights into early fluid-assisted aqueous alteration processes on asteroids. <i>Meteoritics and Planetary Science</i> , 2022, 57, 381-391.	1.6	2
103	A record of low-temperature asteroidal processes of amoeboid olivine aggregates from the Kainsaz CO3.2 chondrite. <i>Geochimica Et Cosmochimica Acta</i> , 2022, 322, 109-128.	3.9	2
104	Investigation of Organic Matter at The Micron Scale in Carbonaceous Chondrites: a Spyglass to Study The Early Solar System.. <i>Microscopy and Microanalysis</i> , 2016, 22, 1788-1789.	0.4	1
105	The fall of the Murchison meteorite. <i>Meteoritics and Planetary Science</i> , 2021, 56, 8-10.	1.6	1
106	An evolutionary condensation sequence revealed by mineralogically-distinct nodules in fine-grained, spinel-rich inclusions from CV3 chondrites: Implications for the genetic links between different types of non-igneous refractory inclusions. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 308, 75-100.	3.9	1
107	Valence determinations and oxybarometry on FIB-sectioned olivine and pyroxene using correlated Ti, V, and Cr micro-XAFS spectroscopy: Evaluation of ion-milling effects and application to Antarctic micrometeorite grains. <i>Meteoritics and Planetary Science</i> , 2020, 55, 2553-2569.	1.6	1