

# Mathilde Cannat

## List of Publications by Year in descending order

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82  
papers

5,568  
citations

87886

38  
h-index

79691

73  
g-index

93  
all docs

93  
docs citations

93  
times ranked

2647  
citing authors

#	ARTICLE	IF	CITATIONS
1	Geochemistry of serpentinized and multiphase altered Atlantis Massif peridotites (IODP Expedition) Tj ETQq1 1 0.784314 rgBT /Overl 594, 120681.	3.3	9
2	Tectonic termination of oceanic detachment faults, with constraints on tectonic uplift and mass wasting related erosion rates. Earth and Planetary Science Letters, 2022, 584, 117449.	4.4	5
3	Thermal Regime of Slow and Ultraslow Spreading Ridges Controlled by Melt Supply and Modes of Emplacement. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	5
4	Effects of Substrate Composition and Subsurface Fluid Pathways on the Geochemistry of Seafloor Hydrothermal Deposits at the Lucky Strike Vent Field, Midâ€Atlantic Ridge. Geochemistry, Geophysics, Geosystems, 2022, 23, .	2.5	3
5	Integrating Multidisciplinary Observations in Vent Environments (IMOVE): Decadal Progress in Deep-Sea Observatories at Hydrothermal Vents. Frontiers in Marine Science, 2022, 9, .	2.5	5
6	Age and Rate of Accumulation of Metalâ€Rich Hydrothermal Deposits on the Seafloor: The Lucky Strike Vent Field, Midâ€Atlantic Ridge. Journal of Geophysical Research: Solid Earth, 2022, 127, .	3.4	4
7	Strain Localization in the Root of Detachment Faults at a Meltâ€Starved Midâ€Ocean Ridge: A Microstructural Study of Abyssal Peridotites From the Southwest Indian Ridge. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009434.	2.5	14
8	Thermoâ€Mechanical State of Ultraslowâ€Spreading Ridges With a Transient Magma Supply. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020557.	3.4	7
9	Margin-to-Margin Seafloor Spreading in the Eastern Gulf of Aden: A 16 Ma-Long History of Deformation and Magmatism from Seismic Reflection, Gravity and Magnetic Data. Frontiers in Earth Science, 2021, 9, .	1.8	6
10	Seismic Ambient Noise Imaging of a Quasi-Amagmatic Ultra-Slow Spreading Ridge. Remote Sensing, 2021, 13, 2811.	4.0	1
11	Seismic Velocity Structure Along and Across the Ultraslowâ€Spreading Southwest Indian Ridge at 64Â°30â€E Showcases Flipping Detachment Faults. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022177.	3.4	9
12	780 Thousand Years of Upperâ€Crustal Construction at a Meltâ€Rich Segment of the Ultraslow Spreading Southwest Indian Ridge 50Â°28â€E. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022152.	3.4	17
13	Extrusive upper crust formation at slow-spreading ridges: Fault steering of lava flows. Earth and Planetary Science Letters, 2021, 576, 117202.	4.4	2
14	Internal Structure of the Oceanic Lithosphere at a Meltâ€Starved Ultraslowâ€Spreading Midâ€Ocean Ridge: Insights From 2â€ Seismic Data. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008540.	2.5	8
15	The isotopic (He, Ne, Sr, Nd, Hf, Pb) signature in the Indian Mantle over 8.8ÂMa. Chemical Geology, 2020, 550, 119741.	3.3	2
16	How do detachment faults form at ultraslow mid-ocean ridges in a thick axial lithosphere?. Earth and Planetary Science Letters, 2020, 533, 116048.	4.4	32
17	On spreading modes and magma supply at slow and ultraslow mid-ocean ridges. Earth and Planetary Science Letters, 2019, 519, 223-233.	4.4	72
18	Intraplate Deformation of Oceanic Crust in the West Somali Basin: Insights From Longâ€offset Reflection Seismic Data. Tectonics, 2018, 37, 588-603.	2.8	25

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19	Oceanic basement roughness alongside magma-poor rifted margins: insight into initial seafloor spreading. <i>Geophysical Journal International</i> , 2018, 212, 900-915.	2.4	12
20	Spatial Variations in Vent Chemistry at the Lucky Strike Hydrothermal Field, Mid-Atlantic Ridge (37°N): Updates for Subseafloor Flow Geometry From the Newly Discovered Capelinhos Vent. <i>Geochemistry, Geophysics, Geosystems</i> , 2018, 19, 4444-4458.	2.5	20
21	Magmatism, serpentinization and life: Insights through drilling the Atlantis Massif (IODP Expedition) Tj ETQq1 1 0.784314 rgBT /Over	1.4	58
22	Sulfate minerals control dissolved rare earth element flux and Nd isotope signature of buoyant hydrothermal plume (EMSO-Azores, 37°N Mid-Atlantic Ridge). <i>Chemical Geology</i> , 2018, 499, 111-125.	3.3	20
23	Tectonic structure, evolution, and the nature of oceanic core complexes and their detachment fault zones (13°20'N and 13°30'N, Mid Atlantic Ridge). <i>Geochemistry, Geophysics, Geosystems</i> , 2017, 18, 1451-1482.	2.5	94
24	Can high-temperature, high-heat flux hydrothermal vent fields be explained by thermal convection in the lower crust along fast-spreading oceanic ridges?. <i>Geochemistry, Geophysics, Geosystems</i> , 2017, 18, 1907-1925.	2.5	11
25	Quasi-3D Seismic Reflection Imaging and Wide-Angle Velocity Structure of Nearly Amagmatic Oceanic Lithosphere at the Ultraslow-Spreading Southwest Indian Ridge. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 9511-9533.	3.4	23
26	Evidence for magma entrapment below oceanic crust from deep seismic reflections in the Western Somali Basin. <i>Geology</i> , 2016, 44, 407-410.	4.4	19
27	Effect of melt/mantle interactions on MORB chemistry at the easternmost southwest Indian Ridge (61°E-67°E). <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 4605-4640.	2.5	36
28	Tectonic and magmatic segmentation of the Global Ocean Ridge System: a synthesis of observations. <i>Geological Society Special Publication</i> , 2016, 420, 249-295.	1.3	51
29	Three-dimensional geometry of axial magma chamber roof and faults at Lucky Strike volcano on the Mid-Atlantic Ridge. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 5379-5400.	3.4	23
30	Serpentinization and Fluid Pathways in Tectonically Exhumed Peridotites from the Southwest Indian Ridge (62-65°E). <i>Journal of Petrology</i> , 2015, 56, 703-734.	2.8	70
31	Hydrothermal activity along the slow-spreading Lucky Strike ridge segment (Mid-Atlantic Ridge): Distribution, heatflux, and geological controls. <i>Earth and Planetary Science Letters</i> , 2015, 431, 173-185.	4.4	32
32	Magnetic signature of large exhumed mantle domains of the Southwest Indian Ridge " results from a deep-tow geophysical survey over 0 to 11 Ma old seafloor. <i>Solid Earth</i> , 2014, 5, 339-354.	2.8	19
33	Temporal variability and tidal modulation of hydrothermal exit-fluid temperatures at the Lucky Strike deep-sea vent field, Mid-Atlantic Ridge. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 2543-2566.	3.4	69
34	Serpentinization of mantle-derived peridotites at mid-ocean ridges: Mesh texture development in the context of tectonic exhumation. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 2354-2379.	2.5	65
35	Lucky Strike seamount: Implications for the emplacement and rifting of segment-centered volcanoes at slow spreading mid-ocean ridges. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 4157-4179.	2.5	22
36	Along-axis hydrothermal flow at the axis of slow spreading Mid-Ocean Ridges: Insights from numerical models of the Lucky Strike vent field (MAR). <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 2918-2931.	2.5	15

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37	High-resolution bathymetry reveals contrasting landslide activity shaping the walls of the Mid-Atlantic Ridge axial valley. <i>Geochemistry, Geophysics, Geosystems</i> , 2013, 14, 996-1011.	2.5	37
38	Deformation associated to exhumation of serpentinized mantle rocks in a fossil Ocean Continent Transition: The Totalp unit in SE Switzerland. <i>Lithos</i> , 2013, 175-176, 255-271.	1.4	23
39	Hydrothermal seismicity beneath the summit of Lucky Strike volcano, Mid-Atlantic Ridge. <i>Earth and Planetary Science Letters</i> , 2013, 373, 118-128.	4.4	27
40	Atypically depleted upper mantle component revealed by Hf isotopes at Lucky Strike segment. <i>Chemical Geology</i> , 2013, 341, 128-139.	3.3	29
41	Continuous exhumation of mantle-derived rocks at the Southwest Indian Ridge for 11 million years. <i>Nature Geoscience</i> , 2013, 6, 314-320.	12.9	224
42	Three-dimensional seismic structure of the Dragon Flag oceanic core complex at the ultraslow spreading Southwest Indian Ridge (49°39'E). <i>Geochemistry, Geophysics, Geosystems</i> , 2013, 14, 4544-4563.	2.5	64
43	Structure, temporal evolution, and heat flux estimates from the Lucky Strike deep-sea hydrothermal field derived from seafloor image mosaics. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	71
44	Quantifying diffuse and discrete venting at the Tour Eiffel vent site, Lucky Strike hydrothermal field. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	47
45	Deformation associated with the denudation of mantle-derived rocks at the Mid-Atlantic Ridge 13°15'N: The role of magmatic injections and hydrothermal alteration. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	38
46	Geological context and vents morphology of the ultramafic-hosted Ashadze hydrothermal areas (Mid-Atlantic Ridge 13°N). <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	28
47	Hydrothermally-induced melt lens cooling and segmentation along the axis of fast- and intermediate-spreading centers. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	25
48	MoMAR-D: a technological challenge to monitor the dynamics of the Lucky Strike vent ecosystem. <i>ICES Journal of Marine Science</i> , 2011, 68, 416-424.	2.5	27
49	Peridotite-gabbro-trondhjemite association of the Mid-Atlantic Ridge between 12°58' and 14°45'N: Ashadze and Logachev hydrothermal vent fields. <i>Geochemistry International</i> , 2011, 49, 323-354.	0.7	18
50	From slow to ultra-slow: How does spreading rate affect seafloor roughness and crustal thickness?. <i>Geology</i> , 2011, 39, 911-914.	4.4	26
51	Crustal velocity structure of the Lucky Strike segment of the Mid-Atlantic Ridge at 37°N from seismic refraction measurements. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	37
52	The ultraslow spreading Southwest Indian Ridge. <i>Geophysical Monograph Series</i> , 2010, , 153-173.	0.1	48
53	Serpentinization and associated hydrogen and methane fluxes at slow spreading ridges. <i>Geophysical Monograph Series</i> , 2010, , 241-264.	0.1	83
54	Seismological constraints on the thermal structure along the Lucky Strike segment (Mid-Atlantic) <i>Geophysical Researches</i> , 2009, 30, 105-120.	1.2	20

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55	Propagation of a melting anomaly along the ultraslow Southwest Indian Ridge between 46°E and 52°E: interaction with the Crozet hotspot?. <i>Geophysical Journal International</i> , 2009, 179, 687-699.	2.4	90
56	Assessing the conditions of continental breakup at magma-poor rifted margins: What can we learn from slow spreading mid-ocean ridges?. <i>Comptes Rendus - Geoscience</i> , 2009, 341, 406-427.	1.2	63
57	Oceanic corrugated surfaces and the strength of the axial lithosphere at slow spreading ridges. <i>Earth and Planetary Science Letters</i> , 2009, 288, 174-183.	4.4	59
58	Recent volcanic events and the distribution of hydrothermal venting at the Lucky Strike hydrothermal field, Mid-Atlantic Ridge. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	2.5	62
59	Spreading rate, spreading obliquity, and melt supply at the ultraslow spreading Southwest Indian Ridge. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	2.5	113
60	Magnetization of ~26.5 Ma seafloor at the ultraslow spreading Southwest Indian Ridge, 61°-67°E. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	2.5	33
61	Discovery of a magma chamber and faults beneath a Mid-Atlantic Ridge hydrothermal field. <i>Nature</i> , 2006, 442, 1029-1032.	27.8	248
62	Modes of seafloor generation at a melt-poor ultraslow-spreading ridge. <i>Geology</i> , 2006, 34, 605.	4.4	337
63	Evidence for major-element heterogeneity in the mantle source of abyssal peridotites from the Southwest Indian Ridge (52° to 68°E). <i>Geochemistry, Geophysics, Geosystems</i> , 2003, 4, .	2.5	133
64	Melt supply variations to a magma-poor ultra-slow spreading ridge (Southwest Indian Ridge 61° to 67°E). <i>Journal of Geophysical Research</i> , 2003, 108, .	2.5	95
65	Spatial and temporal distribution of seismicity along the northern Mid-Atlantic Ridge (15°-35°N). <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	99
66	FUJI Dome: A large detachment fault near 64°E on the very slow-spreading southwest Indian Ridge. <i>Geochemistry, Geophysics, Geosystems</i> , 2003, 4, .	2.5	60
67	Parallel bands of seismicity at the Mid-Atlantic Ridge, 12-14°N. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	23
68	Magnetic properties of variably serpentinized abyssal peridotites. <i>Journal of Geophysical Research</i> , 2002, 107, EPM 3-1.	3.3	186
69	Crustal thickness of V-shaped ridges south of the Azores: Interaction of the Mid-Atlantic Ridge (36°-39°N) and the Azores hot spot. <i>Journal of Geophysical Research</i> , 2001, 106, 21719-21735.	3.3	90
70	Ultramafic exposures and the gravity signature of the lithosphere near the Fifteen-Twenty Fracture Zone (Mid-Atlantic Ridge, 14°-16.5°N). <i>Earth and Planetary Science Letters</i> , 1999, 171, 411-424.	4.4	90
71	Mid-Atlantic Ridge-Azores hotspot interactions: along-axis migration of a hotspot-derived event of enhanced magmatism 10 to 4 Ma ago. <i>Earth and Planetary Science Letters</i> , 1999, 173, 257-269.	4.4	190
72	Formation of the axial relief at the very slow spreading Southwest Indian Ridge (49° to 69°E). <i>Journal of Geophysical Research</i> , 1999, 104, 22825-22843.	3.3	169

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73	Ultramafic and gabbroic exposures at the Mid-Atlantic Ridge: geological mapping in the 15°N region. <i>Tectonophysics</i> , 1997, 279, 193-213.	2.2	166
74	How thick is the magmatic crust at slow spreading oceanic ridges?. <i>Journal of Geophysical Research</i> , 1996, 101, 2847-2857.	3.3	268
75	Transform fault effect on mantle melting in the MARK area (Mid-Atlantic Ridge south of the Kane) <i>Tectonophysics</i> , 1997, 279, 193-213.	4.4	44
76	Thin crust, ultramafic exposures, and rugged faulting patterns at the Mid-Atlantic Ridge (22°N-24°N). <i>Geology</i> , 1995, 23, 49.	4.4	324
77	An Ultramafic Lift at the Mid-Atlantic Ridge: Successive Stages of Magmatism in Serpentinized Peridotites from the 15°N Region. <i>Petrology and Structural Geology</i> , 1995, , 5-34.	0.5	57
78	Emplacement of mantle rocks in the seafloor at mid-ocean ridges. <i>Journal of Geophysical Research</i> , 1993, 98, 4163-4172.	3.3	437
79	Serpentinized peridotites and gabbros in the Mid-Atlantic Ridge axial valley at 15°37'N and 16°52'N. <i>Earth and Planetary Science Letters</i> , 1992, 109, 87-106.	4.4	173
80	Emplacement of deep crustal and mantle rocks on the west median valley wall of the MARK area (MAR) <i>Journal of Geophysical Research</i> , 1997, 102, 1261-1276.	2.2	126
81	Stretching of the deep crust at the slow-spreading Southwest Indian Ridge. <i>Tectonophysics</i> , 1991, 190, 73-94.	2.2	42
82	Some Hard Rock Constraints on the Supply of Heat to Mid-Ocean Ridges. <i>Geophysical Monograph Series</i> , 0, , 111-149.	0.1	31