

Catherine A Rychert

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

68 papers	2,300 citations	22 h-index	47 g-index
90 ext. papers	2,721 ext. citations	8.7 avg, IF	5.32 L-index

#	Paper	IF	Citations
68	Fast calculation of spatial sensitivity kernels for scattered waves in arbitrary heterogeneous media using graph theory. <i>Geophysical Journal International</i> , 2022 , 230, 654-672	2.6	0
67	Imaging slab-transported fluids and their deep dehydration from seismic velocity tomography in the Lesser Antilles subduction zone. <i>Earth and Planetary Science Letters</i> , 2022 , 586, 117535	5.3	1
66	Evidence for melt leakage from the Hawaiian plume above the mantle transition zone. <i>Physics of the Earth and Planetary Interiors</i> , 2021 , 321, 106813	2.3	0
65	Upper Mantle Anisotropic Shear Velocity Structure at the Equatorial Mid-Atlantic Ridge Constrained by Rayleigh Wave Group Velocity Analysis From the PI-LAB Experiment. <i>Geochemistry, Geophysics, Geosystems</i> , 2021 , 22, e2020GC009495	3.6	7
64	Multiple graph realizations method: improving the accuracy and the efficiency of the shortest path method through random sampling. <i>Geophysical Journal International</i> , 2021 , 227, 669-679	2.6	2
63	Widespread Hydration of the Back Arc and the Link to Variable Hydration of the Incoming Plate in the Lesser Antilles From Rayleigh Wave Imaging. <i>Geochemistry, Geophysics, Geosystems</i> , 2021 , 22, e2021GC009707	3.6	7
62	Subduction history of the Caribbean from upper-mantle seismic imaging and plate reconstruction. <i>Nature Communications</i> , 2021 , 12, 4211	17.4	7
61	A dynamic lithosphere–asthenosphere boundary near the equatorial Mid-Atlantic Ridge. <i>Earth and Planetary Science Letters</i> , 2021 , 566, 116949	5.3	11
60	A thin mantle transition zone beneath the equatorial Mid-Atlantic Ridge. <i>Nature</i> , 2021 , 589, 562-566	50.4	11
59	Seismic Discontinuities Across the North American Caribbean Plate Boundary From S-to-P Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , 2021 , 22, e2021GC009723	3.6	2
58	Variation in Upper Plate Crustal and Lithospheric Mantle Structure in the Greater and Lesser Antilles From Ambient Noise Tomography. <i>Geochemistry, Geophysics, Geosystems</i> , 2021 , 22, e2021GC009800	3.6	3
57	Shear Velocity Inversion Guided by Resistivity Structure From the PI-LAB Experiment for Integrated Estimates of Partial Melt in the Mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2021 , 126, e2021JB022202	3.6	4
56	Tidal Triggering of Microseismicity at the Equatorial Mid-Atlantic Ridge, Inferred From the PI-LAB Experiment. <i>Journal of Geophysical Research: Solid Earth</i> , 2021 , 126, e2021JB022251	3.6	3
55	Variations in melt emplacement beneath the northern East African Rift from radial anisotropy. <i>Earth and Planetary Science Letters</i> , 2021 , 573, 117150	5.3	2
54	A comparison of oceanic and continental mantle lithosphere. <i>Physics of the Earth and Planetary Interiors</i> , 2020 , 309, 106600	2.3	11
53	Source Regions of Infragravity Waves Recorded at the Bottom of the Equatorial Atlantic Ocean, Using OBS of the PI-LAB Experiment. <i>Journal of Geophysical Research: Oceans</i> , 2020 , 125, e2019JC015430	3.3	4
52	Spatial Variations in Crustal and Mantle Anisotropy Across the North American-Caribbean Boundary on Haiti. <i>Journal of Geophysical Research: Solid Earth</i> , 2020 , 125, e2019JB018438	3.6	2

51	Variable water input controls evolution of the Lesser Antilles volcanic arc. <i>Nature</i> , 2020 , 582, 525-529	50.4	31
50	Sediment structure at the equatorial mid-atlantic ridge constrained by seafloor admittance using data from the PI-LAB experiment. <i>Marine Geophysical Researches</i> , 2020 , 41, 3	2.3	7
49	Wide-Angle Seismic Imaging of Two Modes of Crustal Accretion in Mature Atlantic Ocean Crust. <i>Journal of Geophysical Research: Solid Earth</i> , 2020 , 125, e2019JB019100	3.6	12
48	Back-propagating supershear rupture in the 2016 Mw 7.1 Romanche transform fault earthquake. <i>Nature Geoscience</i> , 2020 , 13, 647-653	18.3	16
47	Evolution of the Oceanic Lithosphere in the Equatorial Atlantic From Rayleigh Wave Tomography, Evidence for Small-Scale Convection From the PI-LAB Experiment. <i>Geochemistry, Geophysics, Geosystems</i> , 2020 , 21, e2020GC009174	3.6	16
46	The Nature of the Lithosphere-Asthenosphere Boundary. <i>Journal of Geophysical Research: Solid Earth</i> , 2020 , 125, e2018JB016463	3.6	23
45	A Lithosphere-Asthenosphere Boundary and Partial Melt Estimated Using Marine Magnetotelluric Data at the Central Middle Atlantic Ridge. <i>Geochemistry, Geophysics, Geosystems</i> , 2020 , 21, e2020GC009177	3.6	12
44	Seafloor sediment thickness beneath the VoiLA broad-band ocean-bottom seismometer deployment in the Lesser Antilles from P-to-S delay times. <i>Geophysical Journal International</i> , 2020 , 223, 1758-1768	2.6	3
43	Mapping geologic features onto subducted slabs. <i>Geophysical Journal International</i> , 2019 , 219, 725-733	2.6	8
42	A newly distinguished marine magnetotelluric coast effect sensitive to the lithosphere–asthenosphere boundary. <i>Geophysical Journal International</i> , 2019 , 218, 978-987	2.6	6
41	The Tectonics and Active Faulting of Haiti from Seismicity and Tomography. <i>Tectonics</i> , 2019 , 38, 1138-1155	4.5	14
40	Using Ambient Noise to Image the Northern East African Rift. <i>Geochemistry, Geophysics, Geosystems</i> , 2019 , 20, 2091-2109	3.6	12
39	Scattered wave imaging of the oceanic plate in Cascadia. <i>Science Advances</i> , 2018 , 4, eaao1908	14.3	32
38	The Role of Oceanic Transform Faults in Seafloor Spreading: A Global Perspective From Seismic Anisotropy. <i>Journal of Geophysical Research: Solid Earth</i> , 2018 , 123, 1736-1751	3.6	14
37	Marine Geophysical Investigation of the Chain Fracture Zone in the Equatorial Atlantic From the PI-LAB Experiment. <i>Journal of Geophysical Research: Solid Earth</i> , 2018 , 123, 11016-11030	3.6	14
36	Sediment Characterization at the Equatorial Mid-Atlantic Ridge From P-to-S Teleseismic Phase Conversions Recorded on the PI-LAB Experiment. <i>Geophysical Research Letters</i> , 2018 , 45, 12244-12252	4.9	18
35	Seismic Imaging of the Base of the Ocean Plates. <i>Geophysical Monograph Series</i> , 2018 , 71-87	1.1	11
34	Imaging Lithospheric Discontinuities Beneath the Northern East African Rift Using -to- Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , 2018 , 19, 4048-4062	3.6	16

33	Seismic Imaging of the North American Midcontinent Rift Using -to- Receiver Functions. <i>Journal of Geophysical Research: Solid Earth</i> , 2018 , 123, 7791-7805	3.6	6
32	Predictions and Observations for the Oceanic Lithosphere From -to- Receiver Functions and Precursors. <i>Geophysical Research Letters</i> , 2018 , 45, 5398-5406	4.9	11
31	Seismic Imaging of Thickened Lithosphere Resulting From Plume Pulsing Beneath Iceland. <i>Geochemistry, Geophysics, Geosystems</i> , 2018 , 19, 1789-1799	3.6	8
30	Imaging Pacific lithosphere seismic discontinuities Insights from SS precursor modeling. <i>Journal of Geophysical Research: Solid Earth</i> , 2017 , 122, 2131	3.6	17
29	Mapping the mantle transition zone beneath Hawaii from Ps receiver functions: Evidence for a hot plume and cold mantle downwellings. <i>Earth and Planetary Science Letters</i> , 2017 , 474, 226-236	5.3	22
28	A unified continental thickness from seismology and diamonds suggests a melt-defined plate. <i>Science</i> , 2017 , 357, 580-583	33.3	35
27	Constraints on the anisotropic contributions to velocity discontinuities at ~60 km depth beneath the Pacific. <i>Geochemistry, Geophysics, Geosystems</i> , 2017 , 18, 2855-2871	3.6	16
26	Joint inversion of teleseismic and ambient noise Rayleigh waves for phase velocity maps, an application to Iceland. <i>Journal of Geophysical Research: Solid Earth</i> , 2016 , 121, 5966-5987	3.6	13
25	Seismic imaging of a mid-lithospheric discontinuity beneath Ontong Java Plateau. <i>Earth and Planetary Science Letters</i> , 2016 , 450, 62-70	5.3	32
24	Stacked P-to-S and S-to-P receiver functions determination of crustal thickness, Vp, and Vs: The H-V stacking method. <i>Geophysical Research Letters</i> , 2016 , 43, 1487-1494	4.9	13
23	Seismic imaging of deep crustal melt sills beneath Costa Rica suggests a method for the formation of the Archean continental crust. <i>Earth and Planetary Science Letters</i> , 2015 , 430, 140-148	5.3	14
22	Upper mantle temperature and the onset of extension and break-up in Afar, Africa. <i>Earth and Planetary Science Letters</i> , 2015 , 418, 78-90	5.3	35
21	Earth science: The slippery base of a tectonic plate. <i>Nature</i> , 2015 , 518, 39-40	50.4	1
20	Synthetic waveform modelling of SS precursors from anisotropic upper-mantle discontinuities. <i>Geophysical Journal International</i> , 2014 , 196, 1694-1705	2.6	12
19	Receiver function imaging of lithospheric structure and the onset of melting beneath the Galápagos Archipelago. <i>Earth and Planetary Science Letters</i> , 2014 , 388, 156-165	5.3	31
18	Seismic imaging of melt in a displaced Hawaiian plume. <i>Nature Geoscience</i> , 2013 , 6, 657-660	18.3	60
17	Crustal and mantle shear velocity structure of Costa Rica and Nicaragua from ambient noise and teleseismic Rayleigh wave tomography. <i>Geophysical Journal International</i> , 2013 , 195, 1300-1313	2.6	13
16	The Pacific lithosphere-asthenosphere boundary: Seismic imaging and anisotropic constraints from SS waveforms. <i>Geochemistry, Geophysics, Geosystems</i> , 2012 , 13,	3.6	37

15	Volcanism in the Afar Rift sustained by decompression melting with minimal plume influence. <i>Nature Geoscience</i> , 2012 , 5, 406-409	18.3	81
14	Imaging the lithosphere-asthenosphere boundary beneath the Pacific using SS waveform modeling. <i>Journal of Geophysical Research</i> , 2011 , 116,		69
13	Sharp thermal transition in the forearc mantle wedge as a consequence of nonlinear mantle wedge flow. <i>Geophysical Research Letters</i> , 2011 , 38, n/a-n/a	4.9	16
12	On the visibility of the inner-core shear wave phase PKJKP at long periods. <i>Geophysical Journal International</i> , 2011 , 185, 1379-1383	2.6	18
11	Resolving crustal thickness using SS waveform stacks. <i>Geophysical Journal International</i> , 2010 , 180, 1128-1137	16.37	17
10	Distribution of noise sources for seismic interferometry. <i>Geophysical Journal International</i> , 2010 , 183, 1470-1484	2.6	75
9	The lithosphere-asthenosphere boundary and cratonic lithospheric layering beneath Australia from Sp wave imaging. <i>Earth and Planetary Science Letters</i> , 2010 , 300, 299-310	5.3	137
8	The Lithosphere-Asthenosphere Boundary. <i>Annual Review of Earth and Planetary Sciences</i> , 2010 , 38, 551-575	16.3	312
7	Scattered wave imaging of the lithosphere-asthenosphere boundary. <i>Lithos</i> , 2010 , 120, 173-185	2.9	67
6	A global view of the lithosphere-asthenosphere boundary. <i>Science</i> , 2009 , 324, 495-8	33.3	297
5	Seismic tomography and earthquake locations in the Nicaraguan and Costa Rican upper mantle. <i>Geochemistry, Geophysics, Geosystems</i> , 2008 , 9, n/a-n/a	3.6	77
4	Strong along-arc variations in attenuation in the mantle wedge beneath Costa Rica and Nicaragua. <i>Geochemistry, Geophysics, Geosystems</i> , 2008 , 9, n/a-n/a	3.6	79
3	Phase velocities from seismic noise using beamforming and cross correlation in Costa Rica and Nicaragua. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	50
2	P-to-S and S-to-P imaging of a sharp lithosphere-asthenosphere boundary beneath eastern North America. <i>Journal of Geophysical Research</i> , 2007 , 112,		132
1	A sharp lithosphere-asthenosphere boundary imaged beneath eastern North America. <i>Nature</i> , 2005 , 436, 542-5	50.4	154