Catherine A Rychert

List of Publications by Citations

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	The Lithosphere-Asthenosphere Boundary. *Annual Review of Earth and Planetary Sciences*, **2010**, 38, 551-575	15.5	312
67	A global view of the lithosphere-asthenosphere boundary. *Science*, **2009**, 324, 495-8	33.3	297
66	A sharp lithosphere-asthenosphere boundary imaged beneath eastern North America. *Nature*, **2005**, 436, 542-5	50.4	154
65	The lithosphere–asthenosphere boundary and cratonic lithospheric layering beneath Australia from Sp wave imaging. *Earth and Planetary Science Letters*, **2010**, 300, 299-310	5.3	137
64	P-to-S and S-to-P imaging of a sharp lithosphere-asthenosphere boundary beneath eastern North America. *Journal of Geophysical Research*, **2007**, 112,		132
63	Volcanism in the Afar Rift sustained by decompression melting with minimal plume influence. *Nature Geoscience*, **2012**, 5, 406-409	18.3	81
62	Strong along-arc variations in attenuation in the mantle wedge beneath Costa Rica and Nicaragua. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	79
61	Seismic tomography and earthquake locations in the Nicaraguan and Costa Rican upper mantle. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	77
60	Distribution of noise sources for seismic interferometry. *Geophysical Journal International*, **2010**, 183, 1470-1484	2.6	75
59	Imaging the lithosphere-asthenosphere boundary beneath the Pacific using SS waveform modeling. *Journal of Geophysical Research*, **2011**, 116,		69
58	Scattered wave imaging of the lithosphere–asthenosphere boundary. *Lithos*, **2010**, 120, 173-185	2.9	67
57	Seismic imaging of melt in a displaced Hawaiian plume. *Nature Geoscience*, **2013**, 6, 657-660	18.3	60
56	Phase velocities from seismic noise using beamforming and cross correlation in Costa Rica and Nicaragua. *Geophysical Research Letters*, **2008**, 35,	4.9	50
55	The Pacific lithosphere-asthenosphere boundary: Seismic imaging and anisotropic constraints from SS waveforms. *Geochemistry, Geophysics, Geosystems*, **2012**, 13,	3.6	37
54	Upper mantle temperature and the onset of extension and break-up in Afar, Africa. *Earth and Planetary Science Letters*, **2015**, 418, 78-90	5.3	35
53	A unified continental thickness from seismology and diamonds suggests a melt-defined plate. *Science*, **2017**, 357, 580-583	33.3	35
52	Scattered wave imaging of the oceanic plate in Cascadia. *Science Advances*, **2018**, 4, eaao1908	14.3	32

51	Seismic imaging of a mid-lithospheric discontinuity beneath Ontong Java Plateau. *Earth and Planetary Science Letters*, **2016**, 450, 62-70	5.3	32
50	Variable water input controls evolution of the Lesser Antilles volcanic arc. *Nature*, **2020**, 582, 525-529	50.4	31
49	Receiver function imaging of lithospheric structure and the onset of melting beneath the Galapagos Archipelago. *Earth and Planetary Science Letters*, **2014**, 388, 156-165	5.3	31
48	The Nature of the Lithosphere-Asthenosphere Boundary. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2018JB016463	3.6	23
47	Mapping the mantle transition zone beneath Hawaii from Ps receiver functions: Evidence for a hot plume and cold mantle downwellings. *Earth and Planetary Science Letters*, **2017**, 474, 226-236	5.3	22
46	On the visibility of the inner-core shear wave phase PKJKP at long periods. *Geophysical Journal International*, **2011**, 185, 1379-1383	2.6	18
45	Sediment Characterization at the Equatorial Mid-Atlantic Ridge From P-to-S Teleseismic Phase Conversions Recorded on the PI-LAB Experiment. *Geophysical Research Letters*, **2018**, 45, 12244-12252	4.9	18
44	Imaging Pacific lithosphere seismic discontinuities: Insights from SS precursor modeling. *Journal of Geophysical Research: Solid Earth*, **2017**, 122, 2131	3.6	17
43	Resolving crustal thickness using SS waveform stacks. *Geophysical Journal International*, **2010**, 180, 1128-1137	2.6	17
42	Constraints on the anisotropic contributions to velocity discontinuities at ~60 km depth beneath the Pacific. *Geochemistry, Geophysics, Geosystems*, **2017**, 18, 2855-2871	3.6	16
41	Sharp thermal transition in the forearc mantle wedge as a consequence of nonlinear mantle wedge flow. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	16
40	Back-propagating supershear rupture in the 2016 Mw 7.1 Romanche transform fault earthquake. *Nature Geoscience*, **2020**, 13, 647-653	18.3	16
39	Evolution of the Oceanic Lithosphere in the Equatorial Atlantic From Rayleigh Wave Tomography, Evidence for Small-Scale Convection From the PI-LAB Experiment. *Geochemistry, Geophysics, Geosystems*, **2020**, 21, e2020GC009174	3.6	16
38	Imaging Lithospheric Discontinuities Beneath the Northern East African Rift Using -to- Receiver Functions. *Geochemistry, Geophysics, Geosystems*, **2018**, 19, 4048-4062	3.6	16
37	The Tectonics and Active Faulting of Haiti from Seismicity and Tomography. *Tectonics*, **2019**, 38, 1138-1155	4.3	14
36	Seismic imaging of deep crustal melt sills beneath Costa Rica suggests a method for the formation of the Archean continental crust. *Earth and Planetary Science Letters*, **2015**, 430, 140-148	5.3	14
35	The Role of Oceanic Transform Faults in Seafloor Spreading: A Global Perspective From Seismic Anisotropy. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 1736-1751	3.6	14
34	Marine Geophysical Investigation of the Chain Fracture Zone in the Equatorial Atlantic From the PI-LAB Experiment. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 11016-11030	3.6	14

33	Joint inversion of teleseismic and ambient noise Rayleigh waves for phase velocity maps, an application to Iceland. *Journal of Geophysical Research: Solid Earth*, **2016**, 121, 5966-5987	3.6	13
32	Stacked P-to-S and S-to-P receiver functions determination of crustal thickness, Vp, and Vs: The H-V stacking method. *Geophysical Research Letters*, **2016**, 43, 1487-1494	4.9	13
31	Crustal and mantle shear velocity structure of Costa Rica and Nicaragua from ambient noise and teleseismic Rayleigh wave tomography. *Geophysical Journal International*, **2013**, 195, 1300-1313	2.6	13
30	Using Ambient Noise to Image the Northern East African Rift. *Geochemistry, Geophysics, Geosystems* , **2019**, 20, 2091-2109	3.6	12
29	Wide-Angle Seismic Imaging of Two Modes of Crustal Accretion in Mature Atlantic Ocean Crust. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB019100	3.6	12
28	Synthetic waveform modelling of SS precursors from anisotropic upper-mantle discontinuities. *Geophysical Journal International*, **2014**, 196, 1694-1705	2.6	12
27	A Lithosphere-Asthenosphere Boundary and Partial Melt Estimated Using Marine Magnetotelluric Data at the Central Middle Atlantic Ridge. *Geochemistry, Geophysics, Geosystems*, **2020**, 21, e2020GC009177	3.6	12
26	A comparison of oceanic and continental mantle lithosphere. *Physics of the Earth and Planetary Interiors*, **2020**, 309, 106600	2.3	11
25	A dynamic lithosphere–asthenosphere boundary near the equatorial Mid-Atlantic Ridge. *Earth and Planetary Science Letters*, **2021**, 566, 116949	5.3	11
24	A thin mantle transition zone beneath the equatorial Mid-Atlantic Ridge. *Nature*, **2021**, 589, 562-566	50.4	11
23	Seismic Imaging of the Base of the Ocean Plates. *Geophysical Monograph Series*, **2018**, 71-87	1.1	11
22	Predictions and Observations for the Oceanic Lithosphere From -to- Receiver Functions and Precursors. *Geophysical Research Letters*, **2018**, 45, 5398-5406	4.9	11
21	Mapping geologic features onto subducted slabs. *Geophysical Journal International*, **2019**, 219, 725-733	2.6	8
20	Seismic Imaging of Thickened Lithosphere Resulting From Plume Pulsing Beneath Iceland. *Geochemistry, Geophysics, Geosystems*, **2018**, 19, 1789-1799	3.6	8
19	Sediment structure at the equatorial mid-atlantic ridge constrained by seafloor admittance using data from the PI-LAB experiment. *Marine Geophysical Researches*, **2020**, 41, 3	2.3	7
18	Upper Mantle Anisotropic Shear Velocity Structure at the Equatorial Mid-Atlantic Ridge Constrained by Rayleigh Wave Group Velocity Analysis From the PI-LAB Experiment. *Geochemistry, Geophysics, Geosystems*, **2021**, 22, e2020GC009495	3.6	7
17	Subduction history of the Caribbean from upper-mantle seismic imaging and plate reconstruction. *Nature Communications*, **2021**, 12, 4211	17.4	7
16	A newly distinguished marine magnetotelluric coast effect sensitive to the lithosphere–asthenosphere boundary. *Geophysical Journal International*, **2019**, 218, 978-987	2.6	6

List of Publications

15	Seismic Imaging of the North American Midcontinent Rift Using -to- Receiver Functions. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 7791-7805	3.6	6
14	Source Regions of Infragravity Waves Recorded at the Bottom of the Equatorial Atlantic Ocean, Using OBS of the PI-LAB Experiment. *Journal of Geophysical Research: Oceans*, **2020**, 125, e2019JC015430	3.3	4
13	Shear Velocity Inversion Guided by Resistivity Structure From the PI-LAB Experiment for Integrated Estimates of Partial Melt in the Mantle. *Journal of Geophysical Research: Solid Earth*, **2021**, 126, e2021JB022202	3.6	4
12	Seafloor sediment thickness beneath the VoiLA broad-band ocean-bottom seismometer deployment in the Lesser Antilles from P-to-S delay times. *Geophysical Journal International*, **2020**, 223, 1758-1768	2.6	3
11	Variation in Upper Plate Crustal and Lithospheric Mantle Structure in the Greater and Lesser Antilles From Ambient Noise Tomography. *Geochemistry, Geophysics, Geosystems*, **2021**, 22, e2021GC009800	3.6	3
10	Tidal Triggering of Microseismicity at the Equatorial Mid-Atlantic Ridge, Inferred From the PI-LAB Experiment. *Journal of Geophysical Research: Solid Earth*, **2021**, 126, e2021JB022251	3.6	3
9	Spatial Variations in Crustal and Mantle Anisotropy Across the North American-Caribbean Boundary on Haiti. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB018438	3.6	2
8	Multiple graph realizations method: improving the accuracy and the efficiency of the shortest path method through random sampling. *Geophysical Journal International*, **2021**, 227, 669-679	2.6	2
7	Widespread Hydration of the Back Arc and the Link to Variable Hydration of the Incoming Plate in the Lesser Antilles From Rayleigh Wave Imaging. *Geochemistry, Geophysics, Geosystems*, **2021**, 22, e2021GC009707	3.6	2
6	Seismic Discontinuities Across the North American Caribbean Plate Boundary From S-to-P Receiver Functions. *Geochemistry, Geophysics, Geosystems*, **2021**, 22, e2021GC009723	3.6	2
5	Variations in melt emplacement beneath the northern East African Rift from radial anisotropy. *Earth and Planetary Science Letters*, **2021**, 573, 117150	5.3	2
4	Earth science: The slippery base of a tectonic plate. *Nature*, **2015**, 518, 39-40	50.4	1
3	Imaging slab-transported fluids and their deep dehydration from seismic velocity tomography in the Lesser Antilles subduction zone. *Earth and Planetary Science Letters*, **2022**, 586, 117535	5.3	1
2	Evidence for melt leakage from the Hawaiian plume above the mantle transition zone. *Physics of the Earth and Planetary Interiors*, **2021**, 321, 106813	2.3	0
1	Fast calculation of spatial sensitivity kernels for scattered waves in arbitrary heterogeneous media using graph theory. *Geophysical Journal International*, **2022**, 230, 654-672	2.6	0