

Juan Carlos Afonso

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65
papers

2,724
citations

31
h-index

51
g-index

79
ext. papers

3,161
ext. citations

4.2
avg, IF

5.2
L-index

#	Paper	IF	Citations
65	The Composition and Evolution of Lithospheric Mantle: a Re-evaluation and its Tectonic Implications. <i>Journal of Petrology</i> , 2009 , 50, 1185-1204	3.9	441
64	Integrated geophysical-petrological modeling of the lithosphere and sublithospheric upper mantle: Methodology and applications. <i>Geochemistry, Geophysics, Geosystems</i> , 2008 , 9, n/a-n/a	3.6	162
63	Crustal and mantle strengths in continental lithosphere: is the jelly sandwich model obsolete?. <i>Tectonophysics</i> , 2004 , 394, 221-232	3.1	156
62	The structure and evolution of the lithosphere–asthenosphere boundary beneath the Atlantic–Mediterranean Transition Region. <i>Lithos</i> , 2010 , 120, 74-95	2.9	110
61	Mantle Recycling: Transition Zone Metamorphism of Tibetan Ophiolitic Peridotites and its Tectonic Implications. <i>Journal of Petrology</i> , 2016 , 57, 655-684	3.9	109
60	3-D multiobservable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle. I: a priori petrological information and geophysical observables. <i>Journal of Geophysical Research: Solid Earth</i> , 2013 , 118, 2586-2617	3.6	90
59	LitMod3D: An interactive 3-D software to model the thermal, compositional, density, seismological, and rheological structure of the lithosphere and sublithospheric upper mantle. <i>Geochemistry, Geophysics, Geosystems</i> , 2009 , 10, n/a-n/a	3.6	90
58	Tibetan chromitites: Excavating the slab graveyard. <i>Geology</i> , 2015 , 43, 179-182	5	77
57	Seismic evidence of on-going sublithosphere upper mantle convection for intra-plate volcanism in Northeast China. <i>Earth and Planetary Science Letters</i> , 2016 , 433, 31-43	5.3	75
56	Density structure and buoyancy of the oceanic lithosphere revisited. <i>Geophysical Research Letters</i> , 2007 , 34,	4.9	68
55	Thermal expansivity and elastic properties of the lithospheric mantle: results from mineral physics of composites. <i>Physics of the Earth and Planetary Interiors</i> , 2005 , 149, 279-306	2.3	64
54	Long-term interaction between mid-ocean ridges and mantle plumes. <i>Nature Geoscience</i> , 2015 , 8, 479-483	8.3	61
53	3-D multi-observable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle. II: General methodology and resolution analysis. <i>Journal of Geophysical Research: Solid Earth</i> , 2013 , 118, 1650-1676	3.6	60
52	On the Vp/Vs–Mg# correlation in mantle peridotites: Implications for the identification of thermal and compositional anomalies in the upper mantle. <i>Earth and Planetary Science Letters</i> , 2010 , 289, 606-618	5.3	58
51	Comprehensive plate models for the thermal evolution of oceanic lithosphere. <i>Geochemistry, Geophysics, Geosystems</i> , 2013 , 14, 3751-3778	3.6	55
50	The lithospheric structure of the Western Carpathian–Pannonian Basin region based on the CELEBRATION 2000 seismic experiment and gravity modelling. <i>Tectonophysics</i> , 2009 , 475, 454-469	3.1	51
49	Lithospheric structure of the Gorringer Bank: Insights into its origin and tectonic evolution. <i>Tectonics</i> , 2010 , 29, n/a-n/a	4.3	48

48	3-D multiobservable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle: III. Thermochemical tomography in the Western-Central U.S.. <i>Journal of Geophysical Research: Solid Earth</i> , 2016 , 121, 7337-7370	3.6	47
47	Lithospheric structure in the Baikal–central Mongolia region from integrated geophysical-petrological inversion of surface-wave data and topographic elevation. <i>Geochemistry, Geophysics, Geosystems</i> , 2012 , 13, n/a-n/a	3.6	45
46	Geophysical-petrological modeling of the lithosphere beneath the Cantabrian Mountains and the North-Iberian margin: geodynamic implications. <i>Lithos</i> , 2015 , 230, 46-68	2.9	44
45	Tertiary tectonics of the sub-Andean region of the North Patagonian Andes, southern central Andes of Argentina (41°N–30°S). <i>Journal of South American Earth Sciences</i> , 2005 , 20, 157-170	2	43
44	A global reference model of the lithosphere and upper mantle from joint inversion and analysis of multiple data sets. <i>Geophysical Journal International</i> , 2019 , 217, 1602-1628	2.6	42
43	Global Crustal Thickness and Velocity Structure From Geostatistical Analysis of Seismic Data. <i>Journal of Geophysical Research: Solid Earth</i> , 2019 , 124, 1626-1652	3.6	40
42	Thermochemical structure of the North China Craton from multi-observable probabilistic inversion: Extent and causes of cratonic lithosphere modification. <i>Gondwana Research</i> , 2016 , 37, 252-265	5.1	40
41	The Subductability of Continental Lithosphere: The Before and After Story. <i>Frontiers in Earth Sciences</i> , 2011 , 53-86	1.6	39
40	The deep lithospheric structure of the Namibian volcanic margin. <i>Tectonophysics</i> , 2010 , 481, 68-81	3.1	36
39	Effects of compositional and rheological stratifications on small-scale convection under the oceans: Implications for the thickness of oceanic lithosphere and seafloor flattening. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	36
38	The capacity of hydrous fluids to transport and fractionate incompatible elements and metals within the Earth's mantle. <i>Geochemistry, Geophysics, Geosystems</i> , 2014 , 15, 2241-2253	3.6	35
37	The effects of polybaric partial melting on density and seismic velocities of mantle restites. <i>Lithos</i> , 2012 , 134-135, 289-303	2.9	34
36	The thermochemical structure of the lithosphere and upper mantle beneath south China: Results from multiobservable probabilistic inversion. <i>Journal of Geophysical Research: Solid Earth</i> , 2014 , 119, 8417-8441	3.6	34
35	Arc–Continent Collision: The Making of an Orogen. <i>Frontiers in Earth Sciences</i> , 2011 , 477-493	1.6	33
34	From the North-Iberian Margin to the Alboran Basin: A lithosphere geo-transect across the Iberian Plate. <i>Tectonophysics</i> , 2015 , 663, 399-418	3.1	30
33	Sediment residence times constrained by uranium-series isotopes: A critical appraisal of the comminution approach. <i>Geochimica Et Cosmochimica Acta</i> , 2013 , 103, 245-262	5.5	29
32	The lithosphere–asthenosphere system beneath Ireland from integrated geophysical–petrological modeling II: 3D thermal and compositional structure. <i>Lithos</i> , 2014 , 189, 49-64	2.9	28
31	Decoupled crust-mantle accommodation of Africa-Eurasia convergence in the NW Moroccan margin. <i>Journal of Geophysical Research</i> , 2011 , 116,		28

30	How did the Dabie Orogen collapse? Insights from 3-D magnetotelluric imaging of profile data. <i>Journal of Geophysical Research: Solid Earth</i> , 2016 , 121, 5169-5185	3.6	24
29	Geophysical-petrological model of the crust and upper mantle in the India-Eurasia collision zone. <i>Tectonics</i> , 2016 , 35, 1642-1669	4.3	23
28	A wide-angle upper mantle reflector in SW Iberia: Some constraints on its nature. <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 181, 88-102	2.3	22
27	The lithosphere–asthenosphere system beneath Ireland from integrated geophysical–petrological modeling II: Observations, 1D and 2D hypothesis testing and modeling. <i>Lithos</i> , 2014 , 189, 28-48	2.9	19
26	Elastic properties of three-phase composites: analytical model based on the modified shear-lag model and the method of cells. <i>Composites Science and Technology</i> , 2005 , 65, 1264-1275	8.6	18
25	Imaging the Lithosphere and Upper Mantle. <i>Geophysical Monograph Series</i> , 2016 , 191-218	1.1	18
24	Considerations for U-series dating of sediments: Insights from the Flinders Ranges, South Australia. <i>Chemical Geology</i> , 2013 , 340, 40-48	4.2	16
23	Geochemical and geophysical constrains on the dynamic topography of the Southern African Plateau. <i>Geochemistry, Geophysics, Geosystems</i> , 2017 , 18, 3556-3575	3.6	13
22	Numerical modelling of multiphase multicomponent reactive transport in the Earth's interior. <i>Geophysical Journal International</i> , 2018 , 212, 345-388	2.6	12
21	The crustal structure of the Arizona Transition Zone and southern Colorado Plateau from multiobservable probabilistic inversion. <i>Geochemistry, Geophysics, Geosystems</i> , 2016 , 17, 4308-4332	3.6	12
20	Southwestern Africa on the burner: Pleistocene carbonatite volcanism linked to deep mantle upwelling in Angola. <i>Geology</i> , 2017 , 45, 971-974	5	9
19	Physical State and Structure of the Crust Beneath the Western-Central United States From Multiobservable Probabilistic Inversion. <i>Tectonics</i> , 2018 , 37, 3117-3147	4.3	9
18	Fast Stokes Flow Simulations for Geophysical-Geodynamic Inverse Problems and Sensitivity Analyses Based On Reduced Order Modeling. <i>Journal of Geophysical Research: Solid Earth</i> , 2020 , 125, e2019JB018314	3.6	7
17	A Lagrangian–Eulerian finite element algorithm for advection–diffusion–reaction problems with phase change. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016 , 300, 375-401	5.7	7
16	Improved geophysical image of the Carpathian-Pannonian Basin region. <i>Acta Geodaetica Et Geophysica Hungarica</i> , 2010 , 45, 284-298		7
15	Reworking of old continental lithosphere: Unradiogenic Os and decoupled Hf Nd isotopes in sub-arc mantle pyroxenites. <i>Lithos</i> , 2020 , 354-355, 105346	2.9	7
14	LitMod2D_2.0: An Improved Integrated Geophysical-Petrological Modeling Tool for the Physical Interpretation of Upper Mantle Anomalies. <i>Geochemistry, Geophysics, Geosystems</i> , 2020 , 21, e2019GC008777	3.6	6
13	The Deep Lithospheric Structure of the Junggar Terrane, NW China: Implications for Its Origin and Tectonic Evolution. <i>Journal of Geophysical Research: Solid Earth</i> , 2019 , 124, 11615-11638	3.6	6

12	An efficient and general approach for implementing thermodynamic phase equilibria information in geophysical and geodynamic studies. <i>Geochemistry, Geophysics, Geosystems</i> , 2015 , 16, 3767-3777	3.6	6
11	A reduced order approach for probabilistic inversions of 3-D magnetotelluric data I: general formulation. <i>Geophysical Journal International</i> , 2020 , 223, 1837-1863	2.6	6
10	New Constraints on the Thermal Conductivity of the Upper Mantle From Numerical Models of Radiation Transport. <i>Geochemistry, Geophysics, Geosystems</i> , 2019 , 20, 2378-2394	3.6	5
9	The hydrothermal power of oceanic lithosphere. <i>Solid Earth</i> , 2015 , 6, 1131-1155	3.3	5
8	Chemical Disequilibria, Lithospheric Thickness, and the Source of Ocean Island Basalts. <i>Journal of Petrology</i> , 2019 , 60, 755-790	3.9	4
7	A Disequilibrium Reactive Transport Model for Mantle Magmatism. <i>Journal of Petrology</i> , 2021 , 61,	3.9	4
6	Multiple Phase Changes in the Mantle Transition Zone Beneath Northeast Asia: Constraints From Teleseismic Reflected and Converted Body Waves. <i>Journal of Geophysical Research: Solid Earth</i> , 2018 , 123, 6636	3.6	4
5	Lithosphere–asthenosphere interactions beneath northeast China and the origin of its intraplate volcanism. <i>Geology</i> ,	5	3
4	The deep thermochemical structure of the Dabie orogenic belt from multi-observable probabilistic inversion. <i>Tectonophysics</i> , 2020 , 787, 228478	3.1	1
3	The hydrothermal power of oceanic lithosphere		1
2	Thermochemical State of the Upper Mantle Beneath South China From Multi-Observable Probabilistic Inversion. <i>Journal of Geophysical Research: Solid Earth</i> , 2021 , 126, e2020JB021114	3.6	1
1	Melting Dynamics of Late Cretaceous Lamprophyres in Central Asia Suggest a Mechanism to Explain Many Continental Intraplate Basaltic Suite Magmatic Provinces. <i>Journal of Geophysical Research: Solid Earth</i> , 2021 , 126, e2021JB021663	3.6	0