Juan Carlos Afonso

List of Publications by Year
in descending order

65	3,564	117453	138251
papers	citations	34 h-index	58 g-index

79	79	79	3016
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Composition and Evolution of Lithospheric Mantle: a Re-evaluation and its Tectonic Implications. Journal of Petrology, 2009, 50, 1185-1204.	1.1	540
2	Integrated geophysicalâ€petrological modeling of the lithosphere and sublithospheric upper mantle: Methodology and applications. Geochemistry, Geophysics, Geosystems, 2008, 9, .	1.0	200
3	Crustal and mantle strengths in continental lithosphere: is the jelly sandwich model obsolete?. Tectonophysics, 2004, 394, 221-232.	0.9	175
4	Mantle Recycling: Transition Zone Metamorphism of Tibetan Ophiolitic Peridotites and its Tectonic Implications. Journal of Petrology, 2016, 57, 655-684.	1.1	137
5	The structure and evolution of the lithosphereâ€“asthenosphere boundary beneath the Atlanticâ€“Mediterranean Transition Region. Lithos, 2010, 120, 74-95.	0.6	126
6	3â€D multiobservable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle. I: a priori petrological information and geophysical observables. Journal of Geophysical Research: Solid Earth, 2013, 118, 2586-2617.	1.4	121
7	LitMod3D: An interactive 3â€D software to model the thermal, compositional, density, seismological, and rheological structure of the lithosphere and sublithospheric upper mantle. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	107
8	Seismic evidence of on-going sublithosphere upper mantle convection for intra-plate volcanism in Northeast China. Earth and Planetary Science Letters, 2016, 433, 31-43.	1.8	107
9	Tibetan chromitites: Excavating the slab graveyard. Geology, 2015, 43, 179-182.	2.0	94
10	Long-term interaction between mid-ocean ridges and mantle plumes. Nature Geoscience, 2015, 8, 479-483.	5.4	92
11	Global Crustal Thickness and Velocity Structure From Geostatistical Analysis of Seismic Data. Journal of Geophysical Research: Solid Earth, 2019, 124, 1626-1652.	1.4	86
12	3â€D multiâ€observable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle. II: General methodology and resolution analysis. Journal of Geophysical Research: Solid Earth, 2013, 118, 1650-1676.	1.4	78
13	Density structure and buoyancy of the oceanic lithosphere revisited. Geophysical Research Letters, 2007, 34, .	1.5	77
14	Comprehensive plate models for the thermal evolution of oceanic lithosphere. Geochemistry, Geophysics, Geosystems, 2013, 14, 3751-3778.	1.0	73
15	A global reference model of the lithosphere and upper mantle from joint inversion and analysis of multiple data sets. Geophysical Journal International, 2019, 217, 1602-1628.	1.0	72
16	Thermal expansivity and elastic properties of the lithospheric mantle: results from mineral physics of composites. Physics of the Earth and Planetary Interiors, 2005, 149, 279-306.	0.7	71
17	On the Vp/Vsâ€“Mg# correlation in mantle peridotites: Implications for the identification of thermal and compositional anomalies in the upper mantle. Earth and Planetary Science Letters, 2010, 289, 606-618.	1.8	68
18	3â€D multiobservable probabilistic inversion for the compositional and thermal structure of the lithosphere and upper mantle: III. Thermochemical tomography in the Westernâ€Central U.S.. Journal of Geophysical Research: Solid Earth, 2016, 121, 7337-7370.	1.4	67

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19	The lithospheric structure of the Western Carpathianâ€“Pannonian Basin region based on the CELEBRATION 2000 seismic experiment and gravity modelling. Tectonophysics, 2009, 475, 454-469.	0.9	63
20	Thermochemical structure of the North China Craton from multi-observable probabilistic inversion: Extent and causes of cratonic lithosphere modification. Gondwana Research, 2016, 37, 252-265.	3.0	54
21	Lithospheric structure of the Gorringe Bank: Insights into its origin and tectonic evolution. Tectonics, 2010, 29, n/a-n/a.	1.3	53
22	Lithospheric structure in the Baikalâ€“central Mongolia region from integrated geophysicalâ€petrological inversion of surfaceâ€wave data and topographic elevation. Geochemistry, Geophysics, Geosystems, 2012, 13, .	1.0	53
23	Geophysical-petrological modeling of the lithosphere beneath the Cantabrian Mountains and the North-Iberian margin: geodynamic implications. Lithos, 2015, 230, 46-68.	0.6	52
24	Tertiary tectonics of the sub-Andean region of the North Patagonian Andes, southern central Andes of Argentina (41â€“42Â°30â€²S). Journal of South American Earth Sciences, 2005, 20, 157-170.	0.6	49
25	The capacity of hydrous fluids to transport and fractionate incompatible elements and metals within the Earth's mantle. Geochemistry, Geophysics, Geosystems, 2014, 15, 2241-2253.	1.0	48
26	The deep lithospheric structure of the Namibian volcanic margin. Tectonophysics, 2010, 481, 68-81.	0.9	47
27	Sediment residence times constrained by uranium-series isotopes: A critical appraisal of the comminution approach. Geochimica Et Cosmochimica Acta, 2013, 103, 245-262.	1.6	46
28	Effects of compositional and rheological stratifications on smallâ€scale convection under the oceans: Implications for the thickness of oceanic lithosphere and seafloor flattening. Geophysical Research Letters, 2008, 35, .	1.5	45
29	The thermochemical structure of the lithosphere and upper mantle beneath south China: Results from multiobservable probabilistic inversion. Journal of Geophysical Research: Solid Earth, 2014, 119, 8417-8441.	1.4	45
30	Geophysicalâ€petrological model of the crust and upper mantle in the Indiaâ€Eurasia collision zone. Tectonics, 2016, 35, 1642-1669.	1.3	45
31	Arcâ€“Continent Collision: The Making of an Orogen. Frontiers in Earth Sciences, 2011, , 477-493.	0.1	42
32	The effects of polybaric partial melting on density and seismic velocities of mantle restites. Lithos, 2012, 134-135, 289-303.	0.6	42
33	From the North-Iberian Margin to the Alboran Basin: A lithosphere geo-transect across the Iberian Plate. Tectonophysics, 2015, 663, 399-418.	0.9	34
34	The lithosphereâ€“asthenosphere system beneath Ireland from integrated geophysicalâ€“petrological modeling II: 3D thermal and compositional structure. Lithos, 2014, 189, 49-64.	0.6	31
35	Decoupled crust-mantle accommodation of Africa-Eurasia convergence in the NW Moroccan margin. Journal of Geophysical Research, 2011, 116, .	3.3	30
36	How did the Dabie Orogen collapse? Insights from 3â€D magnetotelluric imaging of profile data. Journal of Geophysical Research: Solid Earth, 2016, 121, 5169-5185.	1.4	28

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37	A poorly mixed mantle transition zone and its thermal state inferred from seismic waves. Nature Geoscience, 2021, 14, 949-955.	5.4	25
38	A wide-angle upper mantle reflector in SW Iberia: Some constraints on its nature. Physics of the Earth and Planetary Interiors, 2010, 181, 88-102.	0.7	23
39	Considerations for U-series dating of sediments: Insights from the Flinders Ranges, South Australia. Chemical Geology, 2013, 340, 40-48.	1.4	23
40	The lithosphereâ€“asthenosphere system beneath Ireland from integrated geophysicalâ€“petrological modeling â€" I: Observations, 1D and 2D hypothesis testing and modeling. Lithos, 2014, 189, 28-48.	0.6	22
41	Elastic properties of three-phase composites: analytical model based on the modified shear-lag model and the method of cells. Composites Science and Technology, 2005, 65, 1264-1275.	3.8	20
42	Geochemical and geophysical constrains on the dynamic topography of the <scp>S</scp>outhern <scp>A</scp>frican <scp>P</scp>lateau. Geochemistry, Geophysics, Geosystems, 2017, 18, 3556-3575.	1.0	20
43	Lithosphereâ€“asthenosphere interactions beneath northeast China and the origin of its intraplate volcanism. Geology, 2022, 50, 210-215.	2.0	19
44	Numerical modelling of multiphase multicomponent reactive transport in the Earthâ€™s interior. Geophysical Journal International, 2018, 212, 345-388.	1.0	18
45	The Deep Lithospheric Structure of the Junggar Terrane, NW China: Implications for Its Origin and Tectonic Evolution. Journal of Geophysical Research: Solid Earth, 2019, 124, 11615-11638.	1.4	18
46	Southwestern Africa on the burner: Pleistocene carbonatite volcanism linked to deep mantle upwelling in Angola. Geology, 2017, 45, 971-974.	2.0	17
47	The crustal structure of the <scp>A</scp>rizona <scp>T</scp>ransition <scp>Z</scp>one and southern <scp>C</scp>olorado <scp>P</scp>lateau from multiobservable probabilistic inversion. Geochemistry, Geophysics, Geosystems, 2016, 17, 4308-4332.	1.0	16
48	A reduced order approach for probabilistic inversions of 3-D magnetotelluric data I: general formulation. Geophysical Journal International, 2020, 223, 1837-1863.	1.0	16
49	LitMod2D_2.0: An Improved Integrated Geophysicalâ€Petrological Modeling Tool for the Physical Interpretation of Upper Mantle Anomalies. Geochemistry, Geophysics, Geosystems, 2020, 21, e2019GC008777.	1.0	14
50	Physical State and Structure of the Crust Beneath the Westernâ€Central United States From Multiobservable Probabilistic Inversion. Tectonics, 2018, 37, 3117-3147.	1.3	13
51	A Disequilibrium Reactive Transport Model for Mantle Magmatism. Journal of Petrology, 2021, 61, .	1.1	12
52	Thermochemical State of the Upper Mantle Beneath South China From Multiâ€Observable Probabilistic Inversion. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021114.	1.4	12
53	Thermochemical structure and evolution of cratonic lithosphere in central and southern Africa. Nature Geoscience, 2022, 15, 405-410.	5.4	12
54	Fast Stokes Flow Simulations for Geophysicalâ€GeodynamicÂ Inverse Problems and Sensitivity Analyses Based On Reduced Order Modeling. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018314.	1.4	11

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55	A Lagrangianâ€“Eulerian finite element algorithm for advectionâ€“diffusionâ€“reaction problems with phase change. Computer Methods in Applied Mechanics and Engineering, 2016, 300, 375-401.	3.4	10
56	Reworking of old continental lithosphere: Unradiogenic Os and decoupled Hf Nd isotopes in sub-arc mantle pyroxenites. Lithos, 2020, 354-355, 105346.	0.6	9
57	Improved geophysical image of the Carpathian-Pannonian Basin region. Acta Geodaetica Et Geophysica Hungarica, 2010, 45, 284-298.	0.4	8
58	New Constraints on the Thermal Conductivity of the Upper Mantle From Numerical Models of Radiation Transport. Geochemistry, Geophysics, Geosystems, 2019, 20, 2378-2394.	1.0	8
59	The deep thermochemical structure of the Dabie orogenic belt from multi-observable probabilistic inversion. Tectonophysics, 2020, 787, 228478.	0.9	8
60	Multiple Phase Changes in the Mantle Transition Zone Beneath Northeast Asia: Constraints From Teleseismic Reflected and Converted Body Waves. Journal of Geophysical Research: Solid Earth, 2018, 123, 6636-6657.	1.4	7
61	Melting Dynamics of Late Cretaceous Lamprophyres in Central Asia Suggest a Mechanism to Explain Many Continental Intraplate Basaltic Suite Magmatic Provinces. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021663.	1.4	7
62	An efficient and general approach for implementing thermodynamic phase equilibria information in geophysical and geodynamic studies. Geochemistry, Geophysics, Geosystems, 2015, 16, 3767-3777.	1.0	6
63	The hydrothermal power of oceanic lithosphere. Solid Earth, 2015, 6, 1131-1155.	1.2	6
64	Chemical Disequilibria, Lithospheric Thickness, and the Source of Ocean Island Basalts. Journal of Petrology, 2019, 60, 755-790.	1.1	5
65	A Reduced Order Approach for Probabilistic Inversions of 3D Magnetotelluric Data II: Joint Inversion of MT and Surfaceâ€Wave Data. Journal of Geophysical Research: Solid Earth, 2021, 126, .	1.4	5