Fidel Costa

List of Publications by Year
in descending order

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80	4,679	87888 38	102487 66
papers	citations	h-index	g-index

86	86	86	2934
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dynamics and timescales of maficâ€“silicic magma interactions at SoufriÃ¨re Hills Volcano, Montserrat. Contributions To Mineralogy and Petrology, 2022, 177, 1.	3.1	3
2	Probabilistic analysis to correlate seismic data with lava extrusion phases at Merapi volcano (Indonesia). Journal of Volcanology and Geothermal Research, 2022, 426, 107537.	2.1	2
3	Clocks in Magmatic Rocks. Annual Review of Earth and Planetary Sciences, 2021, 49, 231-252.	11.0	18
4	Apatite Crystals Reveal Melt Volatile Budgets and Magma Storage Depths at Merapi Volcano, Indonesia. Journal of Petrology, 2021, 62, .	2.8	19
5	From Explosive Vent Opening to Effusive Outpouring: Mineral Constraints on Magma Dynamics and Timescales at Paricutin Monogenetic Volcano. Journal of Petrology, 2021, 62, .	2.8	10
6	Synoptic analysis of a decade of daily measurements of SO₂ emission in the troposphere from volcanoes of the global ground-based Network for Observation of Volcanic and Atmospheric Change. Earth System Science Data, 2021, 13, 1167-1188.	9.9	31
7	A petrological and conceptual model of Mayon volcano (Philippines) as an example of an open-vent volcano. Bulletin of Volcanology, 2021, 83, 1.	3.0	10
8	The volcanic ash record of shallow magma intrusion and dome emplacement at Nevados de ChillÃ¡n Volcanic complex, Chile. Journal of Volcanology and Geothermal Research, 2021, 417, 107308.	2.1	3
9	A thermodynamic model for F-Cl-OH partitioning between silicate melts and apatite including non-ideal mixing with application to constraining melt volatile budgets. Geochimica Et Cosmochimica Acta, 2020, 269, 203-222.	3.9	55
10	Multicomponent diffusion of F, Cl and OH in apatite with application to magma ascent rates. Earth and Planetary Science Letters, 2020, 550, 116545.	4.4	22
11	Crystals reveal magma convection and melt transport in dyke-fed eruptions. Scientific Reports, 2020, 10, 11632.	3.3	16
12	Cascading Partial Rupture of the Flores Thrust during the 2018 Lombok Earthquake Sequence, Indonesia. Seismological Research Letters, 2020, 91, 2141-2151.	1.9	15
13	Linking fluid dynamics and olivine crystal scale zoning during simulated magma intrusion. Contributions To Mineralogy and Petrology, 2020, 175, 1.	3.1	22
14	Diffusion chronometry and the timescales of magmatic processes. Nature Reviews Earth & Environment, 2020, 1, 201-214.	29.7	100
15	Phosphorus and aluminum zoning in olivine: contrasting behavior of two nominally incompatible trace elements. Contributions To Mineralogy and Petrology, 2019, 174, 1.	3.1	37
16	Magma interactions, crystal mush formation, timescales, and unrest during caldera collapse and lateral eruption at ocean island basaltic volcanoes (Piton de la Fournaise, La RÃ©union). Earth and Planetary Science Letters, 2019, 515, 187-199.	4.4	33
17	WOVOdat â€“ the global volcano unrest database aimed at improving eruption forecasts. Disaster Prevention and Management, 2019, 28, 738-751.	1.2	15
18	Statistical analysis of crystal populations and links to volcano deformation for more robust estimates of magma replenishment volumes. Geology, 2019, 47, 1171-1175.	4.4	9

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19	PWD: A Petrological Workspace and Database tool. Geochemistry, Geophysics, Geosystems, 2019, 20, 6095-6105.	2.5	1
20	Data from Past Eruptions Could Reduce Future Volcano Hazards. Eos, 2019, 100, .	0.1	1
21	CEmin: A MATLABâ€Based Software for Computational Phenocryst Extraction and Statistical Petrology. Geochemistry, Geophysics, Geosystems, 2018, 19, 1378-1392.	2.5	5
22	Petrochronologic perspective on rhyolite volcano unrest at Laguna del Maule, Chile. Earth and Planetary Science Letters, 2018, 493, 57-70.	4.4	29
23	Necking and fracking may explain stationary seismicity and full degassing in volcanic silicic spine extrusion. Earth and Planetary Science Letters, 2018, 503, 47-57.	4.4	6
24	Crystal and melt inclusion timescales reveal the evolution of magma migration before eruption. Nature Communications, 2018, 9, 2657.	12.8	59
25	Multiple timescale constraints for high-flux magma chamber assembly prior to the Late Bronze Age eruption of Santorini (Greece). Contributions To Mineralogy and Petrology, 2018, 173, 1.	3.1	40
26	Lithium diffusion in olivine records magmatic priming of explosive basaltic eruptions. Earth and Planetary Science Letters, 2018, 500, 127-135.	4.4	27
27	Rapid cooling and cold storage in a silicic magma reservoir recorded in individual crystals. Science, 2017, 356, 1154-1156.	12.6	131
28	Timescales of mixing and storage for KeanakÄ¥oâ€˜i Tephra magmas (1500â€“1820 C.E.), KÄ«lauea Volcano, Hawaiâ€˜i. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	46
29	WOVOdat â€“ An online, growing library of worldwide volcanic unrest. Journal of Volcanology and Geothermal Research, 2017, 345, 184-199.	2.1	65
30	Metasomatic Reaction Phenomena from Entrainment to Surface Cooling: Evidence from Mantle Peridotite Xenoliths from Bulgaria. Journal of Petrology, 2017, 58, 599-640.	2.8	2
31	Evaluation of the effects of 3D diffusion, crystal geometry, and initial conditions on retrieved time-scales from Feâ€“Mg zoning in natural oriented orthopyroxene crystals. Geochimica Et Cosmochimica Acta, 2017, 196, 271-288.	3.9	24
32	Response to Comment on â€œRapid cooling and cold storage in a silicic magma reservoir recorded in individual crystalsâ€• Science, 2017, 358, .	12.6	4
33	Storage and Eruption of Silicic Magma across the Transition from Dominantly Effusive to Caldera-forming States at an Arc Volcano (Santorini, Greece). Journal of Petrology, 2017, 58, 2429-2464.	2.8	31
34	Unraveling the presence of multiple plagioclase populations and identification of representative two-dimensional sections using a statistical and numerical approach. American Mineralogist, 2017, 102, 1894-1905.	1.9	25
35	How do olivines record magmatic events? Insights from major and trace element zoning. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	53
36	The timing of compositionally-zoned magma reservoirs and mafic â€˜primingâ€™ weeks before the 1912 Novarupta-Katmai rhyolite eruption. Earth and Planetary Science Letters, 2016, 451, 125-137.	4.4	43

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37	Corrigendum to: â€˜Constraints on the Nature and Evolution of the Magma Plumbing System of Mt. Etna Volcano (1991â€“2008) from a Combined Thermodynamic and Kinetic Modelling of the Compositional Record of Mineralsâ€™. Journal of Petrology, 2016, 57, 621-622.	2.8	5
38	Years to weeks of seismic unrest and magmatic intrusions precede monogenetic eruptions. Geology, 2016, 44, 211-214.	4.4	50
39	Fractal degassing from Erebus and Mayon volcanoes revealed by a new method to monitor H₂O emission cycles. Journal of Geophysical Research: Solid Earth, 2015, 120, 2988-3002.	3.4	14
40	Degassing during quiescence as a trigger of magma ascent and volcanic eruptions. Scientific Reports, 2015, 5, 18212.	3.3	46
41	A 5000-year record of multiple highly explosive mafic eruptions from Gunung Agung (Bali, Indonesia): implications for eruption frequency and volcanic hazards. Bulletin of Volcanology, 2015, 77, 1.	3.0	37
42	Constraints on the Nature and Evolution of the Magma Plumbing System of Mt. Etna Volcano (1991â€“2008) from a Combined Thermodynamic and Kinetic Modelling of the Compositional Record of Minerals. Journal of Petrology, 2015, 56, 2025-2068.	2.8	97
43	Mafic magma replenishment, unrest and eruption in a caldera setting: insights from the 2006 eruption of Rabaul (Papua New Guinea). Geological Society Special Publication, 2015, 422, 17-39.	1.3	14
44	Volcaniclastic stratigraphy of Gede Volcano, West Java, Indonesia: How it erupted and when. Journal of Volcanology and Geothermal Research, 2015, 301, 238-252.	2.1	11
45	Accuracy of timescales retrieved from diffusion modeling in olivine: A 3D perspective. American Mineralogist, 2015, 100, 2026-2042.	1.9	86
46	Timing of Magmatic Processes and Unrest Associated with Mafic Historical Monogenetic Eruptions in Tenerife Island. Journal of Petrology, 2015, 56, 1945-1966.	2.8	46
47	An analysis of the issuance of volcanic alert levels during volcanic crises. Journal of Applied Volcanology, 2014, 3, .	2.0	48
48	Magmatic Processes and Associated Timescales Leading to the January 1835 Eruption of CosigÃ¼ina Volcano, Nicaragua. Journal of Petrology, 2014, 55, 1173-1201.	2.8	23
49	Locating magma reservoirs using InSAR and petrology before and during the 2011â€“2012 CordÃ³n Caulle silicic eruption. Earth and Planetary Science Letters, 2014, 395, 254-266.	4.4	77
50	Petrogenesis of tholeiitic basalts from the Central Atlantic magmatic province as revealed by mineral major and trace elements and Sr isotopes. Lithos, 2014, 188, 44-59.	1.4	18
51	Primitive melt replenishment and crystal-mush disaggregation in the weeks preceding the 2005â€“2006 eruption <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mn>9</mml:mn><mml:mi mathvariant="normal">Â°</mml:mi><mml:msup><mml:mrow><mml:mn>50</mml:mn></mml:mrow><mml:mrow><mml:mo>â€²</mml:mo></mml:mrow></mml:msup><mml:mi mathvariant="normal">N</mml:mi></mml:math>, EPR. Earth and Planetary Science Letters, 2014, 403, 15-26.	4.4	39
52	On depressurization of volcanic magma reservoirs by passive degassing. Journal of Geophysical Research: Solid Earth, 2014, 119, 8667-8687.	3.4	51
53	Storage conditions and eruptive dynamics of central versus flank eruptions in volcanic islands: The case of Tenerife (Canary Islands, Spain). Journal of Volcanology and Geothermal Research, 2013, 260, 62-79.	2.1	26
54	Petrological insights into the storage conditions, and magmatic processes that yielded the centennial 2010 Merapi explosive eruption. Journal of Volcanology and Geothermal Research, 2013, 261, 209-235.	2.1	130

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55	Correlation of Magma Evolution and Geophysical Monitoring during the 2011-2012 El Hierro (Canary) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	2.8	78
56	Compositionally zoned crystals and real-time degassing data reveal changes in magma transfer dynamics during the 2006 summit eruptive episodes of Mt. Etna. Bulletin of Volcanology, 2013, 75, 1.	3.0	103
57	DIPRA: A userâ€friendly program to model multiâ€element diffusion in olivine with applications to timescales of magmatic processes. Geochemistry, Geophysics, Geosystems, 2013, 14, 422-431.	2.5	53
58	The 2010 explosive eruption of Java's Merapi volcanoâ€"A â€˜100-yearâ€™ event. Journal of Volcanology and Geothermal Research, 2012, 241-242, 121-135.	2.1	336
59	Decadal to monthly timescales of magma transfer and reservoir growth at a caldera volcano. Nature, 2012, 482, 77-80.	27.8	306
60	Dynamic plumbing system beneath volcanoes revealed by kinetic modeling, and the connection to monitoring data: An example from Mt. Etna. Earth and Planetary Science Letters, 2011, 308, 11-22.	4.4	165
61	The time scales of magma mixing and mingling involving primitive melts and meltâ€"mush interaction at mid-ocean ridges. Contributions To Mineralogy and Petrology, 2010, 159, 371-387.	3.1	82
62	Magma storage conditions of the last eruption of Teide volcano (Canary Islands, Spain). Bulletin of Volcanology, 2010, 72, 381-395.	3.0	44
63	Time Scales of Magmatic Processes from Modeling the Zoning Patterns of Crystals. Reviews in Mineralogy and Geochemistry, 2008, 69, 545-594.	4.8	229
64	Assessing the potential for future explosive activity from Teideâ€"Pico Viejo stratovolcanoes (Tenerife,) Tj ETQq0 0 0 rgBT /Overlock 10 T	2.1	49
65	The effect of water on Si and O diffusion rates in olivine and implications for transport properties and processes in the upper mantle. Physics of the Earth and Planetary Interiors, 2008, 166, 11-29.	1.9	133
66	Experimental constraints on pre-eruptive conditions of phonolitic magma from the caldera-forming El Abrigo eruption, Tenerife (Canary Islands). Chemical Geology, 2008, 257, 173-191.	3.3	60
67	Chapter 1 Residence Times of Silicic Magmas Associated with Calderas. Developments in Volcanology, 2008, , 1-55.	0.5	39
68	Pre-eruptive conditions of the phonolitic magma from the El Abrigo caldera-forming eruption (Las) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2008, 3, 012013.	0.3	1
69	14. Time Scales of Magmatic Processes from Modeling the Zoning Patterns of Crystals. , 2008, , 545-594.		34
70	Equilibration Scales in Silicic to Intermediate Magmas Implications for Experimental Studies. Journal of Petrology, 2007, 48, 1955-1972.	2.8	89
71	Measuring Timescales of Magmatic Evolution. Elements, 2007, 3, 267-272.	0.5	93
72	Short time scales of magmatic assimilation from diffusion modeling of multiple elements in olivine. Geology, 2005, 33, 837.	4.4	161

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73	Petrological and Experimental Constraints on the Pre-eruption Conditions of Holocene Dacite from Volcan San Pedro (36ÂS, Chilean Andes) and the Importance of Sulphur in Silicic Subduction-related Magmas. Journal of Petrology, 2004, 45, 855-881.	2.8	158
74	Decadal time gaps between mafic intrusion and silicic eruption obtained from chemical zoning patterns in olivine. Earth and Planetary Science Letters, 2004, 227, 517-530.	4.4	146
75	Massive atmospheric sulfur loading of the AD 1600 Huaynaputina eruption and implications for petrologic sulfur estimates. Geophysical Research Letters, 2003, 30, .	4.0	21
76	Diffusion coupling between trace and major elements and a model for calculation of magma residence times using plagioclase. Geochimica Et Cosmochimica Acta, 2003, 67, 2189-2200.	3.9	226
77	Mining and geological knowledge during the Neolithic: a geological study on the variscite mines at GavÃ, Catalonia. Episodes, 2003, 26, 295-301.	1.2	14
78	Hornblende- and Phlogopite-Bearing Gabbroic Xenoliths from Volcan San Pedro (36degreesS), Chilean Andes: Evidence for Melt and Fluid Migration and Reactions in Subduction-Related Plutons. Journal of Petrology, 2002, 43, 219-241.	2.8	64
79	Evolution of Holocene Dacite and Compositionally Zoned Magma, Volcan San Pedro, Southern Volcanic Zone, Chile. Journal of Petrology, 2002, 43, 1571-1593.	2.8	53
80	Magmatic Na-rich phlogopite in a suite of gabbroic crustal xenoliths from VolcÃ¡n San Pedro, Chilean Andes: Evidence for a solvus relation between phlogopite and aspidolite. American Mineralogist, 2001, 86, 29-35.	1.9	18