

# Valerio Cerantola

## List of Publications by Year in descending order

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Version: 2024-02-01

54  
papers

1,178  
citations

361413

20  
h-index

454955

30  
g-index

55  
all docs

55  
docs citations

55  
times ranked

1318  
citing authors

#	ARTICLE	IF	CITATIONS
1	High Poisson's ratio of Earth's inner core explained by carbon alloying. <i>Nature Geoscience</i> , 2015, 8, 220-223.	12.9	113
2	Stability of iron-bearing carbonates in the deep Earth's interior. <i>Nature Communications</i> , 2017, 8, 15960.	12.8	84
3	High-pressure spectroscopic study of siderite ( $\text{FeCO}_3$ ) with a focus on spin crossover. <i>American Mineralogist</i> , 2015, 100, 2670-2681.	1.9	57
4	Oxidized iron in garnets from the mantle transition zone. <i>Nature Geoscience</i> , 2018, 11, 144-147.	12.9	48
5	Dolomite-IV: Candidate structure for a carbonate in the Earth's lower mantle. <i>American Mineralogist</i> , 2017, 102, 1763-1766.	1.9	42
6	Effect of redox on Fe-Mg-Mn exchange between olivine and melt and an oxybarometer for basalts. <i>Contributions To Mineralogy and Petrology</i> , 2020, 175, 1.	3.1	42
7	Large oxygen excess in the primitive mantle could be the source of the Great Oxygenation Event. <i>Geochemical Perspectives Letters</i> , 0, , 5-10.	5.0	42
8	Raman study of $\text{MgCO}_3$ - $\text{FeCO}_3$ carbonate solid solution at high pressures up to 55 GPa. <i>Physics and Chemistry of Minerals</i> , 2014, 41, 633-638.	0.8	37
9	Magma properties at deep Earth's conditions from electronic structure of silica. <i>Geochemical Perspectives Letters</i> , 0, , 32-37.	5.0	37
10	Local structure and spin transition in $\text{FeO}$ hematite at high pressure. <i>Physical Review B</i> , 2016, 94, .	3.2	33
11	Magnetism in cold subducting slabs at mantle transition zone depths. <i>Nature</i> , 2019, 570, 102-106.	27.8	33
12	The High Energy Density Scientific Instrument at the European XFEL. <i>Journal of Synchrotron Radiation</i> , 2021, 28, 1393-1416.	2.4	33
13	Stability of Fe,Al-bearing bridgmanite in the lower mantle and synthesis of pure Fe-bridgmanite. <i>Science Advances</i> , 2016, 2, e1600427.	10.3	31
14	Oxidation state of the lower mantle: In situ observations of the iron electronic configuration in bridgmanite at extreme conditions. <i>Earth and Planetary Science Letters</i> , 2015, 423, 78-86.	4.4	30
15	Stability and nature of the volume collapse of $\mu\text{-Fe}_2\text{O}_3$ under extreme conditions. <i>Nature Communications</i> , 2018, 9, 4554.	12.8	28
16	Deformation of a crystalline olivine aggregate containing two immiscible liquids: Implications for early core-mantle differentiation. <i>Earth and Planetary Science Letters</i> , 2015, 417, 67-77.	4.4	26
17	Portable double-sided pulsed laser heating system for time-resolved geoscience and materials science applications. <i>Review of Scientific Instruments</i> , 2017, 88, 084501.	1.3	24
18	Pressure driven spin transition in siderite and magnesiosiderite single crystals. <i>Scientific Reports</i> , 2017, 7, 16526.	3.3	24

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19	Direct tomography imaging for inelastic X-ray scattering experiments at high pressure. Journal of Synchrotron Radiation, 2017, 24, 269-275.	2.4	23
20	Pressure tuning of charge ordering in iron oxide. Nature Communications, 2018, 9, 4142.	12.8	22
21	An approach for the measurement of the bulk temperature of single crystal diamond using an X-ray free electron laser. Scientific Reports, 2020, 10, 14564.	3.3	21
22	Revealing the Complex Nature of Bonding in the Binary High-Pressure Compound $\text{FeO}^2$ . Physical Review Letters, 2021, 126, 106001.	7.8	21
23	Novel experimental setup for megahertz X-ray diffraction in a diamond anvil cell at the High Energy Density (HED) instrument of the European X-ray Free-Electron Laser (EuXFEL). Journal of Synchrotron Radiation, 2021, 28, 688-706.	2.4	21
24	Magnetic and electronic properties of magnetite across the high pressure anomaly. Scientific Reports, 2019, 9, 4464.	3.3	19
25	Synchrotron Mössbauer Source technique for in situ measurement of iron-bearing inclusions in natural diamonds. Lithos, 2016, 265, 328-333.	1.4	17
26	Combining X-ray $\text{K}^{1,3}$ , valence-to-core, and X-ray Raman spectroscopy for studying Earth materials at high pressure and temperature: the case of siderite. Journal of Analytical Atomic Spectrometry, 2019, 34, 384-393.	3.0	17
27	Comparative study of the influence of pulsed and continuous wave laser heating on the mobilization of carbon and its chemical reaction with iron in a diamond anvil cell. Journal of Applied Physics, 2019, 125, .	2.5	17
28	Magnetic interactions in NiO at ultrahigh pressure. Physical Review B, 2016, 93, .	3.2	15
29	High-resolution inelastic x-ray scattering at the high energy density scientific instrument at the European X-Ray Free-Electron Laser. Review of Scientific Instruments, 2021, 92, 013101.	1.3	15
30	Design and performance characterisation of the HAPG von Hämömos Spectrometer at the High Energy Density Instrument of the European XFEL. Journal of Instrumentation, 2020, 15, P11033-P11033.	1.2	15
31	Redox state determination of eclogite xenoliths from Udachnaya kimberlite pipe (Siberian craton), with some implications for the graphite/diamond formation. Contributions To Mineralogy and Petrology, 2020, 175, 1.	3.1	14
32	A portable on-axis laser-heating system for near-90° X-ray spectroscopy: application to ferropericlaase and iron silicide. Journal of Synchrotron Radiation, 2020, 27, 414-424.	2.4	14
33	Time differentiated nuclear resonance spectroscopy coupled with pulsed laser heating in diamond anvil cells. Review of Scientific Instruments, 2015, 86, 114501.	1.3	13
34	Magnetic and structural properties of $\text{FeC}_3\text{O}$ at high pressures. Physical Review B, 2017, 96, .	3.2	13
35	New frontiers in extreme conditions science at synchrotrons and free electron lasers. Journal of Physics Condensed Matter, 2021, 33, 274003.	1.8	12
36	Experimental investigation of $\text{FeCO}_3$ (siderite) stability in Earth's lower mantle using XANES spectroscopy. American Mineralogist, 2019, 104, 1083-1091.	1.9	11

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37	Demonstration of an x-ray Raman spectroscopy setup to study warm dense carbon at the high energy density instrument of European XFEL. <i>Physics of Plasmas</i> , 2021, 28, 082701.	1.9	11
38	Probing the local, electronic and magnetic structure of matter under extreme conditions of temperature and pressure. <i>High Pressure Research</i> , 2016, 36, 293-302.	1.2	10
39	Bulk sensitive determination of the $\text{Fe}^{3+}/\text{Fe}^{\text{Tot}}$ -ratio in minerals by $\text{Fe}^{L_{2/3}}$ -edge X-ray Raman scattering. <i>Journal of Analytical Atomic Spectrometry</i> , 2016, 31, 815-820.	3.0	9
40	The high-pressure behavior of spherocobaltite ( $\text{CoCO}_3$ ): a single crystal Raman spectroscopy and XRD study. <i>Physics and Chemistry of Minerals</i> , 2018, 45, 59-68.	0.8	9
41	Seismic detectability of carbonates in the deep Earth: A nuclear inelastic scattering study. <i>American Mineralogist</i> , 2020, 105, 325-332.	1.9	9
42	Critical behavior of $\text{MgCO}_3$ . <i>Physical Review B</i> , 2018, 98, 024407.	1.2	8
43	Sound velocities of skiafite-iron majorite solid solution to 56 GPa probed by nuclear inelastic scattering. <i>Physics and Chemistry of Minerals</i> , 2018, 45, 397-404.	0.8	8
44	Carbon-Bearing Phases throughout Earth's Interior. <i>Earth and Planetary Science Letters</i> , 2019, 511, 66-88.		7
45	Phase Stability of Spin-Crossover Nanoparticles Investigated by Synchrotron Mössbauer Spectroscopy and Small-Angle Neutron Scattering. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 1511-1515.	4.6	7
46	High-pressure synthesis of skiafite-majorite garnet and investigation of its crystal structure. <i>American Mineralogist</i> , 2015, 100, 2650-2654.	1.9	6
47	Pressure-mediated structural transitions in bulk $\text{EuTiO}_3$ . <i>Physical Review B</i> , 2018, 98, 024407.	1.2	6
48	Structural and electron spin state changes in an x-ray heated iron carbonate system at the Earth's lower mantle pressures. <i>Physical Review Research</i> , 2022, 4, 013001.	3.6	6
49	Effect of composition on compressibility of skiafite-Fe-majorite garnet. <i>American Mineralogist</i> , 2017, 102, 184-191.	1.9	4
50	Local Structure of Ferriic Iron Formates at Low Temperature and High Pressure Studied by Mössbauer Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 21676-21684.	3.1	4
51	Fe-hosting carbon phases in the deep Earth. <i>Physical Review B</i> , 2022, 105, 024407.	1.2	4
52	Beltrandoite, a new root-name in the haggbomite supergroup: the Mg end-member magnesibeltrandoite-2N3S. <i>European Journal of Mineralogy</i> , 2018, 30, 545-558.	1.3	3
53	A versatile diamond anvil cell for X-ray inelastic, diffraction and imaging studies at synchrotron facilities. <i>Review of Scientific Instruments</i> , 2019, 90, 095107.	1.3	3
54	High-pressure synthesis and properties of iron oxides. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2019, 75, e253-e253.	0.1	0