

Gilles Montagnac

List of Publications by Year in descending order

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92
papers

4,564
citations

81900

39
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106344

65
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94
all docs

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docs citations

94
times ranked

5126
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#	ARTICLE	IF	CITATIONS
1	Determination of the petrologic type of CV3 chondrites by Raman spectroscopy of included organic matter. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 1849-1863.	3.9	277
2	High-temperature thermal expansion of lime, periclase, corundum and spinel. <i>Physics and Chemistry of Minerals</i> , 1999, 27, 103-111.	0.8	253
3	Maturation grade of coals as revealed by Raman spectroscopy: Progress and problems. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2005, 61, 2368-2377.	3.9	176
4	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. <i>Space Science Reviews</i> , 2021, 217, 4.	8.1	160
5	Organic matter and metamorphic history of CO chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1605-1623.	3.9	154
6	New experimental constraints on the composition and structure of tholins. <i>Icarus</i> , 2008, 198, 218-231.	2.5	144
7	The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. <i>Space Science Reviews</i> , 2021, 217, 1.	8.1	131
8	In situ Raman study and thermodynamic model of aqueous carbonate speciation in equilibrium with aragonite under subduction zone conditions. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 132, 375-390.	3.9	123
9	Diamond-derived carbon onions as lubricant additives. <i>Tribology International</i> , 2008, 41, 69-78.	5.9	113
10	Precursor and metamorphic condition effects on Raman spectra of poorly ordered carbonaceous matter in chondrites and coals. <i>Earth and Planetary Science Letters</i> , 2009, 287, 185-193.	4.4	113
11	Ultraviolet photoproduction of ISM dust. <i>Astronomy and Astrophysics</i> , 2005, 432, 895-908.	5.1	110
12	In situ monitoring by quantitative Raman spectroscopy of alcoholic fermentation by <i>Saccharomyces cerevisiae</i> under high pressure. <i>Extremophiles</i> , 2007, 11, 445-452.	2.3	103
13	Resonant Raman spectroscopy of single-wall carbon nanotubes under pressure. <i>Physical Review B</i> , 2005, 72, .	3.2	102
14	Probing high-pressure properties of single-wall carbon nanotubes through fullerene encapsulation. <i>Physical Review B</i> , 2008, 77, .	3.2	93
15	Deformation of (Mg _{0.9} ,Fe _{0.1})SiO ₃ Perovskite aggregates up to 32 GPa. <i>Earth and Planetary Science Letters</i> , 2003, 209, 351-360.	4.4	88
16	Pressure-induced exfoliation of inorganic fullerene-like WS ₂ particles in a Hertzian contact. <i>Journal of Applied Physics</i> , 2006, 99, 023524.	2.5	86
17	Influence of glass polymerisation and oxidation on micro-Raman water analysis in alumino-silicate glasses. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 197-217.	3.9	86
18	Prevalence and nature of heating processes in CM and C2-ungrouped chondrites as revealed by insoluble organic matter. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 241, 17-37.	3.9	86

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19	Quantification of water content and speciation in natural silicic glasses (phonolite, dacite, rhyolite) by confocal microRaman spectrometry. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 2868-2884.	3.9	84
20	Reflectance spectra and chemical structure of Titan's tholins: Application to the analysis of Cassini's Huygens observations. <i>Icarus</i> , 2006, 185, 301-307.	2.5	84
21	Biogenic origin of intergrown Mo-sulphide- and carbonaceous matter in Lower Cambrian black shales (Zunyi Formation, southern China). <i>Chemical Geology</i> , 2007, 238, 213-231.	3.3	83
22	Shock-induced deformation of Shergottites: Shock-pressures and perturbations of magmatic ages on Mars. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 101, 233-262.	3.9	82
23	Thermal history of type 3 chondrites from the Antarctic meteorite collection determined by Raman spectroscopy of their polyaromatic carbonaceous matter. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 189, 312-337.	3.9	82
24	Graphitic carbon nitride C ₆ N ₉ H ₃ ·HCl: Characterisation by UV and near-IR FT Raman spectroscopy. <i>Journal of Solid State Chemistry</i> , 2009, 182, 2670-2677.	2.9	80
25	Origin of insoluble organic matter in type 1 and 2 chondrites: New clues, new questions. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 136, 80-99.	3.9	68
26	Nature and evolution of the dominant carbonaceous matter in interplanetary dust particles: effects of irradiation and identification with a type of amorphous carbon. <i>Astronomy and Astrophysics</i> , 2006, 459, 147-159.	5.1	66
27	Micro-Raman determination of iron redox state in dry natural glasses: Application to peralkaline rhyolites and basalts. <i>Chemical Geology</i> , 2009, 259, 78-88.	3.3	64
28	A micro-Raman survey of 10 IDPs and 6 carbonaceous chondrites. <i>Planetary and Space Science</i> , 2005, 53, 1443-1448.	1.7	60
29	Multiwavelength Raman spectroscopy of diamond nanowires present in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" \rangle \langle \text{mml:mi} \rangle \text{n} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -type ultrananocrystalline films. <i>Physical Review B</i> , 2007, 76, .	3.2	56
30	Raman characterization of carbonaceous matter in CONCORDIA Antarctic micrometeorites. <i>Meteoritics and Planetary Science</i> , 2011, 46, 1363-1375.	1.6	53
31	Raman spectroscopy of open-ended Single Wall Carbon Nanotubes under pressure: effect of the pressure transmitting medium. <i>Physica Status Solidi (B): Basic Research</i> , 2006, 243, 690-699.	1.5	51
32	Tribological properties of MoS ₂ nanowires as additive in oil. <i>Tribology Letters</i> , 2005, 18, 385-393.	2.6	49
33	Ingredients Tracking of Cosmetic Formulations in the Skin: A Confocal Raman Microscopy Investigation. <i>Pharmaceutical Research</i> , 2011, 28, 858-872.	3.5	48
34	Biaxial Strain Transfer in Supported Graphene. <i>Nano Letters</i> , 2017, 17, 21-27.	9.1	46
35	High-pressure elasticity of serpentine and seismic properties of the hydrated mantle wedge. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 527-535.	3.4	44
36	SuperCam Calibration Targets: Design and Development. <i>Space Science Reviews</i> , 2020, 216, 138.	8.1	44

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37	Influence of NaCl on ice VI and ice VII melting curves up to 6GPa, implications for large icy moons. <i>Icarus</i> , 2013, 226, 355-363.	2.5	42
38	High pressureâ€“high temperature synthesis of diamond from single-wall pristine and iodine doped carbon nanotube bundles. <i>Carbon</i> , 2009, 47, 1643-1651.	10.3	40
39	Immiscible hydrocarbon fluids in the deep carbon cycle. <i>Nature Communications</i> , 2017, 8, 15798.	12.8	40
40	Short duration thermal metamorphism in CR chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 122, 267-279.	3.9	39
41	A reappraisal of the metamorphic history of EH3 and EL3 enstatite chondrites. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 3088-3102.	3.9	38
42	Carbon speciation in saline solutions in equilibrium with aragonite at high pressure. <i>Chemical Geology</i> , 2016, 431, 44-53.	3.3	38
43	Discovery of whitlockite in mantle xenoliths: Inferences for water- and halogen-poor fluids and trace element residence in the terrestrial upper mantle. <i>Earth and Planetary Science Letters</i> , 2006, 244, 201-217.	4.4	34
44	Confocal Raman Microspectroscopy for Evaluating the Stratum Corneum Removal by 3 Standard Methods. <i>Skin Pharmacology and Physiology</i> , 2011, 24, 103-112.	2.5	33
45	Influence of composition and thermal history of volcanic glasses on water content as determined by micro-Raman spectrometry. <i>Applied Geochemistry</i> , 2006, 21, 802-812.	3.0	32
46	Structural Changes in Tribo-Stressed Zinc Polyphosphates. <i>Tribology Letters</i> , 2013, 51, 489-498.	2.6	31
47	In situ recording of Mars soundscape. <i>Nature</i> , 2022, 605, 653-658.	27.8	30
48	Confocal Raman microspectroscopy of the skin. <i>European Journal of Dermatology</i> , 2011, 21, 851-863.	0.6	28
49	Zinc phosphate chain length study under high hydrostatic pressure by Raman spectroscopy. <i>Journal of Applied Physics</i> , 2007, 101, 063505.	2.5	27
50	Mineral and Bacterial Diversities of Desert Sand Grains from South-East Morocco. <i>Geomicrobiology Journal</i> , 2010, 27, 76-92.	2.0	27
51	Measurement of water contents in olivine using Raman spectroscopy. <i>American Mineralogist</i> , 2014, 99, 149-156.	1.9	24
52	Visibleâ€“IR and Raman microspectroscopic investigation of three Itokawa particles collected by Hayabusa: Mineralogy and degree of space weathering based on nondestructive analyses. <i>Meteoritics and Planetary Science</i> , 2015, 50, 1562-1576.	1.6	24
53	Origin of iron oxide spherules in the banded iron formation of the Bababudan Group, Dharwar Craton, Southern India. <i>Journal of Asian Earth Sciences</i> , 2012, 52, 31-42.	2.3	23
54	Formation of analogs of cometary nitrogen-rich refractory organics from thermal degradation of tholin and HCN polymer. <i>Icarus</i> , 2015, 250, 53-63.	2.5	23

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55	Pushing Raman spectroscopy over the edge: purported signatures of organic molecules in fossil animals are instrumental artefacts. <i>BioEssays</i> , 2021, 43, e2000295.	2.5	23
56	Model formation of ZDDP tribofilm from a mixture of zinc metaphosphate and goethite. <i>Tribology International</i> , 2014, 79, 197-203.	5.9	22
57	The secondary history of Sutter's Mill CM carbonaceous chondrite based on water abundance and the structure of its organic matter from two clasts. <i>Meteoritics and Planetary Science</i> , 2014, 49, 2064-2073.	1.6	21
58	Atomic-layered MoS ₂ on SiO ₂ under high pressure: Bimodal adhesion and biaxial strain effects. <i>Physical Review Materials</i> , 2017, 1, .	2.4	21
59	SuperCam calibration targets on board the perseverance rover: Fabrication and quantitative characterization. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2022, 188, 106341.	2.9	20
60	High-pressure stability of Cs_6C_60 . <i>Physical Review B</i> , 2008, 77, .	3.2	19
61	Interplay between internal stresses and matrix stiffness influences hydrothermal ageing behaviour of zirconia-toughened-alumina. <i>Acta Materialia</i> , 2020, 185, 55-65.	7.9	19
62	Study of inorganic fullerenes and carbon nanotubes by in situ Raman tribometry. <i>Applied Physics Letters</i> , 2007, 91, 153107.	3.3	18
63	Source tracing of detrital serpentinite in the Oligocene molasse deposits from the western Alps (Barrême basin): implications for relief formation in the internal zone. <i>Geological Magazine</i> , 2012, 149, 841-856.	1.5	18
64	Anharmonicity of graphite from UV Raman spectroscopy to 2700K. <i>Carbon</i> , 2013, 54, 68-75.	10.3	18
65	New insights into the structure and formation of coals, terrestrial and extraterrestrial kerogens from resonant UV Raman spectroscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 282, 156-176.	3.9	16
66	A sensitive pressure sensor for diamond anvil cell experiments up to 2GPa: FluoSpheres®. <i>Journal of Applied Physics</i> , 2006, 100, 034915.	2.5	15
67	Tribological performances of Mo ₆ S ₃ I ₆ nanowires. <i>Journal of the European Ceramic Society</i> , 2007, 27, 915-919.	5.7	15
68	A Novel SERRS Sandwich-Hybridization Assay to Detect Specific DNA Target. <i>PLoS ONE</i> , 2011, 6, e17847.	2.5	15
69	Pressure-induced Pbca-P21/c phase transition of natural orthoenstatite: Compositional effect and its geophysical implications. <i>American Mineralogist</i> , 2013, 98, 986-992.	1.9	15
70	Boundary Lubrication by Pure Crystalline Zinc Orthophosphate Powder in Oil. <i>Tribology Letters</i> , 2008, 31, 139-148.	2.6	14
71	Tracing the Oligocene-Miocene Evolution of the Western Alps Drainage Divide with Pebble Petrology, Geochemistry, and Raman Spectroscopy of Foreland Basin Deposits. <i>Journal of Geology</i> , 2012, 120, 603-624.	1.4	14
72	Pressure-induced Pbca-P21/c phase transition of natural orthoenstatite: The effect of high temperature and its geophysical implications. <i>Physics of the Earth and Planetary Interiors</i> , 2014, 228, 150-159.	1.9	14

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73	High-pressure behavior of Cs_8 graphite intercalation compound: Lattice structures and phase-transition mechanism. Physical Review B, 2008, 77, 115101.	3.2	11
74	Microfabrication by two-photon lithography, and characterization, of SiO ₂ /TiO ₂ based hybrid and ceramic microstructures. Journal of Sol-Gel Science and Technology, 2020, 95, 733-745.	2.4	11
75	Spark plasma sintering preparation of reference targets for field spectroscopy on Mars. Journal of Raman Spectroscopy, 2018, 49, 1419-1425.	2.5	11
76	In situ transmission electron microscopy observation of keV-ion irradiation of single-walled carbon and boron nitride nanotubes. Carbon, 2013, 62, 248-255.	10.3	10
77	D/H diffusion in serpentine. Geochimica Et Cosmochimica Acta, 2017, 211, 355-372.	3.9	9
78	Detection of nucleotides adsorbed onto clay by UV resonant raman spectroscopy: A step towards the search for biosignatures on Mars. Applied Clay Science, 2021, 200, 105824.	5.2	9
79	Homogeneity assessment of the SuperCam calibration targets onboard rover perseverance. Analytica Chimica Acta, 2022, 1209, 339837.	5.4	9
80	Spontaneous Polymerization of Glycine under Hydrothermal Conditions. ACS Earth and Space Chemistry, 2019, 3, 1669-1677.	2.7	8
81	Detection of DNA Sequences Refractory to PCR Amplification Using a Biophysical SERRS Assay (Surface T-j ETQq1 1,0.784314 rgBT /C 2.5	2.5	7
82	Pressure effects on sulfur oxidizing activity of <i>Thiobacillus thioparus</i> . Environmental Microbiology Reports, 2021, 13, 169-175.	2.4	7
83	Enzyme-free detection and quantification of double-stranded nucleic acids. Analytical and Bioanalytical Chemistry, 2012, 404, 415-422.	3.7	5
84	Structural changes in perylene from UV Raman spectroscopy up to 1 GPa. Journal of Raman Spectroscopy, 2016, 47, 720-725.	2.5	5
85	Deuterium-hydrogen inter-diffusion in chlorite. Chemical Geology, 2018, 493, 518-524.	3.3	5
86	Clumped isotope evidence for Early Jurassic extreme polar warmth and high climate sensitivity. Climate of the Past, 2022, 18, 435-448.	3.4	5
87	Tholins and their relevance for astrophysical issues. Proceedings of the International Astronomical Union, 2008, 4, 409-416.	0.0	4
88	Compatibility of Amino Acids in Ice Ih: Implications for the Origin of Life. Astrobiology, 2018, 18, 381-392.	3.0	4
89	High-pressure yield strength of rocksalt structures using quartz Raman piezometry. Comptes Rendus - Geoscience, 2019, 351, 71-79.	1.2	4
90	Raman spectroscopy at high pressure and temperature for the study of the Earth's mantle and planetary minerals. , 0, , 367-390.		4

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91	Incorporation of Manganese Complexes within Hybrid Resol-Silica and Carbon-Silica Nanoparticles. <i>Nanomaterials</i> , 2021, 11, 774.	4.1	0
92	Raman investigation of local photo-bleaching in TDBC dye layer for photonics applications. <i>Journal of Raman Spectroscopy</i> , 0, , .	2.5	0