Hugues Leroux

List of Publications by Year
in descending order

107 papers	5,604 citations	109321 35 h-index	79698 73 g-index
107 all docs	107 docs citations	107 times ranked	3824 citing authors

#	Article	IF	Citations
1	Comet 81P/Wild 2 Under a Microscope. Science, 2006, 314, 1711-1716.	12.6	848
2	Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples. Science, 2006, 314, 1735-1739.	12.6	589
3	Impact Features on Stardust: Implications for Comet 81P/Wild 2 Dust. Science, 2006, 314, 1716-1719.	12.6	286
4	Elemental Compositions of Comet 81P/Wild 2 Samples Collected by Stardust. Science, 2006, 314, 1731-1735.	12.6	200
5	Metamictization of zircon: Raman spectroscopic study. Journal of Physics Condensed Matter, 2000, 12, 1915-1925.	1.8	163
6	The Paris meteorite, the least altered CM chondrite so far. Geochimica Et Cosmochimica Acta, 2014, 124, 190-222.	3.9	163
7	Experimental shock deformation in zircon: a transmission electron microscopic study. Earth and Planetary Science Letters, 1999, 169, 291-301.	4.4	160
8	Extreme Deuterium Excesses in Ultracarbonaceous Micrometeorites from Central Antarctic Snow. Science, 2010, 328, 742-745.	12.6	160
9	Evidence for interstellar origin of seven dust particles collected by the Stardust spacecraft. Science, 2014, 345, 786-791.	12.6	152
10	Comparing Wild 2 particles to chondrites and IDPs. Meteoritics and Planetary Science, 2008, 43, 261-272.	1.6	136
11	A TEM investigation of shock metamorphism in quartz from the Vredefort dome, South Africa. Tectonophysics, 1994, 230, 223-239.	2.2	117
12	Formation mechanisms of planar deformation features in naturally shocked quartz. Physics of the Earth and Planetary Interiors, 1992, 74, 219-240.	1.9	106
13	Lowâ€energy helium ion irradiationâ€induced amorphization and chemical changes in olivine: Insights for silicate dust evolution in the interstellar medium. Meteoritics and Planetary Science, 2002, 37, 1599-1614.	1.6	106
14	Annealing of alpha-decay damage in zircon: a Raman spectroscopic study. Journal of Physics Condensed Matter, 2000, 12, 3131-3148.	1.8	102
15	GEMS-like material in the matrix of the Paris meteorite and the early stages of alteration of CM chondrites. Geochimica Et Cosmochimica Acta, 2015, 170, 247-265.	3.9	96
16	Low-temperature FIR and submillimetre mass absorption coefficient of interstellar silicate dust analogues. Astronomy and Astrophysics, 2011, 535, A124.	5.1	82
17	Transmission Electron Microscopy of CONCORDIA UltraCarbonaceous Antarctic MicroMeteorites (UCAMMs): Mineralogical properties. Geochimica Et Cosmochimica Acta, 2012, 76, 68-82.	3.9	78
18	Comet 81P/Wild 2: The size distribution of finer (subâ€10â€ƒÎ¼m) dust collected by the Stardust spacecraft. Meteoritics and Planetary Science, 2010, 45, 1409-1428.	1.6	76

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19	A TEM study of thermally modified comet 81P/Wild 2 dust particles by interactions with the aerogel matrix during the Stardust capture process. Meteoritics and Planetary Science, 2008, 43, 97-120.	1.6	73
20	Pristine extraterrestrial material with unprecedented nitrogen isotopic variation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10522-10527.	7.1	72
21	A TEM investigation of natural metamict zircons: structure and recovery of amorphous domains. Physics and Chemistry of Minerals, 2000, 27, 545-556.	0.8	71
22	Chemical and morphological evolution of a silicate surface under low-energy ion irradiation. Astronomy and Astrophysics, 2008, 482, 541-548.	5.1	64
23	Magnetic microstructures of metal grains in equilibrated ordinary chondrites and implications for paleomagnetism of meteorites. Earth and Planetary Science Letters, 2011, 306, 241-252.	4.4	55
24	Experimental study and TEM characterization of dusty olivines in chondrites: Evidence for formation by in situ reduction. Meteoritics and Planetary Science, 2003, 38, 81-94.	1.6	53
25	Microstructural shock signatures of major minerals in meteorites. European Journal of Mineralogy, 2001, 13, 253-272.	1.3	52
26	Low temperature MIR to submillimeter mass absorption coefficient of interstellar dust analogues. Astronomy and Astrophysics, 2017, 600, A123.	5.1	48
27	The origin of GEMS in IDPs as deduced from microstructural evolution of amorphous silicates with annealing. Astronomy and Astrophysics, 2006, 448, L1-L4.	5.1	48
28	Shocked quartz in the Alamo breccia, southern Nevada: Evidence for a Devonian impact event. Geology, 1995, 23, 1003.	4.4	47
29	IR spectroscopic study of olivine, enstatite and diopside irradiated with low energy H$mathsf{^+}$ and He$mathsf{^+}$ ions. Astronomy and Astrophysics, 2004, 420, 233-243.	5.1	45
30	Origin and formation of iron silicide phases in the aerogel of the Stardust mission. Meteoritics and Planetary Science, 2008, 43, 121-134.	1.6	45
31	Shocked and thermally metamorphosed zircon from the Vredefort impact structure, South Africa: a transmission electron microscopic study. European Journal of Mineralogy, 2002, 14, 859-868.	1.3	43
32	Regolith breccia Northwest Africa 7533: Mineralogy and petrology with implications for early Mars. Meteoritics and Planetary Science, 2017, 52, 89-124.	1.6	43
33	Low-temperature MIR to submillimeter mass absorption coefficient of interstellar dust analogues. Astronomy and Astrophysics, 2017, 606, A50.	5.1	41
34	Amorphization and D/H fractionation of kerogens during experimental electron irradiation: Comparison with chondritic organic matter. Icarus, 2013, 226, 101-110.	2.5	39
35	Mineralogy and petrology of Stardust particles encased in the bulb of track 80: TEM investigation of the Wild 2 fine-grained material. Geochimica Et Cosmochimica Acta, 2012, 87, 35-50.	3.9	36
36	Lowâ€temperature crystallization of MgSiO₃ glasses under electron irradiation: Possible implications for silicate dust evolution in circumstellar environments. Meteoritics and Planetary Science, 2002, 37, 1615-1622.	1.6	34

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37	Transmission electron microscopy of cometary residues from micronâ€sized craters in the Stardust Al foils. Meteoritics and Planetary Science, 2008, 43, 143-160.	1.6	34
38	Thermal history, partial preservation and sampling bias recorded by Stardust cometary grains during their capture. Earth and Planetary Science Letters, 2008, 273, 195-202.	4.4	32
39	Nickeliferous pyrite tracks pervasive hydrothermal alteration in Martian regolith breccia: A study in <scp>NWA</scp> 7533. Meteoritics and Planetary Science, 2015, 50, 2099-2120.	1.6	32
40	Metalâ€“silicate interaction in quenched shock-induced melt of the Tenham L6-chondrite. Earth and Planetary Science Letters, 2000, 179, 477-487.	4.4	31
41	Investigations on crystalline interface within a molecular composite crystal by microscopic techniques. Journal of Materials Chemistry, 2007, 17, 1559-1562.	6.7	31
42	Microstructural defects in experimentally shocked diopside: A TEM characterization. Physics and Chemistry of Minerals, 1994, 20, 521-530.	0.8	30
43	The K/T boundary at Beloc (Haiti): Compared stratigraphic distributions of the boundary markers. Earth and Planetary Science Letters, 1995, 131, 255-268.	4.4	30
44	The deuterium/hydrogen distribution in chondritic organic matter attests to early ionizing irradiation. Nature Communications, 2015, 6, 8567.	12.8	30
45	Oxidation state of iron and extensive redistribution of sulfur in thermally modified Stardust particles. Geochimica Et Cosmochimica Acta, 2009, 73, 767-777.	3.9	29
46	Final reports of the Stardust Interstellar Preliminary Examination. Meteoritics and Planetary Science, 2014, 49, 1720-1733.	1.6	29
47	Variations in cometary dust composition fromGiottotoRosetta, clues to their formation mechanisms. Monthly Notices of the Royal Astronomical Society, 2016, 462, S323-S330.	4.4	28
48	Pyroxenes microstructure in comet 81P/Wild 2 terminal Stardust particles. Meteoritics and Planetary Science, 2009, 44, 1475-1488.	1.6	27
49	Igneous Ca-rich pyroxene in comet 81P/Wild 2. American Mineralogist, 2008, 93, 1933-1936.	1.9	25
50	First determination of the (re)crystallization activation energy of an irradiated olivine-type silicate. Astronomy and Astrophysics, 2005, 440, 179-184.	5.1	24
51	Stardust Interstellar Preliminary Examination X: Impact speeds and directions of interstellar grains on the Stardust dust collector. Meteoritics and Planetary Science, 2014, 49, 1680-1697.	1.6	24
52	Microstructures of metal grains in ordinary chondrites: Implications for their thermal histories. Meteoritics and Planetary Science, 2000, 35, 569-580.	1.6	22
53	An analytical electron microscopy (AEM) investigation of opaque inclusions in some type 6 ordinary chondrites. Meteoritics and Planetary Science, 1996, 31, 767-776.	1.6	21
54	Hydroxyl radical production and storage in analogues of amorphous interstellar silicates: a possible â€œwetâ€•accretion phase for inner telluric planets. Astronomy and Astrophysics, 2011, 531, A96.	5.1	20

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55	Magmatic cristobalite and quartz in the NWA 856 Martian meteorite. Meteoritics and Planetary Science, 2006, 41, 913-923.	1.6	19
56	A sharp change in the mineralogy of annealed protoplanetary dust at the glass transition temperature. Astronomy and Astrophysics, 2011, 529, A111.	5.1	19
57	Stardust Interstellar Preliminary Examination <scp>IX</scp>: Highâ€speed interstellar dust analog capture in Stardust flightâ€spare aerogel. Meteoritics and Planetary Science, 2014, 49, 1666-1679.	1.6	19
58	Isotopic and structural signature of experimentally irradiated organic matter. Geochimica Et Cosmochimica Acta, 2014, 142, 522-534.	3.9	19
59	Stardust Interstellar Preliminary Examination <scp>II</scp>: Curating the interstellar dust collector, picokeystones, and sources of impact tracks. Meteoritics and Planetary Science, 2014, 49, 1522-1547.	1.6	18
60	Stardust Interstellar Preliminary Examination <scp>IV</scp>: Scanning transmission Xâ€ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1562-1593.	1.6	18
61	Formation and transformations of Fe-rich serpentines by asteroidal aqueous alteration processes: A nanoscale study of the Murray chondrite. Geochimica Et Cosmochimica Acta, 2015, 158, 162-178.	3.9	18
62	A TEM study of four particles extracted from the Stardust track 80. Meteoritics and Planetary Science, 2009, 44, 1511-1518.	1.6	17
63	Iron valence state of fine-grained material from the Jupiter family comet 81P/Wild 2 â€“ A coordinated TEM/STEM EDS/STXM study. Geochimica Et Cosmochimica Acta, 2013, 122, 1-16.	3.9	17
64	Impact origin for the Hummeln structure (Sweden) and its link to the Ordovician disruption of the L chondrite parent body. Geology, 2015, 43, 279-282.	4.4	17
65	Pyroxene microstructure in the Northwest Africa 856 martian meteorite. Meteoritics and Planetary Science, 2004, 39, 711-722.	1.6	16
66	Stardust Interstellar Preliminary Examination <scp>XI</scp>: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1698-1719.	1.6	16
67	Stardust Interstellar Preliminary Examination I: Identification of tracks in aerogel. Meteoritics and Planetary Science, 2014, 49, 1509-1521.	1.6	16
68	Discovery of nonâ€random spatial distribution of impacts in the Stardust cometary collector. Meteoritics and Planetary Science, 2008, 43, 415-429.	1.6	15
69	SURFACE TEMPERATURE OF PROTOPLANETARY DISKS PROBED BY ANNEALING EXPERIMENTS REFLECTING SPITZER OBSERVATIONS. Astrophysical Journal, 2009, 707, L174-L178.	4.5	15
70	Fineâ€grained material of 81P/Wild 2 in interaction with the Stardust aerogel. Meteoritics and Planetary Science, 2012, 47, 613-622.	1.6	14
71	An analytical electron microscope investigation of some pallasites. Physics of the Earth and Planetary Interiors, 1997, 103, 101-115.	1.9	13
72	Structural and compositional modifications of fayalite Fe2SiO4 under electron irradiation. Nuclear Instruments & Methods in Physics Research B, 2006, 243, 371-376.	1.4	13

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73	Stardust Interstellar Preliminary Examination <scp>VII</scp>: Synchrotron Xâ€ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2â€<scp>ID</scp>â€D microprobe. Meteoritics and Planetary Science, 2014, 49, 1626-1644.	1.6	13
74	Exsolution and shock microstructures of igneous pyroxene clasts in the Northwest Africa 7533 Martian meteorite. Meteoritics and Planetary Science, 2016, 51, 932-945.	1.6	13
75	Phase separation in metamict zircon under electron irradiation. Nuclear Instruments & Methods in Physics Research B, 2003, 211, 549-555.	1.4	12
76	Weathering features in shocked quartz from the Ries impact crater, Germany. Meteoritics and Planetary Science, 2005, 40, 1347-1352.	1.6	12
77	Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates. Meteoritics and Planetary Science, 2014, 49, 1645-1665.	1.6	12
78	Stardust Interstellar Preliminary Examination <scp>VI</scp>: Quantitative elemental analysis by synchrotron Xâ€ray fluorescence nanoimaging of eight impact features in aerogel. Meteoritics and Planetary Science, 2014, 49, 1612-1625.	1.6	12
79	Stardust Interstellar Preliminary Examination V: <scp>XRF</scp> analyses of interstellar dust candidates at <scp>ESRF ID</scp>13. Meteoritics and Planetary Science, 2014, 49, 1594-1611.	1.6	12
80	Stardust Interstellar Preliminary Examination <scp>III</scp>: Infrared spectroscopic analysis of interstellar dust candidates. Meteoritics and Planetary Science, 2014, 49, 1548-1561.	1.6	12
81	Feâ€Mg interdiffusion profiles in rimmed forsterite grains in the Allende matrix: Timeâ€“temperature constraints for the parent body metamorphism. Meteoritics and Planetary Science, 2015, 50, 1529-1545.	1.6	12
82	Characterization of shocked quartz grains from Chicxulub peak ring granites and shock pressure estimates. Meteoritics and Planetary Science, 2020, 55, 2206-2223.	1.6	12
83	An experimental study of the external reduction of olivine single crystals. American Mineralogist, 2001, 86, 47-54.	1.9	11
84	Petrogenesis of mineral micro-inclusions in an uncommon carbonado. European Journal of Mineralogy, 2011, 23, 721-729.	1.3	11
85	Dynamic deformation of quartz in the landslide of Kofels, Austria. European Journal of Mineralogy, 1993, 5, 893-902.	1.3	11
86	Space Weathering Affects the Remote Near-IR Identification of Phyllosilicates. Planetary Science Journal, 2020, 1, 61.	3.6	11
87	A transmission electron microscope investigation of shock metamorphism in olivine of the Ilafegh 013 chondrite. Meteoritics and Planetary Science, 1997, 32, 309-316.	1.6	10
88	Ferromagnetic inclusions in silicate thin films: insights into the magnetic properties of cosmic grains. Astronomy and Astrophysics, 2007, 468, L9-L12.	5.1	9
89	A transmission electron microscope study of shocked quartz from the Manson impact structure. , 1996, , .		8
90	Microstructural study of micronâ€sized craters simulating Stardust impacts in aluminum 1100 targets. Meteoritics and Planetary Science, 2006, 41, 181-196.	1.6	8

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91	Microstructure modifications of silicates induced by the collection in aerogel: Experimental approach and comparison with Stardust results. Meteoritics and Planetary Science, 2012, 47, 696-707.	1.6	8
92	EXPERIMENTAL INVESTIGATION OF IRRADIATION-DRIVEN HYDROGEN ISOTOPE FRACTIONATION IN ANALOGS OF PROTOPLANETARY HYDROUS SILICATE DUST. Astrophysical Journal, 2016, 832, 55.	4.5	8
93	A transmission electron microscopy (TEM) investigation of opaque phases in shocked chondrites. Meteoritics and Planetary Science, 1996, 31, 305-312.	1.6	7
94	Ordering state in orthopyroxene as determined by precession electron diffraction. American Mineralogist, 2013, 98, 1526-1534.	1.9	7
95	Fineâ€grained material encased in microtracks of Stardust samples. Meteoritics and Planetary Science, 2013, 48, 1607-1617.	1.6	7
96	A SIGNIFICANT AMOUNT OF CRYSTALLINE SILICA IN RETURNED COMETARY SAMPLES: BRIDGING THE GAP BETWEEN ASTROPHYSICAL AND METEORITICAL OBSERVATIONS. Astrophysical Journal Letters, 2015, 801, L7.	8.3	7
97	Crystallization of amorphous silicates far from equilibrium part I: A versatile nitrate-based solâ€“gel synthesis of amorphous porous Ca,Mg-rich silicates. Journal of Non-Crystalline Solids, 2011, 357, 3461-3466.	3.1	5
98	STEM-EELS Investigation of Planar Defects in Olivine in the Allende Meteorite. Minerals (Basel,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462	2.0	5
99	Crystallization of amorphous silicates far from equilibrium part II: Experimental insight into the key role of decoupled cation mobilities. Journal of Non-Crystalline Solids, 2011, 357, 3467-3473.	3.1	4
100	Amorphous silicate nanoparticles with controlled Fe-Mg pyroxene compositions. Journal of Non-Crystalline Solids, 2016, 447, 255-261.	3.1	4
101	Energy dispersive X-ray microanalysis by TEM applied to extraterrestrial materials. , 0, , 49-66.		4
102	Geometry induced bias in the remote near-IR identification of phyllosilicates on space weathered bodies. Icarus, 2022, 376, 114887.	2.5	3
103	Dust modification under photon, electron and ion irradiation. EAS Publications Series, 2009, 35, 153-169.	0.3	2
104	The asteroid-comet continuum from laboratory and space analyses of comet samples and micrometeorites. Proceedings of the International Astronomical Union, 2015, 11, 253-256.	0.0	2
105	A <scp>TEM</scp> study of exsolution in Caâ€rich pyroxenes from the Paris and Renazzo chondrites: Determination of type I chondrule cooling rates. Meteoritics and Planetary Science, 2018, 53, 482-492.	1.6	2
106	Impact dynamics of the L chondrites' parent asteroid. Meteoritics and Planetary Science, 2022, 57, 759-775.	1.6	1
107	Incorporation of Zn in the destabilization products of muscovite at 1175 ÂC under disequilibrium conditions, and implications for heavy metal sequestration. American Mineralogist, 2013, 98, 932-945.	1.9	0