Eric Quirico

List of Publications by Year
in descending order

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126 papers	7,398 citations	30070 54 h-index	56724 83 g-index
127 all docs	127 docs citations	127 times ranked	4685 citing authors

#	Article	IF	Citations
1	The organic-rich surface of comet 67P/Churyumov-Gerasimenko as seen by VIRTIS/Rosetta. Science, 2015, 347, aaa0628.	12.6	293
2	Determination of the petrologic type of CV3 chondrites by Raman spectroscopy of included organic matter. Geochimica Et Cosmochimica Acta, 2006, 70, 1849-1863.	3.9	277
3	Surface compositions across Pluto and Charon. Science, 2016, 351, aad9189.	12.6	242
4	The diurnal cycle of water ice on comet 67P/Churyumovâ€“Gerasimenko. Nature, 2015, 525, 500-503.	27.8	199
5	Composition, Physical State, and Distribution of Ices at the Surface of Triton. Icarus, 1999, 139, 159-178.	2.5	194
6	Maturation grade of coals as revealed by Raman spectroscopy: Progress and problems. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2005, 61, 2368-2377.	3.9	176
7	Near-Infrared Spectroscopy of Simple Hydrocarbons and Carbon Oxides Diluted in Solid N2and as Pure Ices: Implications for Triton and Pluto. Icarus, 1997, 127, 354-378.	2.5	173
8	Formation of Amino Acids and Nucleotide Bases in a Titan Atmosphere Simulation Experiment. Astrobiology, 2012, 12, 809-817.	3.0	158
9	Organic matter and metamorphic history of CO chondrites. Geochimica Et Cosmochimica Acta, 2007, 71, 1605-1623.	3.9	154
10	Evidence for Methane Segregation at the Surface of Pluto. Icarus, 1999, 142, 421-444.	2.5	149
11	New experimental constraints on the composition and structure of tholins. Icarus, 2008, 198, 218-231.	2.5	144
12	Hydrous mineralogy of CM and CI chondrites from infrared spectroscopy and their relationship with low albedo asteroids. Geochimica Et Cosmochimica Acta, 2010, 74, 4881-4892.	3.9	136
13	The Temperature-Dependent Spectrum of Methane Ice I between 0.7 and 5 Î¼m and Opportunities for Near-Infrared Remote Thermometry. Icarus, 2002, 155, 486-496.	2.5	135
14	Structural and chemical alteration of crystalline olivine under low energy He+ irradiation. Astronomy and Astrophysics, 2001, 368, L38-L41.	5.1	130
15	Refractory and semi-volatile organics at the surface of comet 67P/Churyumov-Gerasimenko: Insights from the VIRTIS/Rosetta imaging spectrometer. Icarus, 2016, 272, 32-47.	2.5	127
16	Ammonium salts are a reservoir of nitrogen on a cometary nucleus and possibly on some asteroids. Science, 2020, 367, .	12.6	115
17	Transmission infrared spectra (2â€“25Î¼m) of carbonaceous chondrites (CI, CM, CVâ€“CK, CR, C2) Tj ETQq1 1 0.784314 rgBT /Overl	2.5	114
18	Precursor and metamorphic condition effects on Raman spectra of poorly ordered carbonaceous matter in chondrites and coals. Earth and Planetary Science Letters, 2009, 287, 185-193.	4.4	113

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19	Initial results from the New Horizons exploration of 2014 MU ₆₉ , a small Kuiper Belt object. Science, 2019, 364, .	12.6	113
20	Metamorphic grade of organic matter in six unequilibrated ordinary chondrites. Meteoritics and Planetary Science, 2003, 38, 795-811.	1.6	105
21	The abundance and stability of â€œwaterâ€•in type 1 and 2 carbonaceous chondrites (CI, CM and CR). Geochimica Et Cosmochimica Acta, 2014, 137, 93-112.	3.9	104
22	Exposed water ice on the nucleus of comet 67P/Churyumovâ€“Gerasimenko. Nature, 2016, 529, 368-372.	27.8	104
23	UltraCarbonaceous Antarctic micrometeorites, probing the Solar System beyond the nitrogen snow-line. Icarus, 2013, 224, 243-252.	2.5	103
24	Physical state and distribution of materials at the surface of Pluto from New Horizons LEISA imaging spectrometer. Icarus, 2017, 287, 229-260.	2.5	99
25	Plutoâ€™s global surface composition through pixel-by-pixel Hapke modeling of New Horizons Ralph/LEISA data. Icarus, 2017, 287, 218-228.	2.5	95
26	Optical Properties of Ices From UV to Infrared. Astrophysics and Space Science Library, 1998, , 199-240.	2.7	91
27	Prevalence and nature of heating processes in CM and C2-ungrouped chondrites as revealed by insoluble organic matter. Geochimica Et Cosmochimica Acta, 2018, 241, 17-37.	3.9	86
28	Mid-infrared study of the molecular structure variability of insoluble organic matter from primitive chondrites. Icarus, 2013, 223, 534-543.	2.5	85
29	The 15N-enrichment in dark clouds and Solar System objects. Icarus, 2013, 223, 582-590.	2.5	85
30	Reflectance spectra and chemical structure of Titan's tholins: Application to the analysis of Cassiniâ€“Huygens observations. Icarus, 2006, 185, 301-307.	2.5	84
31	Thermal history of type 3 chondrites from the Antarctic meteorite collection determined by Raman spectroscopy of their polyaromatic carbonaceous matter. Geochimica Et Cosmochimica Acta, 2016, 189, 312-337.	3.9	82
32	Chemical Characterization of Titanâ€™s Tholins: Solubility, Morphology and Molecular Structure Revisited. Journal of Physical Chemistry A, 2009, 113, 11195-11203.	2.5	81
33	Graphitic carbon nitride C6N9H3Â·HCl: Characterisation by UV and near-IR FT Raman spectroscopy. Journal of Solid State Chemistry, 2009, 182, 2670-2677.	2.9	80
34	Magnetic classification of stony meteorites: 2. Nonâ€ordinary chondrites. Meteoritics and Planetary Science, 2008, 43, 959-980.	1.6	73
35	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
36	Photometric properties of comet 67P/Churyumov-Gerasimenko from VIRTIS-M onboard Rosetta. Astronomy and Astrophysics, 2015, 583, A31.	5.1	71

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37	Origin of insoluble organic matter in type 1 and 2 chondrites: New clues, new questions. Geochimica Et Cosmochimica Acta, 2014, 136, 80-99.	3.9	68
38	Detection of exposed H₂O ice on the nucleus of comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2016, 595, A102.	5.1	67
39	Water Ice on Triton. Icarus, 2000, 147, 309-316.	2.5	66
40	Color, composition, and thermal environment of Kuiper Belt object (486958) Arrokoth. Science, 2020, 367, .	12.6	64
41	The Temperature-Dependent Spectra of Î± and Î² Nitrogen Ice with Application to Triton. Icarus, 1993, 105, 254-258.	2.5	63
42	Pluto's Non-isothermal Surface. Icarus, 2000, 147, 220-250.	2.5	63
43	In situ kinetic measurements of gasâ€“solid carbonation of Ca(OH)2 by using an infrared microscope coupled to a reaction cell. Chemical Engineering Journal, 2010, 161, 250-256.	12.7	63
44	Removal of oxyanions from synthetic wastewater via carbonation process of calcium hydroxide: Applied and fundamental aspects. Journal of Hazardous Materials, 2009, 166, 788-795.	12.4	61
45	Connection between micrometeorites and Wild 2 particles: From Antarctic snow to cometary ices. Meteoritics and Planetary Science, 2009, 44, 1643-1661.	1.6	61
46	Seasonal exposure of carbon dioxide ice on the nucleus of comet 67P/Churyumov-Gerasimenko. Science, 2016, 354, 1563-1566.	12.6	61
47	A micro-Raman survey of 10 IDPs and 6 carbonaceous chondrites. Planetary and Space Science, 2005, 53, 1443-1448.	1.7	60
48	Ion irradiation of Allende meteorite probed by visible, IR, and Raman spectroscopies. Icarus, 2014, 237, 278-292.	2.5	60
49	Ion irradiation of the Murchison meteorite: Visible to mid-infrared spectroscopic results. Astronomy and Astrophysics, 2015, 577, A41.	5.1	59
50	Cosmochemical implications of CONSERT permittivity characterization of 67P/CG. Monthly Notices of the Royal Astronomical Society, 2016, 462, S516-S532.	4.4	59
51	Speciation of sulfur in the insoluble organic matter from carbonaceous chondrites by XANES spectroscopy. Earth and Planetary Science Letters, 2010, 300, 321-328.	4.4	58
52	A Spectroscopic Study of CO Diluted in N2Ice: Applications for Triton and Pluto. Icarus, 1997, 128, 181-188.	2.5	57
53	Comet 67P outbursts and quiescent coma at 1.3 au from the Sun: dust properties from Rosetta/VIRTIS-H observations. Monthly Notices of the Royal Astronomical Society, 2017, 469, S443-S458.	4.4	56
54	STRATIFICATION OF METHANE ICE ON ERIS' SURFACE. Astronomical Journal, 2009, 137, 315-328.	4.7	55

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55	Hydrogen isotopic composition of the water in CR chondrites. Geochimica Et Cosmochimica Acta, 2013, 106, 111-133.	3.9	55
56	The global surface composition of 67P/CG nucleus by Rosetta/VIRTIS. (I) Prelanding mission phase. Icarus, 2016, 274, 334-349.	2.5	54
57	Raman characterization of carbonaceous matter in CONCORDIA Antarctic micrometeorites. Meteoritics and Planetary Science, 2011, 46, 1363-1375.	1.6	53
58	A TENTATIVE IDENTIFICATION OF HCN ICE ON TRITON. Astrophysical Journal Letters, 2010, 718, L53-L57.	8.3	51
59	Pluto's haze as a surface material. Icarus, 2018, 314, 232-245.	2.5	50
60	Very high resolution mass spectrometry of HCN polymers and tholins. Faraday Discussions, 2010, 147, 495.	3.2	49
61	Previously unknown class of metalorganic compounds revealed in meteorites. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2819-2824.	7.1	47
62	Goethite as an alternative origin of the 3.1Î¼m band on dark asteroids. Astronomy and Astrophysics, 2011, 526, A85.	5.1	46
63	Hydrogen/deuterium exchange in interstellar ice analogs. Astronomy and Astrophysics, 2009, 496, L21-L24.	5.1	46
64	The formation of Charonâ€™s red poles from seasonally cold-trapped volatiles. Nature, 2016, 539, 65-68.	27.8	44
65	Synchrotron infrared microscopy of micron-sized extraterrestrial grains. Planetary and Space Science, 2000, 48, 1329-1339.	1.7	42
66	High resolution TEM of chondritic carbonaceous matter: Metamorphic evolution and heterogeneity. Meteoritics and Planetary Science, 2012, 47, 345-362.	1.6	42
67	Infrared detection of aliphatic organics on a cometary nucleus. Nature Astronomy, 2020, 4, 500-505.	10.1	41
68	NIR spectral trends of HED meteorites: Can we discriminate between the magmatic evolution, mechanical mixing and observation geometry effects?. Icarus, 2011, 216, 560-571.	2.5	39
69	New insights into the structure and chemistry of Titanâ€™s tholins via 13C and 15N solid state nuclear magnetic resonance spectroscopy. Icarus, 2012, 221, 844-853.	2.5	39
70	Short duration thermal metamorphism in CR chondrites. Geochimica Et Cosmochimica Acta, 2013, 122, 267-279.	3.9	39
71	A reappraisal of the metamorphic history of EH3 and EL3 enstatite chondrites. Geochimica Et Cosmochimica Acta, 2011, 75, 3088-3102.	3.9	38
72	Bidirectional reflectance spectroscopy of carbonaceous chondrites: Implications for water quantification and primary composition. Icarus, 2016, 264, 172-183.	2.5	38

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73	Spectroscopy of some ices of astrophysical interest: SO2, N2 and N2: CH4 mixtures. Planetary and Space Science, 1996, 44, 973-986.	1.7	36
74	The redox state of iron in the matrix of CI, CM and metamorphosed CM chondrites by XANES spectroscopy. Geochimica Et Cosmochimica Acta, 2012, 99, 305-316.	3.9	36
75	Fast Precipitation of Acicular Goethite from Ferric Hydroxide Gel under Moderate Temperature (30) Tj ETQq1 1 0.784314 rgBT /Overlock	3.0	34
76	The Surface Compositions of Triton, Pluto, and Charon. Astrophysics and Space Science Library, 1998, , 655-684.	2.7	34
77	The puzzling deuteration of methanol in low- to high-mass protostars. Astronomy and Astrophysics, 2011, 528, L13.	5.1	34
78	Optical constants from 370nm to 900nm of Titan tholins produced in a low pressure RF plasma discharge. Icarus, 2012, 218, 356-363.	2.5	33
79	What is controlling the reflectance spectra (0.35â€“150â€¯Âµm) of hydrated (and dehydrated) carbonaceous chondrites?. Icarus, 2018, 313, 124-138.	2.5	32
80	Pressure dependent trace gas trapping in amorphous water ice at 77 K: Implications for determining conditions of comet formation. Icarus, 2012, 218, 760-770.	2.5	28
81	Organic materials in planetary and protoplanetary systems: nature or nurture?. Astronomy and Astrophysics, 2011, 533, A98.	5.1	27
82	Hydrogen isotope exchanges between water and methanol in interstellar ices. Astronomy and Astrophysics, 2015, 584, A98.	5.1	27
83	A Noachian source region for the â€œBlack Beautyâ€•meteorite, and a source lithology for Mars surface hydrated dust?. Earth and Planetary Science Letters, 2015, 427, 104-111.	4.4	24
84	Visibleâ€‹scp›IR‹/scp› and Raman microspectroscopic investigation of three Itokawa particles collected by Hayabusa: Mineralogy and degree of space weathering based on nondestructive analyses. Meteoritics and Planetary Science, 2015, 50, 1562-1576.	1.6	24
85	Origin of iron oxide spherules in the banded iron formation of the Bababudan Group, Dharwar Craton, Southern India. Journal of Asian Earth Sciences, 2012, 52, 31-42.	2.3	23
86	Formation of analogs of cometary nitrogen-rich refractory organics from thermal degradation of tholin and HCN polymer. Icarus, 2015, 250, 53-63.	2.5	23
87	Laboratory simulations of the Vis-NIR spectra of comet 67P using sub-Âµm sized cosmochemical analogues. Icarus, 2018, 306, 306-318.	2.5	23
88	Compositional and structural investigation of HCN polymer through high resolution mass spectrometry. International Journal of Mass Spectrometry, 2013, 354-355, 193-203.	1.5	22
89	Methanol ice on the surface of minor bodies in the solar system. Astronomy and Astrophysics, 2012, 544, A20.	5.1	22
90	Small hypervelocity particles captured in aerogel collectors: Location, extraction, handling and storage. Meteoritics and Planetary Science, 2002, 37, 855-865.	1.6	21

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91	The secondary history of Sutter's Mill CM carbonaceous chondrite based on water abundance and the structure of its organic matter from two clasts. Meteoritics and Planetary Science, 2014, 49, 2064-2073.	1.6	21
92	Characterization of the organic matter and hydration state of Antarctic micrometeorites: A reservoir distinct from carbonaceous chondrites. Icarus, 2018, 306, 74-93.	2.5	20
93	Tritonâ€™s surface ices: Distribution, temperature and mixing state from VLT/SINFONI observations. Icarus, 2018, 314, 274-293.	2.5	20
94	Disk-resolved Photometric Properties of Pluto and the Coloring Materials across its Surface. Astronomical Journal, 2020, 159, 74.	4.7	18
95	â€œWaterâ€•abundance at the surface of C-complex main-belt asteroids. Icarus, 2021, 357, 114125.	2.5	18
96	Photometric behaviour of 67P/Churyumovâ€“Gerasimenko and analysis of its pre-perihelion diurnal variations. Monthly Notices of the Royal Astronomical Society, 2017, 469, S346-S356.	4.4	16
97	New insights into the structure and formation of coals, terrestrial and extraterrestrial kerogens from resonant UV Raman spectroscopy. Geochimica Et Cosmochimica Acta, 2020, 282, 156-176.	3.9	16
98	Inflight radiometric calibration of New Horizonsâ€™ Multispectral Visible Imaging Camera (MVIC). Icarus, 2017, 287, 140-151.	2.5	14
99	The temporal evolution of exposed water ice-rich areas on the surface of 67P/Churyumov-Gerasimenko: spectral analysis. Monthly Notices of the Royal Astronomical Society, 0, , stw3281.	4.4	13
100	Visible and near-infrared reflectance of hyperfine and hyperporous particulate surfaces. Icarus, 2021, 357, 114141.	2.5	13
101	Optical constants of Pluto aerosol analogues from UV to near-IR. Icarus, 2021, 362, 114398.	2.5	13
102	Kinetics of hydrogen/deuterium exchanges in cometary ices. Icarus, 2015, 261, 14-30.	2.5	12
103	Molecular and isotopic behavior of insoluble organic matter of the Orgueil meteorite upon heating. Geochimica Et Cosmochimica Acta, 2019, 263, 235-247.	3.9	12
104	Infrared spectroscopy quantification of functional carbon groups in kerogens and coals: A calibration procedure. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 259, 119853.	3.9	12
105	and seasonal variability. Monthly Notices of the Royal Astronomical Society, 0, , stw3177.	4.4	10
106	Mineralogy, chemistry, and composition of organic compounds in the fresh carbonaceous chondrite Mukundpura: CM1 or CM2?. Meteoritics and Planetary Science, 2020, 55, 1681-1696.	1.6	10
107	The iron record of asteroidal processes in carbonaceous chondrites. Meteoritics and Planetary Science, 2019, 54, 2652-2665.	1.6	9
108	Nanoscale mineralogy and organic structure in Orgueil (CI) and EET 92042 (CR) carbonaceous chondrites studied with AFMâ€•IR spectroscopy. Meteoritics and Planetary Science, 2022, 57, 3-21.	1.6	8

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109	Thermal History of Asteroid Parent Bodies Is Reflected in Their Metalorganic Chemistry. Astrophysical Journal Letters, 2021, 915, L7.	8.3	7
110	Volatile transport modeling on Triton with new observational constraints. Icarus, 2022, 373, 114764.	2.5	7
111	Synchrotron radiation as a tool for in situ investigation of extraterrestrial grains in low-density collectors: application to the analyses of the PIE polymid foams targets. Planetary and Space Science, 2002, 50, 1055-1065.	1.7	6
112	Interstellar and interplanetary carbonaceous solids in the laboratory. Geochemical Journal, 2014, 48, 511-518.	1.0	6
113	A New Two-molecule Combination Band as a Diagnostic of Carbon Monoxide Diluted in Nitrogen Ice on Triton. Astronomical Journal, 2019, 158, 17.	4.7	6
114	Organic Matter in Interplanetary Dusts and Meteorites. Advances in Astrobiology and Biogeophysics, 2019, , 23-50.	0.6	6
115	Testing tholins as analogues of the dark reddish material covering Plutoâ€™s Cthulhu region. Icarus, 2021, 367, 114574.	2.5	6
116	The 2000 Rosetta asteroid targets observational campaign: 140 Siwa and 4979 Otawara. Astronomy and Astrophysics, 2001, 379, 660-663.	5.1	4
117	Tholins and their relevance for astrophysical issues. Proceedings of the International Astronomical Union, 2008, 4, 409-416.	0.0	4
118	A radiolytic origin of organic matter in primitive chondrites and trans-neptunian objects? New clues from ion irradiation experiments. Icarus, 2021, 364, 114462.	2.5	4
119	VIS-IR Spectroscopy of Mixtures of Water Ice, Organic Matter, and Opaque Mineral in Support of Small Body Remote Sensing Observations. Minerals (Basel, Switzerland), 2021, 11, 1222.	2.0	4
120	Spectrophotometric characterization of the Philae landing site and surroundings with the Rosetta/OSIRIS cameras. Monthly Notices of the Royal Astronomical Society, 2020, 498, 1221-1238.	4.4	3
121	Geometry induced bias in the remote near-IR identification of phyllosilicates on space weathered bodies. Icarus, 2022, 376, 114887.	2.5	3
122	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
123	Ethane on Pluto?. Science, 1999, 285, 1355c-1355.	12.6	2
124	Sample return of primitive matter from the outer Solar System. Experimental Astronomy, 0, , 1.	3.7	2
125	Interstellar and interplanetary solids in the laboratory. Proceedings of the International Astronomical Union, 2015, 11, 416-419.	0.0	1
126	Goethite as an alternative origin of the 3.1Î¼m band on dark asteroids (Corrigendum). Astronomy and Astrophysics, 2011, 530, C2.	5.1	1