Pierre Beck

List of Publications by Year
in descending order

55 papers	2,728 citations	201674 27 h-index	175258 52 g-index
58 all docs	58 docs citations	58 times ranked	2613 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	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. Space Science Reviews, 2021, 217, 4.	8.1	160
3	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
4	The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. Space Science Reviews, 2021, 217, 1.	8.1	131
5	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
6	Timescales of shock processes in chondritic and martian meteorites. Nature, 2005, 435, 1071-1074.	27.8	125
7	Ammonium salts are a reservoir of nitrogen on a cometary nucleus and possibly on some asteroids. Science, 2020, 367, .	12.6	115
8	Transmission infrared spectra (2â€“25Î¼m) of carbonaceous chondrites (CI, CM, CVâ€“CK, CR, C2) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.5	114
9	Dielectric map of the Martian northern hemisphere and the nature of plain filling materials. Geophysical Research Letters, 2012, 39, .	4.0	112
10	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
11	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
12	Mid-infrared study of the molecular structure variability of insoluble organic matter from primitive chondrites. Icarus, 2013, 223, 534-543.	2.5	85
13	INTERPLANETARY DUST PARTICLES AS SAMPLES OF ICY ASTEROIDS. Astrophysical Journal, 2015, 806, 204.	4.5	85
14	The 3â€“5MHz global reflectivity map of Mars by MARSIS/Mars Express: Implications for the current inventory of subsurface H2O. Icarus, 2010, 210, 612-625.	2.5	82
15	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
16	Water sorption on martian regolith analogs: Thermodynamics and near-infrared reflectance spectroscopy. Icarus, 2009, 204, 114-136.	2.5	63
17	Refining the age, emplacement and alteration scenarios of the olivine-rich unit in the Nili Fossae region, Mars. Icarus, 2020, 336, 113436.	2.5	59
18	Photometry of meteorites. Icarus, 2012, 218, 364-377.	2.5	58

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19	Direct observations of asteroid interior and regolith structure: Science measurement requirements. Advances in Space Research, 2018, 62, 2141-2162.	2.6	54
20	Goethite as an alternative origin of the 3.1Î¼m band on dark asteroids. Astronomy and Astrophysics, 2011, 526, A85.	5.1	46
21	COMPOSITIONAL HOMOGENEITY OF CM PARENT BODIES. Astronomical Journal, 2016, 152, 54.	4.7	44
22	SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138.	8.1	44
23	SHADOWS: a spectro-gonio radiometer for bidirectional reflectance studies of dark meteorites and terrestrial analogs: design, calibrations, and performances on challenging surfaces. Applied Optics, 2018, 57, 8279.	1.8	40
24	Short duration thermal metamorphism in CR chondrites. Geochimica Et Cosmochimica Acta, 2013, 122, 267-279.	3.9	39
25	Bidirectional reflectance spectroscopy of carbonaceous chondrites: Implications for water quantification and primary composition. Icarus, 2016, 264, 172-183.	2.5	38
26	Fast Precipitation of Acicular Goethite from Ferric Hydroxide Gel under Moderate Temperature (30) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.0	34
27	What is controlling the reflectance spectra (0.35â€“150â€¯Âµm) of hydrated (and dehydrated) carbonaceous chondrites?. Icarus, 2018, 313, 124-138.	2.5	32
28	Simulated asteroid materials based on carbonaceous chondrite mineralogies. Meteoritics and Planetary Science, 2019, 54, 2067-2082.	1.6	28
29	Water abundance in the Tagish Lake meteorite from <scp>TGA</scp> and <scp>IR</scp> spectroscopy: Evaluation of aqueous alteration. Meteoritics and Planetary Science, 2019, 54, 1951-1972.	1.6	25
30	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
31	Some things special about NEAs: Geometric and environmental effects on the optical signatures of hydration. Icarus, 2019, 333, 415-428.	2.5	23
32	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
33	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
34	Style and intensity of hydration among C-complex asteroids: A comparison to desiccated carbonaceous chondrites. Icarus, 2020, 348, 113826.	2.5	20
35	The SuperCam infrared spectrometer for the perseverance rover of the Mars2020 mission. Icarus, 2022, 373, 114773.	2.5	19
36	â€œWaterâ€•abundance at the surface of C-complex main-belt asteroids. Icarus, 2021, 357, 114125.	2.5	18

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37	Low-phase spectral reflectance and equivalent â€œgeometric albedoâ€•of meteorites powders. Icarus, 2021, 354, 114066.	2.5	14
38	Visible and near-infrared reflectance of hyperfine and hyperporous particulate surfaces. Icarus, 2021, 357, 114141.	2.5	13
39	Visible-infrared spectroscopy of ungrouped and rare meteorites brings further constraints on meteorite-asteroid connections. Icarus, 2021, 362, 114393.	2.5	12
40	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
41	The Basal Detectability of an Iceâ€Covered Mars by MARSIS. Geophysical Research Letters, 2022, 49, .	4.0	12
42	The Piancaldoli meteorite: A forgotten primitive LL3.10 ordinary chondrite. Meteoritics and Planetary Science, 2020, 55, .	1.6	11
43	Spectral reflectance analysis of type 3 carbonaceous chondrites and search for their asteroidal parent bodies. Icarus, 2021, 354, 114034.	2.5	11
44	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
45	Dwarf planet (1) Ceres surface bluing due to high porosity resulting from sublimation. Nature Communications, 2021, 12, 274.	12.8	10
46	A model of the 3-Î¼m hydration band with Exponentially Modified Gaussian (EMG) profiles: Application to hydrated chondrites and asteroids. Icarus, 2020, 343, 113686.	2.5	9
47	Aqueous Alteration on Asteroids Simplifies Soluble Organic Matter Mixtures. Astrophysical Journal Letters, 2021, 920, L39.	8.3	9
48	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
49	ROMA: A Database of Rock Reflectance Spectra for Martian In Situ Exploration. Earth and Space Science, 2022, 9, .	2.6	6
50	Origins of colors variability among C-cluster main-belt asteroids. Icarus, 2021, 365, 114494.	2.5	5
51	A Late Paleocene age for Greenlandâ€™s Hiawatha impact structure. Science Advances, 2022, 8, eabm2434.	10.3	4
52	Investigating S-type asteroid surfaces through reflectance spectra of ordinary chondrites. Icarus, 2022, 381, 115012.	2.5	4
53	Geometry induced bias in the remote near-IR identification of phyllosilicates on space weathered bodies. Icarus, 2022, 376, 114887.	2.5	3
54	Miller Range 07687 and its place within the CMâ€CO clan. Meteoritics and Planetary Science, 2021, 56, 1758-1783.	1.6	2

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55	Identification of a new spectral signature at 3ÂĨ¼m over martian northern high latitudes: Implications for surface composition. Icarus, 2021, 369, 114627.	2.5	1