

Kevin Hand

List of Publications by Year in descending order

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95
papers

3,324
citations

186265

28
h-index

155660

55
g-index

100
all docs

100
docs citations

100
times ranked

2800
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetospheric Ion Bombardment of Europa's Surface. Planetary Science Journal, 2022, 3, 5.	3.6	10
2	Science Goals and Mission Architecture of the Europa Lander Mission Concept. Planetary Science Journal, 2022, 3, 22.	3.6	42
3	Spectral Evidence for Irradiated Sodium Chloride on the Surface of 1 Ceres. Geophysical Research Letters, 2022, 49, .	4.0	5
4	Compositions of dissolved organic matter in the ice-covered waters above the Aurora hydrothermal vent system, Gakkel Ridge, Arctic Ocean. Biogeosciences, 2022, 19, 2101-2120.	3.3	3
5	Perseverance's Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals (SHERLOC) Investigation. Space Science Reviews, 2021, 217, 1.	8.1	94
6	Magnetic induction heating of planetary satellites: Analytical formulae and applications. Icarus, 2021, 360, 114360.	2.5	4
7	Effect of H ₂ S on the Near-infrared Spectrum of Irradiation Residue and Applications to the Kuiper Belt Object (486958) Arrokoth. Astrophysical Journal Letters, 2021, 914, L31.	8.3	3
8	Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. Planetary Science Journal, 2021, 2, 130.	3.6	80
9	A Comprehensive Revisit of Select Galileo/NIMS Observations of Europa. Planetary Science Journal, 2021, 2, 183.	3.6	5
10	Erosion of Penitentes Under Experimental Conditions Relevant to Ice-Covered Airless Worlds. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006955.	3.6	6
11	Internal-current Lorentz-force Heating of Astrophysical Objects. Astrophysical Journal Letters, 2021, 922, L38.	8.3	1
12	Penitente formation is unlikely on Europa. Nature Geoscience, 2020, 13, 17-19.	12.9	7
13	Mars 2020 Mission Overview. Space Science Reviews, 2020, 216, 1.	8.1	239
14	On the Habitability and Future Exploration of Ocean Worlds. Space Science Reviews, 2020, 216, 1.	8.1	36
15	Life beneath an icy moon. New Scientist, 2020, 246, 40-43.	0.0	0
16	Demonstration of Autonomous Nested Search for Local Maxima Using an Unmanned Underwater Vehicle. , 2020, , .		2
17	Reply to "Comment on "Electric Power Generation from Earth's Rotation through its Own Magnetic Field". Physical Review Applied, 2020, 13, .	3.8	1
18	Discovery of novel structures at 10.7 km depth in the Mariana Trench may reveal chemolithoautotrophic microbial communities. Deep-Sea Research Part I: Oceanographic Research Papers, 2020, 160, 103238.	1.4	7

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19	Evidence for Ammonia-bearing Species on the Uranian Satellite Ariel Supports Recent Geologic Activity. <i>Astrophysical Journal Letters</i> , 2020, 898, L22.	8.3	38
20	Evidence for Sulfur-bearing Species on Callisto's Leading Hemisphere: Sourced from Jupiter's Irregular Satellites or Io?. <i>Astrophysical Journal Letters</i> , 2020, 902, L38.	8.3	9
21	Endogenic and Exogenic Contributions to Visible-wavelength Spectra of Europa's Trailing Hemisphere. <i>Astronomical Journal</i> , 2020, 160, 282.	4.7	12
22	Follow the Oxygen: Comparative Histories of Planetary Oxygenation and Opportunities for Aerobic Life. <i>Astrobiology</i> , 2019, 19, 811-824.	3.0	17
23	H ₂ O ₂ within Chaos Terrain on Europa's Leading Hemisphere. <i>Astronomical Journal</i> , 2019, 158, 127.	4.7	20
24	Galactic Cosmic-Ray Bombardment of Europa's Surface. <i>Astrophysical Journal Letters</i> , 2019, 881, L29.	8.3	16
25	Sodium chloride on the surface of Europa. <i>Science Advances</i> , 2019, 5, eaaw7123.	10.3	119
26	A Search for Water Vapor Plumes on Europa using SOFIA. <i>Astrophysical Journal Letters</i> , 2019, 871, L5.	8.3	12
27	Differential Incorporation of Bacteria, Organic Matter, and Inorganic Ions Into Lake Ice During Ice Formation. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019, 124, 585-600.	3.0	26
28	The mid-IR spectral effects of darkening agents and porosity on the silicate surface features of airless bodies. <i>Icarus</i> , 2019, 321, 71-81.	2.5	3
29	Halogens on and Within the Ocean Worlds of the Outer Solar System. <i>Springer Geochemistry</i> , 2018, , 997-1016.	0.1	2
30	Enceladus Vent Explorer Concept. , 2018, , 665-717.		4
31	Visible Near-infrared Spectral Evolution of Irradiated Mixed Ices and Application to Kuiper Belt Objects and Jupiter Trojans. <i>Astrophysical Journal</i> , 2018, 856, 124.	4.5	15
32	Exploring ocean worlds on Earth and beyond. <i>Nature Geoscience</i> , 2018, 11, 2-4.	12.9	23
33	Exploring the Ocean Worlds. , 2018, , .		0
34	Teleoperation and robotics under ice: Implications for planetary exploration. , 2018, , .		17
35	Preservation of potential biosignatures in the shallow subsurface of Europa. <i>Nature Astronomy</i> , 2018, 2, 673-679.	10.1	76
36	Distinct Microbial Assemblage Structure and Archaeal Diversity in Sediments of Arctic Thermokarst Lakes Differing in Methane Sources. <i>Frontiers in Microbiology</i> , 2018, 9, 1192.	3.5	25

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37	The near-surface electron radiation environment of Saturn's moon Mimas. <i>Icarus</i> , 2017, 286, 56-68.	2.5	16
38	Active Cryovolcanism on Europa?. <i>Astrophysical Journal Letters</i> , 2017, 839, L18.	8.3	125
39	A New Spectral Feature on the Trailing Hemisphere of Europa at 3.78 μ m. <i>Astronomical Journal</i> , 2017, 153, 250.	4.7	11
40	SPATIALLY RESOLVED SPECTROSCOPY OF EUROPA'S LARGE-SCALE COMPOSITIONAL UNITS AT 3 μ m WITH KECK NIRSPEC. <i>Astronomical Journal</i> , 2017, 153, 13.	4.7	24
41	The Possible Emergence of Life and Differentiation of a Shallow Biosphere on Irradiated Icy Worlds: The Example of Europa. <i>Astrobiology</i> , 2017, 17, 1265-1273.	3.0	58
42	Production of Sulfur Allotropes in Electron Irradiated Jupiter Trojans Ice Analogs. <i>Astrophysical Journal</i> , 2017, 846, 148.	4.5	17
43	Spectral Behavior of Irradiated Sodium Chloride Crystals Under Europa-Like Conditions. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2644-2654.	3.6	29
44	Geophysical controls of chemical disequilibria in Europa. <i>Geophysical Research Letters</i> , 2016, 43, 4871-4879.	4.0	153
45	On the Use of System-on-Chip Technology in Next-Generation Instruments Avionics for Space Exploration. <i>IFIP Advances in Information and Communication Technology</i> , 2016, , 1-22.	0.7	8
46	PROBING FOR EVIDENCE OF PLUMES ON EUROPA WITH HST/STIS. <i>Astrophysical Journal</i> , 2016, 829, 121.	4.5	194
47	Electric Power Generation from Earth's Rotation through its Own Magnetic Field. <i>Physical Review Applied</i> , 2016, 6, .	3.8	5
48	ELECTRON IRRADIATION AND THERMAL PROCESSING OF MIXED-ICES OF POTENTIAL RELEVANCE TO JUPITER TROJAN ASTEROIDS. <i>Astrophysical Journal</i> , 2016, 820, 141.	4.5	13
49	Designing a SoC to control the next-generation space exploration flight science instruments. , 2015, , .		2
50	Europa's surface color suggests an ocean rich with sodium chloride. <i>Geophysical Research Letters</i> , 2015, 42, 3174-3178.	4.0	129
51	SILICATES ON IAPETUS FROM CASSINI'S COMPOSITE INFRARED SPECTROMETER. <i>Astrophysical Journal Letters</i> , 2015, 811, L27.	8.3	1
52	SPATIALLY RESOLVED SPECTROSCOPY OF EUROPA: THE DISTINCT SPECTRUM OF LARGE-SCALE CHAOS. <i>Astronomical Journal</i> , 2015, 150, 164.	4.7	55
53	An integrated SoC for science data processing in next-generation space flight instruments avionics. , 2015, , .		6
54	Methane sources in arctic thermokarst lake sediments on the North Slope of Alaska. <i>Geobiology</i> , 2015, 13, 181-197.	2.4	28

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55	Adaptive controller for a Fourier Transform Spectrometer with space applications. , 2015, , .		7
56	Radiation Noise Effects at Jupiter's Moon Europa: In-Situ and Laboratory Measurements and Radiation Transport Calculations. IEEE Transactions on Nuclear Science, 2015, 62, 2273-2282.	2.0	2
57	A Highly-Efficient, Adaptive and Fault-Tolerant SoC Implementation of a Fourier Transform Spectrometer Data Processing. , 2015, , .		1
58	Towards a generic and adaptive System-on-Chip controller for space exploration instrumentation. , 2015, , .		9
59	Energy conservation and Poynting's theorem in the homopolar generator. American Journal of Physics, 2015, 83, 72-75.	0.7	6
60	Design and integration of an adaptive controller for a Fourier Transform Spectrometer. , 2014, , .		2
61	Microchip nonaqueous capillary electrophoresis of saturated fatty acids using a new fluorescent dye. Analytical Methods, 2014, 6, 9532-9535.	2.7	9
62	The lens feature on the inner saturnian satellites. Icarus, 2014, 234, 155-161.	2.5	24
63	SALTS AND RADIATION PRODUCTS ON THE SURFACE OF EUROPA. Astronomical Journal, 2013, 145, 110.	4.7	142
64	Fourier transform spectrometer controller for partitioned architectures. , 2013, , .		7
65	Science Potential from a Europa Lander. Astrobiology, 2013, 13, 740-773.	3.0	98
66	KECK II OBSERVATIONS OF HEMISPHERICAL DIFFERENCES IN H ₂ O ₂ ON EUROPA. Astrophysical Journal Letters, 2013, 766, L21.	8.3	33
67	Adsorbed water and thin liquid films on Mars. International Journal of Astrobiology, 2012, 11, 169-175.	1.6	23
68	Thermal Testing of the Compositional InfraRed Imaging Spectrometer (CIRIS). , 2012, , .		6
69	An active nitrogen cycle on Mars sufficient to support a subsurface biosphere. International Journal of Astrobiology, 2012, 11, 109-115.	1.6	12
70	Laboratory spectroscopic analyses of electron irradiated alkanes and alkenes in solar system ices. Journal of Geophysical Research, 2012, 117, .	3.3	13
71	DEEP-WATER INCISED VALLEY DEPOSITS AT THE EDIACARAN-CAMBRIAN BOUNDARY IN SOUTHERN NAMIBIA CONTAIN ABUNDANT TREPTICHNUS PEDUM. Palaios, 2012, 27, 252-273.	1.3	33
72	Frontier or fiction. Nature, 2012, 488, 160-161.	27.8	15

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73	Microbial Habitability of Icy Worlds. <i>Microbe Magazine</i> , 2012, 7, 167-172.	0.4	9
74	Joule heating of the south polar terrain on Enceladus. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	8
75	H ₂ O ₂ production by high-energy electrons on icy satellites as a function of surface temperature and electron flux. <i>Icarus</i> , 2011, 215, 226-233.	2.5	46
76	Methods and measurements to assess physical and geochemical conditions at the surface of Europa. <i>Advances in Space Research</i> , 2011, 48, 702-717.	2.6	7
77	Return to Europa: Overview of the Jupiter Europa orbiter mission. <i>Advances in Space Research</i> , 2011, 48, 629-650.	2.6	22
78	Analog environments for a Europa lander mission. <i>Advances in Space Research</i> , 2011, 48, 689-696.	2.6	21
79	Spectroscopic and spectrometric differentiation between abiotic and biogenic material on icy worlds. <i>Proceedings of the International Astronomical Union</i> , 2010, 6, 165-176.	0.0	4
80	Exobiology and Planetary Protection of icy moons. <i>Space Science Reviews</i> , 2010, 153, 511-535.	8.1	13
81	Radiolysis and Photolysis of Icy Satellite Surfaces: Experiments and Theory. <i>Space Science Reviews</i> , 2010, 153, 299-315.	8.1	73
82	Hubble Space Telescope observations of Europa in and out of eclipse. <i>International Journal of Astrobiology</i> , 2010, 9, 265-271.	1.6	3
83	Radiolysis and Photolysis of Icy Satellite Surfaces: Experiments and Theory. <i>Space Sciences Series of ISSI</i> , 2010, , 297-313.	0.0	0
84	Tubular compression fossils from the Ediacaran Nama group, Namibia. <i>Journal of Paleontology</i> , 2009, 83, 110-122.	0.8	57
85	Energy, Chemical Disequilibrium, and Geological Constraints on Europa. <i>Astrobiology</i> , 2007, 7, 1006-1022.	3.0	181
86	Empirical constraints on the salinity of the european ocean and implications for a thin ice shell. <i>Icarus</i> , 2007, 189, 424-438.	2.5	134
87	Comets and Prebiotic Organic Molecules on Early Earth. , 2006, , 169-206.		4
88	Clathrate Hydrates of Oxidants in the Ice Shell of Europa. <i>Astrobiology</i> , 2006, 6, 463-482.	3.0	86
89	Utilizing active mid-infrared microspectrometry for in situ analysis of cryptoendolithic microbial communities of Battleship Promontory, Dry Valleys, Antarctica. , 2005, , .		1
90	Fourier transform infrared spectroscopy for Mars science. <i>Review of Scientific Instruments</i> , 2005, 76, 034101.	1.3	29

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91	Astrobiology: The Study of the Living Universe. Annual Review of Astronomy and Astrophysics, 2005, 43, 31-74.	24.3	121
92	Clathrate formation and the fate of noble and biologically useful gases in Lake Vostok, Antarctica. Geophysical Research Letters, 2003, 30, .	4.0	63
93	PLANETARY SCIENCE: Enhanced: Life Without Photosynthesis. Science, 2001, 292, 2026-2027.	12.6	88
94	Low Mass SN Ia and the Late Light Curve. , 1997, , 273-302.		11
95	Astrobiology and the Potential for Life on Europa. , 0, , 589-630.		18