

Steve Vance

List of Publications by Year in descending order

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Version: 2024-02-01

75
papers

2,627
citations

201674

27
h-index

206112

48
g-index

90
all docs

90
docs citations

90
times ranked

2263
citing authors

#	ARTICLE	IF	CITATIONS
1	The Drive to Life on Wet and Icy Worlds. <i>Astrobiology</i> , 2014, 14, 308-343.	3.0	232
2	Hydrothermal Systems in Small Ocean Planets. <i>Astrobiology</i> , 2007, 7, 987-1005.	3.0	213
3	The NASA Roadmap to Ocean Worlds. <i>Astrobiology</i> , 2019, 19, 1-27.	3.0	209
4	Geophysical controls of chemical disequilibria in Europa. <i>Geophysical Research Letters</i> , 2016, 43, 4871-4879.	4.0	153
5	Hyperspectral Anomaly Detection Through Spectral Unmixing and Dictionary-Based Low-Rank Decomposition. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2018, 56, 4391-4405.	6.3	149
6	Geophysical Investigations of Habitability in Ice-Covered Ocean Worlds. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 180-205.	3.6	133
7	Ganymede's internal structure including thermodynamics of magnesium sulfate oceans in contact with ice. <i>Planetary and Space Science</i> , 2014, 96, 62-70.	1.7	121
8	Science Potential from a Europa Lander. <i>Astrobiology</i> , 2013, 13, 740-773.	3.0	98
9	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. <i>Space Science Reviews</i> , 2010, 153, 485-510.	8.1	83
10	Low-rank tensor decomposition based anomaly detection for hyperspectral imagery. , 2015, , .		67
11	Large Ocean Worlds with High-Pressure Ices. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	62
12	Holistic Approach for Studying Planetary Hydrospheres: Gibbs Representation of Ices Thermodynamics, Elasticity, and the Water Phase Diagram to 2,300 MPa. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006176.	3.6	44
13	Ice-Ocean Exchange Processes in the Jovian and Saturnian Satellites. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	43
14	A Metamorphic Origin for Europa's Ocean. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094143.	4.0	41
15	Thermodynamic properties of aqueous MgSO ₄ to 800MPa at temperatures from ~20 to 100°C and concentrations to 2.5molkg ⁻¹ from sound speeds, with applications to icy world oceans. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 110, 176-189.	3.9	40
16	Anomaly detection in hyperspectral images through spectral unmixing and low rank decomposition. , 2016, , .		40
17	A passive probe for subsurface oceans and liquid water in Jupiter's icy moons. <i>Icarus</i> , 2015, 248, 463-477.	2.5	39
18	Brine Migration and Impact-Induced Cryovolcanism on Europa. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL090797.	4.0	39

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19	Methane in serpentinized ultramafic rocks in mainland Portugal. <i>Marine and Petroleum Geology</i> , 2013, 45, 12-16.	3.3	38
20	Expected Seismicity and the Seismic Noise Environment of Europa. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 163-179.	3.6	38
21	Tidally Induced Magmatic Pulses on the Oceanic Floor of Jupiter's Moon Europa. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090077.	4.0	36
22	Bright prospects for radar detection of Europa's ocean. <i>Icarus</i> , 2017, 281, 334-337.	2.5	35
23	Seismic Wave Propagation in Icy Ocean Worlds. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 206-232.	3.6	35
24	The Geochemistry of Enceladus: Composition and Controls. , 2018, , .		35
25	The Astrobiology Primer: An Outline of General Knowledge"Version 1, 2006. <i>Astrobiology</i> , 2006, 6, 735-813.	3.0	31
26	Vital Signs: Seismology of Icy Ocean Worlds. <i>Astrobiology</i> , 2018, 18, 37-53.	3.0	31
27	Magnetic Induction Responses of Jupiter's Ocean Moons Including Effects From Adiabatic Convection. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006418.	3.6	29
28	A pole-to-equator ocean overturning circulation on Enceladus. <i>Nature Geoscience</i> , 2021, 14, 185-189.	12.9	29
29	Serpentinite and the search for life beyond Earth. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20180421.	3.4	29
30	Sound velocities and thermodynamic properties of water to 700 MPa and 10 to 100°C. <i>Journal of the Acoustical Society of America</i> , 2010, 127, 174-180.	1.1	28
31	The influence of meridional ice transport on Europa's ocean stratification and heat content. <i>Geophysical Research Letters</i> , 2017, 44, 5969-5977.	4.0	26
32	Experimental and Simulation Efforts in the Astrobiological Exploration of Exooceans. <i>Space Science Reviews</i> , 2020, 216, 9.	8.1	25
33	Layering and double-diffusion style convection in Europa's ocean. <i>Icarus</i> , 2005, 177, 506-514.	2.5	24
34	Simulating Serpentinization as It Could Apply to the Emergence of Life Using the JPL Hydrothermal Reactor. <i>Astrobiology</i> , 2020, 20, 307-326.	3.0	22
35	Self-Assembling Ice Membranes on Europa: Brinicle Properties, Field Examples, and Possible Energetic Systems in Icy Ocean Worlds. <i>Astrobiology</i> , 2019, 19, 685-695.	3.0	21
36	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. <i>Astrobiology</i> , 2022, 22, 685-712.	3.0	21

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37	Volatile organic sulfur compounds as biomarkers complementary to methane: Infrared absorption spectroscopy of CH ₃ SH enables insitu measurements on Earth and Mars. <i>Planetary and Space Science</i> , 2011, 59, 299-303.	1.7	20
38	In Search of Subsurface Oceans Within the Uranian Moons. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006956.	3.6	20
39	Downward Oxidant Transport Through Europa's Ice Shell by Density-Driven Brine Percolation. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	20
40	Revisiting the preprocessing procedures for elemental concentration estimation based on chemcam libs on mars rover. , 2014, , .		17
41	The Salty Secrets of Icy Ocean Worlds. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006736.	3.6	17
42	Linking serpentinization, hyperalkaline mineral waters and abiotic methane production in continental peridotites: an integrated hydrogeological-bio-geochemical model from the Cabeço de Vide CH ₄ -rich aquifer (Portugal). <i>Applied Geochemistry</i> , 2018, 96, 287-301.	3.0	15
43	Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life. <i>Planetary and Space Science</i> , 2020, 193, 104960.	1.7	15
44	Prospects of passive radio detection of a subsurface ocean on Europa with a lander. <i>Planetary and Space Science</i> , 2016, 129, 118-121.	1.7	14
45	Exploration of Icy Ocean Worlds Using Geophysical Approaches. <i>Planetary Science Journal</i> , 2021, 2, 150.	3.6	14
46	Measurement frequency influences the rating of perceived exertion during sub-maximal treadmill running. <i>European Journal of Applied Physiology</i> , 2009, 106, 311-313.	2.5	11
47	Seismic signal from waves on Titan's seas. <i>Earth and Planetary Science Letters</i> , 2019, 520, 250-259.	4.4	9
48	X-Ray Emission from Jupiter's Galilean Moons: A Tool for Determining Their Surface Composition and Particle Environment. <i>Astrophysical Journal</i> , 2020, 895, 79.	4.5	9
49	Triton's Variable Interaction With Neptune's Magnetospheric Plasma. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029740.	2.4	9
50	Single- and Multi-Pass Magnetometric Subsurface Ocean Detection and Characterization in Icy Worlds Using Principal Component Analysis (PCA): Application to Triton. <i>Earth and Space Science</i> , 2022, 9, .	2.6	9
51	A perturbation method for evaluating the magnetic field induced from an arbitrary, asymmetric ocean world analytically. <i>Icarus</i> , 2022, 376, 114840.	2.5	9
52	Contribution of Non-Water Ices to Salinity and Electrical Conductivity in Ocean Worlds. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	9
53	Dynamics of Mixed Clathrate-Ice Shells on Ocean Worlds. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	8
54	Oceanography of an Ice-Covered Moon. , 0, , 459-482.		7

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55	Sodium, Potassium, and Calcium in Europa: An Atomic Journey through Water Ice. <i>Astrophysical Journal Letters</i> , 2018, 865, L16.	8.3	6
56	Ambient Noise Tomography With Common Receiver Clusters in Distributed Sensor Networks. <i>IEEE Transactions on Signal and Information Processing Over Networks</i> , 2020, 6, 656-666.	2.8	5
57	Enceladus as a potential oasis for life: Science goals and investigations for future explorations. <i>Experimental Astronomy</i> , 2022, 54, 809-847.	3.7	5
58	Session 13. The Deep Cold Biosphere? Interior Processes of Icy Satellites and Dwarf Planets. <i>Astrobiology</i> , 2008, 8, 344-346.	3.0	4
59	CHARM: A CubeSat water vapor radiometer for earth science. , 2012, , .		4
60	The simulator for icy world interiors: A 700 MPa pressure system for impulsive stimulated scattering and other optical measurements, with thermal control from ~ 20 to $100\text{ }^{\circ}\text{C}$. <i>Review of Scientific Instruments</i> , 2008, 79, 105105.	1.3	3
61	Seismic Detection of Euroquakes Originating From Europa's Silicate Interior. <i>Earth and Space Science</i> , 2022, 9, .	2.6	3
62	Optical SETI at Lick Observatory: A Status Report. <i>Symposium - International Astronomical Union</i> , 2004, 213, 415-418.	0.1	2
63	The Habitability of Icy Ocean Worlds in the Solar System. , 2018, , 2855-2877.		2
64	Seismology on Titan: A seismic signal and noise budget in preparation for Dragonfly. , 2020, , .		2
65	Use the water: In-situ resource technology for icy-surface landers. <i>Acta Astronautica</i> , 2009, 64, 1006-1010.	3.2	1
66	Water-rock Interaction Ascribed to Hyperalkaline Mineral Waters in the Cabeço de Vide Serpentinized Ultramafic Intrusive Massif (Central Portugal). <i>Procedia Earth and Planetary Science</i> , 2017, 17, 646-649.	0.6	1
67	Modeling Binary Mixtures of Water + Light Hydrocarbon Using the Perturbed-Chain Statistical Associating Fluid Theory with Induced Association: Improvement in Describing All Equilibrium Phases. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2569-2581.	2.7	1
68	Underground Microseismic Event Monitoring and Localization within Sensor Networks. <i>Sensors</i> , 2021, 21, 2830.	3.8	1
69	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. <i>Space Sciences Series of ISSI</i> , 2010, , 483-508.	0.0	1
70	Use the Water: In-Situ Resource Technology on a Europa Lander. , 2006, , .		0
71	Session 2. Advances in Astrobiological Instrumentation Development. <i>Astrobiology</i> , 2008, 8, 296-301.	3.0	0
72	SHOTPUT: A JPL Planetary Summer Science School study. , 2009, , .		0

#	ARTICLE	IF	CITATIONS
73	Chapter 3 Solids and Fluids at Low Temperatures. , 2016, , 27-54.		0
74	Sulfate Volumes and the Fitness of Supcrt92 for Calculating Deep Ocean Chemistry. Cellular Origin and Life in Extreme Habitats, 2004, , 261-264.	0.3	0
75	The Habitability of Icy Ocean Worlds in the Solar System. , 2018, , 1-23.		0