Steve Vance

List of Publications by Year in descending order

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	Enceladus as a potential oasis for life: Science goals and investigations for future explorations. Experimental Astronomy, 2022, 54, 809-847.	3.7	5
2	Singleâ€•and Multiâ€Pass Magnetometric Subsurface Ocean Detection and Characterization in Icy Worlds Using Principal Component Analysis (PCA): Application to Triton. Earth and Space Science, 2022, 9, .	2.6	9
3	A perturbation method for evaluating the magnetic field induced from an arbitrary, asymmetric ocean world analytically. Icarus, 2022, 376, 114840.	2.5	9
4	Downward Oxidant Transport Through Europa's Ice Shell by Densityâ€Driven Brine Percolation. Geophysical Research Letters, 2022, 49, .	4.0	20
5	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. Astrobiology, 2022, 22, 685-712.	3.0	21
6	Dynamics of Mixed Clathrateâ€Ice Shells on Ocean Worlds. Geophysical Research Letters, 2022, 49, .	4.0	8
7	Seismic Detection of Euroquakes Originating From Europa's Silicate Interior. Earth and Space Science, 2022, 9, .	2.6	3
8	Contribution of Nonâ€Water Ices to Salinity and Electrical Conductivity in Ocean Worlds. Geophysical Research Letters, 2022, 49, .	4.0	9
9	Magnetic Induction Responses of Jupiter's Ocean Moons Including Effects From Adiabatic Convection. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006418.	3.6	29
10	Tidally Induced Magmatic Pulses on the Oceanic Floor of Jupiter's Moon Europa. Geophysical Research Letters, 2021, 48, e2020GL090077.	4.0	36
11	A pole-to-equator ocean overturning circulation on Enceladus. Nature Geoscience, 2021, 14, 185-189.	12.9	29
12	Underground Microseismic Event Monitoring and Localization within Sensor Networks. Sensors, 2021, 21, 2830.	3.8	1
13	Exploration of Icy Ocean Worlds Using Geophysical Approaches. Planetary Science Journal, 2021, 2, 150.	3.6	14
14	A Metamorphic Origin for Europa's Ocean. Geophysical Research Letters, 2021, 48, e2021GL094143.	4.0	41
15	The Salty Secrets of Icy Ocean Worlds. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006736.	3.6	17
16	Tritonâ€™s Variable Interaction With Neptuneâ€™s Magnetospheric Plasma. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029740.	2.4	9
17	In Search of Subsurface Oceans Within the Uranian Moons. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006956.	3.6	20
18	Holistic Approach for Studying Planetary Hydrospheres: Gibbs Representation of Ices Thermodynamics, Elasticity, and the Water Phase Diagram to 2,300 MPa. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006176.	3.6	44

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19	Ambient Noise Tomography With Common Receiver Clusters in Distributed Sensor Networks. IEEE Transactions on Signal and Information Processing Over Networks, 2020, 6, 656-666.	2.8	5
20	Brine Migration and Impactâ€Induced Cryovolcanism on Europa. Geophysical Research Letters, 2020, 47, e2020GL090797.	4.0	39
21	X-Ray Emission from Jupiterâ€™s Galilean Moons: A Tool for Determining Their Surface Composition and Particle Environment. Astrophysical Journal, 2020, 895, 79.	4.5	9
22	Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life. Planetary and Space Science, 2020, 193, 104960.	1.7	15
23	Ice-Ocean Exchange Processes in the Jovian and Saturnian Satellites. Space Science Reviews, 2020, 216, 1.	8.1	43
24	Simulating Serpentinization as It Could Apply to the Emergence of Life Using the JPL Hydrothermal Reactor. Astrobiology, 2020, 20, 307-326.	3.0	22
25	Large Ocean Worlds with High-Pressure Ices. Space Science Reviews, 2020, 216, 1.	8.1	62
26	Experimental and Simulation Efforts in the Astrobiological Exploration of Exooceans. Space Science Reviews, 2020, 216, 9.	8.1	25
27	Serpentinite and the search for life beyond Earth. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20180421.	3.4	29
28	Seismology on Titan: A seismic signal and noise budget in preparation for Dragonfly. , 2020, , .		2
29	Modeling Binary Mixtures of Water + Light Hydrocarbon Using the Perturbed-Chain Statistical Associating Fluid Theory with Induced Association: Improvement in Describing All Equilibrium Phases. ACS Earth and Space Chemistry, 2019, 3, 2569-2581.	2.7	1
30	Seismic signal from waves on Titan's seas. Earth and Planetary Science Letters, 2019, 520, 250-259.	4.4	9
31	Self-Assembling Ice Membranes on Europa: Brinicle Properties, Field Examples, and Possible Energetic Systems in Icy Ocean Worlds. Astrobiology, 2019, 19, 685-695.	3.0	21
32	The NASA Roadmap to Ocean Worlds. Astrobiology, 2019, 19, 1-27.	3.0	209
33	Seismic Wave Propagation in Icy Ocean Worlds. Journal of Geophysical Research E: Planets, 2018, 123, 206-232.	3.6	35
34	Expected Seismicity and the Seismic Noise Environment of Europa. Journal of Geophysical Research E: Planets, 2018, 123, 163-179.	3.6	38
35	Vital Signs: Seismology of Icy Ocean Worlds. Astrobiology, 2018, 18, 37-53.	3.0	31
36	Hyperspectral Anomaly Detection Through Spectral Unmixing and Dictionary-Based Low-Rank Decomposition. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 4391-4405.	6.3	149

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37	Geophysical Investigations of Habitability in Iceâ€Covered Ocean Worlds. Journal of Geophysical Research E: Planets, 2018, 123, 180-205.	3.6	133
38	The Habitability of Icy Ocean Worlds in the Solar System. , 2018, , 2855-2877.		2
39	Sodium, Potassium, and Calcium in Europa: An Atomic Journey through Water Ice. Astrophysical Journal Letters, 2018, 865, L16.	8.3	6
40	Linking serpentinization, hyperalkaline mineral waters and abiotic methane production in continental peridotites: an integrated hydrogeological-bio-geochemical model from the CabeÃ§o de Vide CH4-rich aquifer (Portugal). Applied Geochemistry, 2018, 96, 287-301.	3.0	15
41	The Geochemistry of Enceladus: Composition and Controls. , 2018, , .		35
42	The Habitability of Icy Ocean Worlds in the Solar System. , 2018, , 1-23.		0
43	Water-rock Interaction Ascribed to Hyperalkaline Mineral Waters in the CabeÃ§o de Vide Serpentinized Ultramafic Intrusive Massif (Central Portugal). Procedia Earth and Planetary Science, 2017, 17, 646-649.	0.6	1
44	The influence of meridional ice transport on Europa's ocean stratification and heat content. Geophysical Research Letters, 2017, 44, 5969-5977.	4.0	26
45	Bright prospects for radar detection of Europaâ€™s ocean. Icarus, 2017, 281, 334-337.	2.5	35
46	Geophysical controls of chemical disequilibria in Europa. Geophysical Research Letters, 2016, 43, 4871-4879.	4.0	153
47	Anomaly detection in hyperspectral images through spectral unmixing and low rank decomposition. , 2016, , .		40
48	Chapter 3 Solids and Fluids at Low Temperatures. , 2016, , 27-54.		0
49	Prospects of passive radio detection of a subsurface ocean on Europa with a lander. Planetary and Space Science, 2016, 129, 118-121.	1.7	14
50	Low-rank tensor decomposition based anomaly detection for hyperspectral imagery. , 2015, , .		67
51	A passive probe for subsurface oceans and liquid water in Jupiterâ€™s icy moons. Icarus, 2015, 248, 463-477.	2.5	39
52	Revisiting the preprocessing procedures for elemental concentration estimation based on chemcam libs on mars rover. , 2014, , .		17
53	The Drive to Life on Wet and Icy Worlds. Astrobiology, 2014, 14, 308-343.	3.0	232
54	Ganymedeׯ³s internal structure including thermodynamics of magnesium sulfate oceans in contact with ice. Planetary and Space Science, 2014, 96, 62-70.	1.7	121

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55	Thermodynamic properties of aqueous MgSO4 to 800MPa at temperatures from â˜’20 to 100Â°C and concentrations to 2.5molkgâ˜’1 from sound speeds, with applications to icy world oceans. Geochimica Et Cosmochimica Acta, 2013, 110, 176-189.	3.9	40
56	Science Potential from a Europa Lander. Astrobiology, 2013, 13, 740-773.	3.0	98
57	Methane in serpentinized ultramafic rocks in mainland Portugal. Marine and Petroleum Geology, 2013, 45, 12-16.	3.3	38
58	CHARM: A CubeSat water vapor radiometer for earth science. , 2012, , .		4
59	Volatile organic sulfur compounds as biomarkers complementary to methane: Infrared absorption spectroscopy of CH3SH enables insitu measurements on Earth and Mars. Planetary and Space Science, 2011, 59, 299-303.	1.7	20
60	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Science Reviews, 2010, 153, 485-510.	8.1	83
61	Sound velocities and thermodynamic properties of water to 700 MPa and â˜’10 to 100â€‰Â°C. Journal of the Acoustical Society of America, 2010, 127, 174-180.	1.1	28
62	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Sciences Series of ISSI, 2010, , 483-508.	0.0	1
63	Measurement frequency influences the rating of perceived exertion during sub-maximal treadmill running. European Journal of Applied Physiology, 2009, 106, 311-313.	2.5	11
64	Use the water: In-situ resource technology for icy-surface landers. Acta Astronautica, 2009, 64, 1006-1010.	3.2	1
65	SHOTPUT: A JPL Planetary Summer Science School study. , 2009, , .		0
66	Session 13. The Deep Cold Biosphere? Interior Processes of Icy Satellites and Dwarf Planets. Astrobiology, 2008, 8, 344-346.	3.0	4
67	The simulator for icy world interiors: A 700 MPa pressure system for impulsive stimulated scattering and other optical measurements, with thermal control from â˜’20 to 100â€‰Â°C. Review of Scientific Instruments, 2008, 79, 105105.	1.3	3
68	Session 2. Advances in Astrobiological Instrumentation Development. Astrobiology, 2008, 8, 296-301.	3.0	0
69	Hydrothermal Systems in Small Ocean Planets. Astrobiology, 2007, 7, 987-1005.	3.0	213
70	The Astrobiology Primer: An Outline of General Knowledgeâ€”Version 1, 2006. Astrobiology, 2006, 6, 735-813.	3.0	31
71	Use the Water: In-Situ Resource Technology on a Europa Lander. , 2006, , .		0
72	Layering and double-diffusion style convection in Europa's ocean. Icarus, 2005, 177, 506-514.	2.5	24

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73	Optical SETI at Lick Observatory: A Status Report. Symposium - International Astronomical Union, 2004, 213, 415-418.	0.1	2
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	Oceanography of an Ice-Covered Moon. , 0, , 459-482.		7