

Robert Pappalardo

List of Publications by Year in descending order

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129
papers

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citations

31976

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136
docs citations

136
times ranked

2866
citing authors

#	ARTICLE	IF	CITATIONS
1	Strike-slip faulting on Titan: Modeling tidal stresses and shear failure conditions due to pore fluid interactions. <i>Icarus</i> , 2022, 371, 114700.	2.5	3
2	Thrust faulting as the origin of dorsa in the trailing hemisphere of Enceladus. <i>Icarus</i> , 2022, 375, 114815.	2.5	4
3	The High-Frequency Tidal Response of Ocean Worlds: Application to Europa and Ganymede. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	6
4	Forming Relic Cratered Blocks: Left-Lateral Shear on Enceladus Inferred From Ice-Shell Deformation in the Leading Hemisphere. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006499.	3.6	5
5	The Science Case for Spacecraft Exploration of the Uranian Satellites: Candidate Ocean Worlds in an Ice Giant System. <i>Planetary Science Journal</i> , 2021, 2, 120.	3.6	19
6	Ganymede, Then and Now: How Past Eccentricity May Have Altered Tidally Driven Coulomb Failure. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE005995.	3.6	5
7	NASA's Europa Clipper—a mission to a potentially habitable ocean world. <i>Nature Communications</i> , 2020, 11, 1311.	12.8	110
8	Ridged plains on Europa reveal a compressive past. <i>Icarus</i> , 2020, 343, 113709.	2.5	9
9	Can Earth-like plate tectonics occur in ocean world ice shells?. <i>Icarus</i> , 2019, 322, 69-79.	2.5	33
10	Tidal stress modeling of Ganymede: Strike-slip tectonism and Coulomb failure. <i>Icarus</i> , 2019, 319, 99-120.	2.5	13
11	Analysis of very-high-resolution Galileo images and implications for resurfacing mechanisms on Europa. <i>Icarus</i> , 2018, 312, 100-120.	2.5	27
12	A New Enceladus Global Control Network, Image Mosaic, and Updated Pointing Kernels From Cassini's 13-Year Mission. <i>Earth and Space Science</i> , 2018, 5, 604-621.	2.6	13
13	Band Formation and Ocean-Surface Interaction on Europa and Ganymede. <i>Geophysical Research Letters</i> , 2018, 45, 4701-4709.	4.0	54
14	Morphological mapping of Ganymede: Investigating the role of strike-slip tectonics in the evolution of terrain types. <i>Icarus</i> , 2018, 315, 92-114.	2.5	19
15	Pit chains on Enceladus signal the recent tectonic dissection of the ancient cratered terrains. <i>Icarus</i> , 2017, 294, 209-217.	2.5	20
16	Radar probing of Jovian icy moons: Understanding subsurface water and structure detectability in the JUICE and Europa missions. <i>Icarus</i> , 2017, 285, 237-251.	2.5	54
17	Geophysical controls of chemical disequilibria in Europa. <i>Geophysical Research Letters</i> , 2016, 43, 4871-4879.	4.0	153
18	Ocean worlds in the outer solar system. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1378-1399.	3.6	149

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19	Timing of chaotic terrain formation in Argadnel Regio, Europa, and implications for geological history. <i>Planetary and Space Science</i> , 2016, 130, 24-29.	1.7	4
20	Mechanics of evenly spaced strike-slip faults and its implications for the formation of tiger-stripe fractures on Saturn's moon Enceladus. <i>Icarus</i> , 2016, 266, 204-216.	2.5	16
21	Gravitational spreading, bookshelf faulting, and tectonic evolution of the South Polar Terrain of Saturn's moon Enceladus. <i>Icarus</i> , 2015, 260, 409-439.	2.5	30
22	Structural mapping of Enceladus and implications for formation of tectonized regions. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 928-950.	3.6	56
23	Geology before Pluto: Pre-encounter considerations. <i>Icarus</i> , 2015, 246, 65-81.	2.5	29
24	Europa Clipper Mission Concept: Exploring Jupiter's Ocean Moon. <i>Eos</i> , 2014, 95, 165-167.	0.1	123
25	Science goals and mission concept for the future exploration of Titan and Enceladus. <i>Planetary and Space Science</i> , 2014, 104, 59-77.	1.7	15
26	Physical models of grooved terrain tectonics on Ganymede. <i>Geophysical Research Letters</i> , 2014, 41, 3774-3778.	4.0	5
27	Science Potential from a Europa Lander. <i>Astrobiology</i> , 2013, 13, 740-773.	3.0	98
28	Convection-driven compaction as a possible origin of Enceladus's long wavelength topography. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 908-915.	3.6	40
29	Surface Sulfur Detection via Remote Sensing and Onboard Classification. <i>ACM Transactions on Intelligent Systems and Technology</i> , 2012, 3, 1-20.	4.5	6
30	Planetary pioneer. <i>Nature Geoscience</i> , 2012, 5, 10-10.	12.9	0
31	Biosignature Detection at an Arctic Analog to Europa. <i>Astrobiology</i> , 2012, 12, 135-150.	3.0	47
32	Limits of Enceladus's ice shell thickness from tidally driven tiger stripe shear failure. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	30
33	Low temperature SO biomineralization at a supraglacial spring system in the Canadian High Arctic. <i>Geobiology</i> , 2011, 9, 360-375.	2.4	38
34	Variability in the small crater population on Callisto. <i>Icarus</i> , 2011, 215, 253-259.	2.5	1
35	Return to Europa: Overview of the Jupiter Europa orbiter mission. <i>Advances in Space Research</i> , 2011, 48, 629-650.	2.6	22
36	Europa Lander mission and the context of international cooperation. <i>Advances in Space Research</i> , 2011, 48, 615-628.	2.6	11

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37	Titan: An exogenic world?. Icarus, 2011, 212, 790-806.	2.5	93
38	Seeking Europa's Ocean. Proceedings of the International Astronomical Union, 2010, 6, 101-114.	0.0	11
39	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Science Reviews, 2010, 153, 485-510.	8.1	83
40	Characteristics of Icy Surfaces. Space Science Reviews, 2010, 153, 63-111.	8.1	32
41	Characterization of a sulfur-rich Arctic spring site and field analog to Europa using hyperspectral data. Remote Sensing of Environment, 2010, 114, 1297-1311.	11.0	38
42	Global geological mapping of Ganymede. Icarus, 2010, 207, 845-867.	2.5	69
43	Mountains on Titan: Modeling and observations. Journal of Geophysical Research, 2010, 115, .	3.3	54
44	Engineering a solution to jupiter exploration. , 2010, , .		0
45	Building operability into the Jupiter Europa Orbiter design to endure a high radiation environment. , 2010, , .		2
46	Characteristics of Icy Surfaces. Space Sciences Series of ISSI, 2010, , 61-109.	0.0	3
47	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Sciences Series of ISSI, 2010, , 483-508.	0.0	1
48	Onboard SVM analysis of Hyperion data to detect sulfur deposits in Arctic regions. , 2009, , .		4
49	Onboard detection of natural sulfur on a glacier via a SVM and Hyperion data. , 2009, , .		7
50	LAPLACE: A mission to Europa and the Jupiter System for ESA's Cosmic Vision Programme. Experimental Astronomy, 2009, 23, 849-892.	3.7	38
51	Modeling stresses on satellites due to nonsynchronous rotation and orbital eccentricity using gravitational potential theory. Icarus, 2009, 200, 188-206.	2.5	91
52	Tectonics of the outer planet satellites. , 2009, , 264-350.		30
53	Tidally driven stress accumulation and shear failure of Enceladus's tiger stripes. Icarus, 2008, 198, 435-451.	2.5	87
54	Evidence for temporal variability of Enceladus' gas jets: Modeling of Cassini observations. Geophysical Research Letters, 2008, 35, .	4.0	78

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55	Europa Explorer Operational Scenarios Development. , 2008, , .		3
56	Reply to "Comment on "Mechanics of tidally driven fractures in Europa's ice shell" Icarus, 2007, 189, 598-599.	2.5	3
57	The global shape of Europa: Constraints on lateral shell thickness variations. Icarus, 2007, 191, 183-192.	2.5	83
58	Shear heating as the origin of the plumes and heat flux on Enceladus. Nature, 2007, 447, 289-291.	27.8	232
59	The origin of Ganymede's polar caps. Icarus, 2007, 191, 193-202.	2.5	78
60	Diapir-induced reorientation of Saturn's moon Enceladus. Nature, 2006, 441, 614-616.	27.8	120
61	Plate motion on Europa and nonrigid behavior of the icy lithosphere: The Castalia Macula region. Journal of Structural Geology, 2006, 28, 2237-2258.	2.3	19
62	Model constraints on the opening rates of bands on Europa. Icarus, 2005, 177, 297-304.	2.5	41
63	Mechanics of tidally driven fractures in Europa's ice shell. Icarus, 2005, 177, 367-379.	2.5	52
64	Strained craters on Ganymede. Journal of Structural Geology, 2005, 27, 827-838.	2.3	64
65	Atmosphere of Callisto. Journal of Geophysical Research, 2005, 110, .	3.3	28
66	Onset of convection in the icy Galilean satellites: Influence of rheology. Journal of Geophysical Research, 2005, 110, .	3.3	61
67	A shear heating origin for ridges on Triton. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	44
68	The origin of domes on Europa: The role of thermally induced compositional diapirism. Geophysical Research Letters, 2004, 31, .	4.0	102
69	Topographic variations in chaos on Europa: Implications for diapiric formation. Geophysical Research Letters, 2004, 31, .	4.0	59
70	Furrow flexure and ancient heat flux on Ganymede. Geophysical Research Letters, 2004, 31, .	4.0	40
71	Convective instability in ice I with non-Newtonian rheology: Application to the icy Galilean satellites. Journal of Geophysical Research, 2004, 109, .	3.3	37
72	On the origins of band topography, Europa. Icarus, 2003, 166, 21-32.	2.5	80

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73	Morphology and origin of palimpsests on Ganymede based on Galileo observations. <i>Icarus</i> , 2003, 164, 197-212.	2.5	27
74	Probing Europa's interior with natural sound sources. <i>Icarus</i> , 2003, 165, 144-167.	2.5	59
75	Evidence for shear failure in forming near-equatorial lineae on Europa. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	20
76	Estimates of Europa's ice shell thickness from elastically-supported topography. <i>Geophysical Research Letters</i> , 2003, 30, n/a-n/a.	4.0	80
77	Orogenic tectonism on Io. <i>Journal of Geophysical Research</i> , 2003, 108, 12-1-12-18.	3.3	68
78	Carbon dioxide on Ganymede. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	70
79	Geology and Composition of the Icy Galilean Satellites. <i>Highlights of Astronomy</i> , 2002, 12, 619-624.	0.0	0
80	A Picture Is Worth a Thousand Words: The Compact NASA Atlas of the Solar System, and the Cambridge Photographic Guide to the Planets. <i>Eos</i> , 2002, 83, 532.	0.1	1
81	Evidence for Europa-like tectonic resurfacing styles on Ganymede. <i>Geophysical Research Letters</i> , 2002, 29, 4-1-4-4.	4.0	35
82	Morphology of European bands at high resolution: A mid-ocean ridge-type rift mechanism. <i>Journal of Geophysical Research</i> , 2002, 107, 4-1.	3.3	101
83	Effective elastic thickness and heat flux estimates on Ganymede. <i>Geophysical Research Letters</i> , 2002, 29, 62-1.	4.0	53
84	Landform degradation and slope processes on Io: The Galileo view. <i>Journal of Geophysical Research</i> , 2001, 106, 33223-33240.	3.3	44
85	Impact Features on Europa: Results of the Galileo Europa Mission (GEM). <i>Icarus</i> , 2001, 151, 93-111.	2.5	92
86	Cryomagmatic Mechanisms for the Formation of Rhadamanthys Linea, Triple Band Margins, and Other Low-Albedo Features on Europa. <i>Icarus</i> , 2000, 144, 54-88.	2.5	120
87	Galileo at Io: Results from High-Resolution Imaging. <i>Science</i> , 2000, 288, 1193-1198.	12.6	120
88	Folds on Europa: Implications for Crustal Cycling and Accommodation of Extension. <i>Science</i> , 2000, 289, 941-943.	12.6	86
89	Tyre and Pwyll: Galileo orbital remote sensing of mineralogy versus morphology at two selected sites on Europa. <i>Journal of Geophysical Research</i> , 2000, 105, 22647-22655.	3.3	24
90	The search for current geologic activity on Europa. <i>Journal of Geophysical Research</i> , 2000, 105, 22579-22597.	3.3	54

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91	Evaluation of models for the formation of chaotic terrain on Europa. <i>Journal of Geophysical Research</i> , 2000, 105, 1709-1716.	3.3	101
92	Geologic mapping of Europa. <i>Journal of Geophysical Research</i> , 2000, 105, 22559-22578.	3.3	121
93	Geology and mapping of dark terrain on Ganymede and implications for grooved terrain formation. <i>Journal of Geophysical Research</i> , 2000, 105, 22519-22540.	3.3	37
94	Strike-slip duplexing on Jupiter's icy moon Europa. <i>Journal of Geophysical Research</i> , 2000, 105, 9483-9488.	3.3	37
95	Calibration and performance of the Galileo solid-state imaging system in Jupiter orbit. <i>Optical Engineering</i> , 1999, 38, 1178.	1.0	13
96	The Hidden Ocean of Europa. <i>Scientific American</i> , 1999, 281, 54-63.	1.0	22
97	The Distribution of Bright and Dark Material on Ganymede in Relationship to Surface Elevation and Slopes. <i>Icarus</i> , 1999, 140, 283-293.	2.5	23
98	Does Europa have a subsurface ocean? Evaluation of the geological evidence. <i>Journal of Geophysical Research</i> , 1999, 104, 24015-24055.	3.3	363
99	Europa: Morphological characteristics of ridges and triple bands from Galileo data (E4 and E6) and assessment of a linear diapirism model. <i>Journal of Geophysical Research</i> , 1999, 104, 24223-24236.	3.3	99
100	Europa: Stratigraphy and geological history of the anti-Jovian region from Galileo E14 solid-state imaging data. <i>Journal of Geophysical Research</i> , 1999, 104, 16531-16540.	3.3	49
101	Topographic wavelengths of Ganymede groove lanes from Fourier analysis of Galileo images. <i>Journal of Geophysical Research</i> , 1999, 104, 24057-24074.	3.3	33
102	Brine mobilization during lithospheric heating on Europa: Implications for formation of chaos terrain, lenticula texture, and color variations. <i>Journal of Geophysical Research</i> , 1999, 104, 27143-27155.	3.3	78
103	Evidence for a subsurface ocean on Europa. <i>Nature</i> , 1998, 391, 363-365.	27.8	514
104	Geological evidence for solid-state convection in Europa's ice shell. <i>Nature</i> , 1998, 391, 365-368.	27.8	329
105	Evidence for non-synchronous rotation of Europa. <i>Nature</i> , 1998, 391, 368-370.	27.8	120
106	Episodic plate separation and fracture infill on the surface of Europa. <i>Nature</i> , 1998, 391, 371-373.	27.8	117
107	Grooved Terrain on Ganymede: First Results from Galileo High-Resolution Imaging. <i>Icarus</i> , 1998, 135, 276-302.	2.5	108
108	The Local Topography of Uruk Sulcus and Galileo Regio Obtained from Stereo Images. <i>Icarus</i> , 1998, 135, 303-316.	2.5	58

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109	Europa: Initial Galileo Geological Observations. <i>Icarus</i> , 1998, 135, 4-24.	2.5	135
110	Large Impact Features on Europa: Results of the Galileo Nominal Mission. <i>Icarus</i> , 1998, 135, 127-145.	2.5	110
111	Galileo Observations of Europa's Opposition Effect. <i>Icarus</i> , 1998, 135, 41-63.	2.5	69
112	Terrestrial Sea Ice Morphology: Considerations for Europa. <i>Icarus</i> , 1998, 135, 25-40.	2.5	39
113	Formation of Ganymede Grooved Terrain by Sequential Extensional Episodes: Implications of Galileo Observations for Regional Stratigraphy. <i>Icarus</i> , 1998, 135, 345-359.	2.5	53
114	Evolution of Lineaments on Europa: Clues from Galileo Multispectral Imaging Observations. <i>Icarus</i> , 1998, 135, 107-126.	2.5	104
115	Dark Terrain on Ganymede: Geological Mapping and Interpretation of Galileo Regio at High Resolution. <i>Icarus</i> , 1998, 135, 317-344.	2.5	119
116	Tectonic Processes on Europa: Tidal Stresses, Mechanical Response, and Visible Features. <i>Icarus</i> , 1998, 135, 64-78.	2.5	292
117	Conamara Chaos Region, Europa: Reconstruction of mobile polygonal ice blocks. <i>Geophysical Research Letters</i> , 1998, 25, 4277-4280.	4.0	84
118	The role of extensional instability in creating Ganymede grooved terrain: Insights from Galileo High-Resolution Stereo Imaging. <i>Geophysical Research Letters</i> , 1998, 25, 233-236.	4.0	37
119	Eruption of lava flows on Europa: Theory and application to Thrace Macula. <i>Journal of Geophysical Research</i> , 1997, 102, 9263-9272.	3.3	40
120	Extensional tilt blocks on Miranda: Evidence for an upwelling origin of Arden Corona. <i>Journal of Geophysical Research</i> , 1997, 102, 13369-13379.	3.3	55
121	Galileo's First Images of Jupiter and the Galilean Satellites. <i>Science</i> , 1996, 274, 377-385.	12.6	152
122	Galileo's Encounter with 243 Ida: An Overview of the Imaging Experiment. <i>Icarus</i> , 1996, 120, 1-19.	2.5	75
123	Ejecta Blocks on 243 Ida and on Other Asteroids. <i>Icarus</i> , 1996, 120, 87-105.	2.5	67
124	Geology of 243 Ida. <i>Icarus</i> , 1996, 120, 119-139.	2.5	133
125	Evidence for Separation across a Gray Band on Europa. <i>Icarus</i> , 1996, 123, 557-567.	2.5	73
126	A review of the origins of subparallel ridges and troughs: Generalized morphological predictions from terrestrial models. <i>Journal of Geophysical Research</i> , 1995, 100, 18985.	3.3	40

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127	The Galileo Imaging Team plan for observing the satellites of Jupiter. Journal of Geophysical Research, 1995, 100, 18935.	3.3	32
128	Planetary structural mapping. , 0, , 351-396.		2
129	Finding order in chaos: Quantitative predictors of chaos terrain morphology on Europa. Geophysical Research Letters, 0, , .	4.0	2