Robert Pappalardo

List of Publications by Year
in descending order

129	8,130	31976	49909
papers	citations	53 h-index	87 g-index

136	136	136	2866
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Evidence for a subsurface ocean on Europa. Nature, 1998, 391, 363-365.	27.8	514
2	Does Europa have a subsurface ocean? Evaluation of the geological evidence. Journal of Geophysical Research, 1999, 104, 24015-24055.	3.3	363
3	Geological evidence for solid-state convection in Europa's ice shell. Nature, 1998, 391, 365-368.	27.8	329
4	Tectonic Processes on Europa: Tidal Stresses, Mechanical Response, and Visible Features. Icarus, 1998, 135, 64-78.	2.5	292
5	Shear heating as the origin of the plumes and heat flux on Enceladus. Nature, 2007, 447, 289-291.	27.8	232
6	Geophysical controls of chemical disequilibria in Europa. Geophysical Research Letters, 2016, 43, 4871-4879.	4.0	153
7	Galileo's First Images of Jupiter and the Galilean Satellites. Science, 1996, 274, 377-385.	12.6	152
8	Ocean worlds in the outer solar system. Journal of Geophysical Research E: Planets, 2016, 121, 1378-1399.	3.6	149
9	Europa: Initial Galileo Geological Observations. Icarus, 1998, 135, 4-24.	2.5	135
10	Geology of 243 Ida. Icarus, 1996, 120, 119-139.	2.5	133
11	Europa Clipper Mission Concept: Exploring Jupiter's Ocean Moon. Eos, 2014, 95, 165-167.	0.1	123
12	Geologic mapping of Europa. Journal of Geophysical Research, 2000, 105, 22559-22578.	3.3	121
13	Evidence for non-synchronous rotation of Europa. Nature, 1998, 391, 368-370.	27.8	120
14	Cryomagmatic Mechanisms for the Formation of Rhadamanthys Linea, Triple Band Margins, and Other Low-Albedo Features on Europa. Icarus, 2000, 144, 54-88.	2.5	120
15	Galileo at Io: Results from High-Resolution Imaging. Science, 2000, 288, 1193-1198.	12.6	120
16	Diapir-induced reorientation of Saturn's moon Enceladus. Nature, 2006, 441, 614-616.	27.8	120
17	Dark Terrain on Ganymede: Geological Mapping and Interpretation of Galileo Regio at High Resolution. Icarus, 1998, 135, 317-344.	2.5	119
18	Episodic plate separation and fracture infill on the surface of Europa. Nature, 1998, 391, 371-373.	27.8	117

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19	Large Impact Features on Europa: Results of the Galileo Nominal Mission. Icarus, 1998, 135, 127-145.	2.5	110
20	NASAâ€™s Europa Clipperâ€”a mission to a potentially habitable ocean world. Nature Communications, 2020, 11, 1311.	12.8	110
21	Grooved Terrain on Ganymede: First Results from Galileo High-Resolution Imaging. Icarus, 1998, 135, 276-302.	2.5	108
22	Evolution of Lineaments on Europa: Clues from Galileo Multispectral Imaging Observations. Icarus, 1998, 135, 107-126.	2.5	104
23	The origin of domes on Europa: The role of thermally induced compositional diapirism. Geophysical Research Letters, 2004, 31, .	4.0	102
24	Evaluation of models for the formation of chaotic terrain on Europa. Journal of Geophysical Research, 2000, 105, 1709-1716.	3.3	101
25	Morphology of Europan bands at high resolution: A mid-ocean ridge-type rift mechanism. Journal of Geophysical Research, 2002, 107, 4-1.	3.3	101
26	Europa: Morphological characteristics of ridges and triple bands from Galileo data (E4 and E6) and assessment of a linear diapirism model. Journal of Geophysical Research, 1999, 104, 24223-24236.	3.3	99
27	Science Potential from a Europa Lander. Astrobiology, 2013, 13, 740-773.	3.0	98
28	Titan: An exogenic world?. Icarus, 2011, 212, 790-806.	2.5	93
29	Impact Features on Europa: Results of the Galileo Europa Mission (GEM). Icarus, 2001, 151, 93-111.	2.5	92
30	Modeling stresses on satellites due to nonsynchronous rotation and orbital eccentricity using gravitational potential theory. Icarus, 2009, 200, 188-206.	2.5	91
31	Tidally driven stress accumulation and shear failure of Enceladus's tiger stripes. Icarus, 2008, 198, 435-451.	2.5	87
32	Folds on Europa: Implications for Crustal Cycling and Accommodation of Extension. Science, 2000, 289, 941-943.	12.6	86
33	Conamara Chaos Region, Europa: Reconstruction of mobile polygonal ice blocks. Geophysical Research Letters, 1998, 25, 4277-4280.	4.0	84
34	The global shape of Europa: Constraints on lateral shell thickness variations. Icarus, 2007, 191, 183-192.	2.5	83
35	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Science Reviews, 2010, 153, 485-510.	8.1	83
36	On the origins of band topography, Europa. Icarus, 2003, 166, 21-32.	2.5	80

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37	Estimates of Europa's ice shell thickness from elastically-supported topography. Geophysical Research Letters, 2003, 30, n/a-n/a.	4.0	80
38	Brine mobilization during lithospheric heating on Europa: Implications for formation of chaos terrain, lenticula texture, and color variations. Journal of Geophysical Research, 1999, 104, 27143-27155.	3.3	78
39	The origin of Ganymede's polar caps. Icarus, 2007, 191, 193-202.	2.5	78
40	Evidence for temporal variability of Enceladus' gas jets: Modeling of Cassini observations. Geophysical Research Letters, 2008, 35, .	4.0	78
41	Galileo's Encounter with 243 Ida: An Overview of the Imaging Experiment. Icarus, 1996, 120, 1-19.	2.5	75
42	Evidence for Separation across a Gray Band on Europa. Icarus, 1996, 123, 557-567.	2.5	73
43	Carbon dioxide on Ganymede. Journal of Geophysical Research, 2003, 108, .	3.3	70
44	Galileo Observations of Europa's Opposition Effect. Icarus, 1998, 135, 41-63.	2.5	69
45	Global geological mapping of Ganymede. Icarus, 2010, 207, 845-867.	2.5	69
46	Orogenic tectonism on Io. Journal of Geophysical Research, 2003, 108, 12-1-12-18.	3.3	68
47	Ejecta Blocks on 243 Ida and on Other Asteroids. Icarus, 1996, 120, 87-105.	2.5	67
48	Strained craters on Ganymede. Journal of Structural Geology, 2005, 27, 827-838.	2.3	64
49	Onset of convection in the icy Galilean satellites: Influence of rheology. Journal of Geophysical Research, 2005, 110, .	3.3	61
50	Probing Europa's interior with natural sound sources. Icarus, 2003, 165, 144-167.	2.5	59
51	Topographic variations in chaos on Europa: Implications for diapiric formation. Geophysical Research Letters, 2004, 31, .	4.0	59
52	The Local Topography of Uruk Sulcus and Galileo Regio Obtained from Stereo Images. Icarus, 1998, 135, 303-316.	2.5	58
53	Structural mapping of Enceladus and implications for formation of tectonized regions. Journal of Geophysical Research E: Planets, 2015, 120, 928-950.	3.6	56
54	Extensional tilt blocks on Miranda: Evidence for an upwelling origin of Arden Corona. Journal of Geophysical Research, 1997, 102, 13369-13379.	3.3	55

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55	The search for current geologic activity on Europa. Journal of Geophysical Research, 2000, 105, 22579-22597.	3.3	54
56	Mountains on Titan: Modeling and observations. Journal of Geophysical Research, 2010, 115, .	3.3	54
57	Radar probing of Jovian icy moons: Understanding subsurface water and structure detectability in the JUICE and Europa missions. Icarus, 2017, 285, 237-251.	2.5	54
58	Band Formation and Oceanâ€Surface Interaction on Europa and Ganymede. Geophysical Research Letters, 2018, 45, 4701-4709.	4.0	54
59	Formation of Ganymede Grooved Terrain by Sequential Extensional Episodes: Implications of Galileo Observations for Regional Stratigraphy. Icarus, 1998, 135, 345-359.	2.5	53
60	Effective elastic thickness and heat flux estimates on Ganymede. Geophysical Research Letters, 2002, 29, 62-1.	4.0	53
61	Mechanics of tidally driven fractures in Europa's ice shell. Icarus, 2005, 177, 367-379.	2.5	52
62	Europa: Stratigraphy and geological history of the anti-Jovian region from Galileo E14 solid-state imaging data. Journal of Geophysical Research, 1999, 104, 16531-16540.	3.3	49
63	Biosignature Detection at an Arctic Analog to Europa. Astrobiology, 2012, 12, 135-150.	3.0	47
64	Landform degradation and slope processes on Io: The Galileo view. Journal of Geophysical Research, 2001, 106, 33223-33240.	3.3	44
65	A shear heating origin for ridges on Triton. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	44
66	Model constraints on the opening rates of bands on Europa. Icarus, 2005, 177, 297-304.	2.5	41
67	A review of the origins of subparallel ridges and troughs: Generalized morphological predictions from terrestrial models. Journal of Geophysical Research, 1995, 100, 18985.	3.3	40
68	Eruption of lava flows on Europa: Theory and application to Thrace Macula. Journal of Geophysical Research, 1997, 102, 9263-9272.	3.3	40
69	Furrow flexure and ancient heat flux on Ganymede. Geophysical Research Letters, 2004, 31, .	4.0	40
70	Convectionâ€driven compaction as a possible origin of Enceladus's long wavelength topography. Journal of Geophysical Research E: Planets, 2013, 118, 908-915.	3.6	40
71	Terrestrial Sea Ice Morphology: Considerations for Europa. Icarus, 1998, 135, 25-40.	2.5	39
72	LAPLACE: A mission to Europa and the Jupiter System for ESAâ€™s Cosmic Vision Programme. Experimental Astronomy, 2009, 23, 849-892.	3.7	38

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73	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
74	Low temperature S0 biomineralization at a supraglacial spring system in the Canadian High Arctic. Geobiology, 2011, 9, 360-375.	2.4	38
75	The role of extensional instability in creating Ganymede grooved terrain: Insights from Galileo High-Resolution Stereo Imaging. Geophysical Research Letters, 1998, 25, 233-236.	4.0	37
76	Geology and mapping of dark terrain on Ganymede and implications for grooved terrain formation. Journal of Geophysical Research, 2000, 105, 22519-22540.	3.3	37
77	Strike-slip duplexing on Jupiter's icy moon Europa. Journal of Geophysical Research, 2000, 105, 9483-9488.	3.3	37
78	Convective instability in ice I with non-Newtonian rheology: Application to the icy Galilean satellites. Journal of Geophysical Research, 2004, 109, .	3.3	37
79	Evidence for Europa-like tectonic resurfacing styles on Ganymede. Geophysical Research Letters, 2002, 29, 4-1-4-4.	4.0	35
80	Topographic wavelengths of Ganymede groove lanes from Fourier analysis of Galileo images. Journal of Geophysical Research, 1999, 104, 24057-24074.	3.3	33
81	Can Earth-like plate tectonics occur in ocean world ice shells?. Icarus, 2019, 322, 69-79.	2.5	33
82	The Galileo Imaging Team plan for observing the satellites of Jupiter. Journal of Geophysical Research, 1995, 100, 18935.	3.3	32
83	Characteristics of Icy Surfaces. Space Science Reviews, 2010, 153, 63-111.	8.1	32
84	Tectonics of the outer planet satellites. , 2009, , 264-350.		30
85	Limits of Enceladus's ice shell thickness from tidally driven tiger stripe shear failure. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	30
86	Gravitational spreading, bookshelf faulting, and tectonic evolution of the South Polar Terrain of Saturnâ€™s moon Enceladus. Icarus, 2015, 260, 409-439.	2.5	30
87	Geology before Pluto: Pre-encounter considerations. Icarus, 2015, 246, 65-81.	2.5	29
88	Atmosphere of Callisto. Journal of Geophysical Research, 2005, 110, .	3.3	28
89	Morphology and origin of palimpsests on Ganymede based on Galileo observations. Icarus, 2003, 164, 197-212.	2.5	27
90	Analysis of very-high-resolution Galileo images and implications for resurfacing mechanisms on Europa. Icarus, 2018, 312, 100-120.	2.5	27

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91	Tyre and Pwyll: Galileo orbital remote sensing of mineralogy versus morphology at two selected sites on Europa. Journal of Geophysical Research, 2000, 105, 22647-22655.	3.3	24
92	The Distribution of Bright and Dark Material on Ganymede in Relationship to Surface Elevation and Slopes. Icarus, 1999, 140, 283-293.	2.5	23
93	The Hidden Ocean of Europa. Scientific American, 1999, 281, 54-63.	1.0	22
94	Return to Europa: Overview of the Jupiter Europa orbiter mission. Advances in Space Research, 2011, 48, 629-650.	2.6	22
95	Evidence for shear failure in forming near-equatorial lineae on Europa. Journal of Geophysical Research, 2003, 108, .	3.3	20
96	Pit chains on Enceladus signal the recent tectonic dissection of the ancient cratered terrains. Icarus, 2017, 294, 209-217.	2.5	20
97	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
98	Morphological mapping of Ganymede: Investigating the role of strike-slip tectonics in the evolution of terrain types. Icarus, 2018, 315, 92-114.	2.5	19
99	The Science Case for Spacecraft Exploration of the Uranian Satellites: Candidate Ocean Worlds in an Ice Giant System. Planetary Science Journal, 2021, 2, 120.	3.6	19
100	Mechanics of evenly spaced strike-slip faults and its implications for the formation of tiger-stripe fractures on Saturnâ€™s moon Enceladus. Icarus, 2016, 266, 204-216.	2.5	16
101	Science goals and mission concept for the future exploration of Titan and Enceladus. Planetary and Space Science, 2014, 104, 59-77.	1.7	15
102	Calibration and performance of the Galileo solid-state imaging system in Jupiter orbit. Optical Engineering, 1999, 38, 1178.	1.0	13
103	A New Enceladus Global Control Network, Image Mosaic, and Updated Pointing Kernels From Cassini's 13â€Year Mission. Earth and Space Science, 2018, 5, 604-621.	2.6	13
104	Tidal stress modeling of Ganymede: Strike-slip tectonism and Coulomb failure. Icarus, 2019, 319, 99-120.	2.5	13
105	Seeking Europa's Ocean. Proceedings of the International Astronomical Union, 2010, 6, 101-114.	0.0	11
106	Europa Lander mission and the context of international cooperation. Advances in Space Research, 2011, 48, 615-628.	2.6	11
107	Ridged plains on Europa reveal a compressive past. Icarus, 2020, 343, 113709.	2.5	9
108	Onboard detection of natural sulfur on a glacier via a SVM and Hyperion data. , 2009, , .		7

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109	Surface Sulfur Detection via Remote Sensing and Onboard Classification. ACM Transactions on Intelligent Systems and Technology, 2012, 3, 1-20.	4.5	6
110	The Highâ€Frequency Tidal Response of Ocean Worlds: Application to Europa and Ganymede. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	6
111	Physical models of grooved terrain tectonics on Ganymede. Geophysical Research Letters, 2014, 41, 3774-3778.	4.0	5
112	Ganymede, Then and Now: How Past Eccentricity May Have Altered Tidally Driven Coulomb Failure. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE005995.	3.6	5
113	Forming Relic Cratered Blocks: Leftâ€Lateral Shear on Enceladus Inferred From Iceâ€Shell Deformation in the Leading Hemisphere. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006499.	3.6	5
114	Onboard SVM analysis of Hyperion data to detect sulfur deposits in Arctic regions. , 2009, , .		4
115	Timing of chaotic terrain formation in Argadnel Regio, Europa, and implications for geological history. Planetary and Space Science, 2016, 130, 24-29.	1.7	4
116	Thrust faulting as the origin of dorsa in the trailing hemisphere of Enceladus. Icarus, 2022, 375, 114815.	2.5	4
117	Reply to â€œComment on â€˜Mechanics of tidally driven fractures in Europa's ice shellâ€™â€‰â€•. Icarus, 2007, 189, 598-599.	2.5	3
118	Europa Explorer Operational Scenarios Development. , 2008, , .		3
119	Strike-slip faulting on Titan: Modeling tidal stresses and shear failure conditions due to pore fluid interactions. Icarus, 2022, 371, 114700.	2.5	3
120	Characteristics of Icy Surfaces. Space Sciences Series of ISSI, 2010, , 61-109.	0.0	3
121	Planetary structural mapping. , 0, , 351-396.		2
122	Building operability into the Jupiter Europa Orbiter design to endure a high radiation environment. , 2010, , .		2
123	Finding order in chaos: Quantitative predictors of chaos terrain morphology on Europa. Geophysical Research Letters, 0, , .	4.0	2
124	A Picture Is Worth a Thousand Words: The Compact NASA Atlas of the Solar System, and the Cambridge Photographic Guide to the Planets. Eos, 2002, 83, 532.	0.1	1
125	Variability in the small crater population on Callisto. Icarus, 2011, 215, 253-259.	2.5	1
126	Subsurface Water Oceans on Icy Satellites: Chemical Composition and Exchange Processes. Space Sciences Series of ISSI, 2010, , 483-508.	0.0	1

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127	Geology and Composition of the Icy Galilean Satellites. Highlights of Astronomy, 2002, 12, 619-624.	0.0	0
128	Engineering a solution to jupiter exploration. , 2010, , .		0
129	Planetary pioneer. Nature Geoscience, 2012, 5, 10-10.	12.9	0