Simone Marchi

List of Publications by Year
in descending order

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133 papers	8,416 citations	36303 51 h-index	45317 90 g-index
143 all docs	143 docs citations	143 times ranked	3792 citing authors

#	Article	IF	Citations
1	On the nucleus structure and activity of comet 67P/Churyumov-Gerasimenko. Science, 2015, 347, aaa1044.	12.6	366
2	Thermal fatigue as the origin of regolith on small asteroids. Nature, 2014, 508, 233-236.	27.8	280
3	Ammoniated phyllosilicates with a likely outer Solar System origin on (1) Ceres. Nature, 2015, 528, 241-244.	27.8	276
4	The morphological diversity of comet 67P/Churyumov-Gerasimenko. Science, 2015, 347, aaa0440.	12.6	259
5	The global shape, density and rotation of Comet 67P/Churyumov-Gerasimenko from preperihelion Rosetta/OSIRIS observations. Icarus, 2016, 277, 257-278.	2.5	252
6	Spectroscopic Characterization of Mineralogy and Its Diversity Across Vesta. Science, 2012, 336, 697-700.	12.6	240
7	Bright carbonate deposits as evidence of aqueous alteration on (1) Ceres. Nature, 2016, 536, 54-57.	27.8	240
8	Vestaâ€™s Shape and Morphology. Science, 2012, 336, 687-690.	12.6	222
9	A sawtooth-like timeline for the first billion years of lunar bombardment. Earth and Planetary Science Letters, 2012, 355-356, 144-151.	4.4	217
10	The Violent Collisional History of Asteroid 4 Vesta. Science, 2012, 336, 690-694.	12.6	209
11	The Geologically Recent Giant Impact Basins at Vestaâ€™s South Pole. Science, 2012, 336, 694-697.	12.6	194
12	Widespread mixing and burial of Earthâ€™s Hadean crust by asteroid impacts. Nature, 2014, 511, 578-582.	27.8	187
13	The timeline of the lunar bombardment: Revisited. Icarus, 2018, 305, 262-276.	2.5	186
14	Images of Asteroid 21 Lutetia: A Remnant Planetesimal from the Early Solar System. Science, 2011, 334, 487-490.	12.6	179
15	Dawn arrives at Ceres: Exploration of a small, volatile-rich world. Science, 2016, 353, 1008-1010.	12.6	178
16	Extensive water ice within Ceresâ€™ aqueously altered regolith: Evidence from nuclear spectroscopy. Science, 2017, 355, 55-59.	12.6	169
17	Distribution of phyllosilicates on the surface of Ceres. Science, 2016, 353, .	12.6	159
18	Global resurfacing of Mercury 4.0â€“4.1 billion years ago by heavy bombardment and volcanism. Nature, 2013, 499, 59-61.	27.8	154

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19	Regional surface morphology of comet 67P/Churyumov-Gerasimenko from Rosetta/OSIRIS images. Astronomy and Astrophysics, 2015, 583, A26.	5.1	153
20	A NEW CHRONOLOGY FOR THE MOON AND MERCURY. Astronomical Journal, 2009, 137, 4936-4948.	4.7	152
21	Localized aliphatic organic material on the surface of Ceres. Science, 2017, 355, 719-722.	12.6	152
22	Cratering on Ceres: Implications for its crust and evolution. Science, 2016, 353, .	12.6	135
23	Distinctive space weathering on Vesta from regolith mixing processes. Nature, 2012, 491, 79-82.	27.8	120
24	Composition and structure of the shallow subsurface of Ceres revealed by craterÂmorphology. Nature Geoscience, 2016, 9, 538-542.	12.9	118
25	DETECTION OF WIDESPREAD HYDRATED MATERIALS ON VESTA BY THE VIR IMAGING SPECTROMETER ON BOARD THE DAWN MISSION. Astrophysical Journal Letters, 2012, 758, L36.	8.3	117
26	The interior structure of Ceres as revealed by surface topography. Earth and Planetary Science Letters, 2017, 476, 153-164.	4.4	117
27	High-velocity collisions from the lunar cataclysm recorded in asteroidal meteorites. Nature Geoscience, 2013, 6, 303-307.	12.9	113
28	The geomorphology of Ceres. Science, 2016, 353, .	12.6	109
29	Size-frequency distribution of boulders â‰¥7 m on comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2015, 583, A37.	5.1	108
30	Impact-driven subduction on the Hadean Earth. Nature Geoscience, 2017, 10, 793-797.	12.9	107
31	The onset of the lunar cataclysm as recorded in its ancient crater populations. Earth and Planetary Science Letters, 2012, 325-326, 27-38.	4.4	103
32	Pitted Terrain on Vesta and Implications for the Presence of Volatiles. Science, 2012, 338, 246-249.	12.6	91
33	Vesta's mineralogical composition as revealed by the visible and infrared spectrometer on Dawn. Meteoritics and Planetary Science, 2013, 48, 2166-2184.	1.6	87
34	The missing large impact craters on Ceres. Nature Communications, 2016, 7, 12257.	12.8	84
35	Geomorphological evidence for ground ice on dwarf planet Ceres. Nature Geoscience, 2017, 10, 338-343.	12.9	83
36	Nature, formation, and distribution of carbonates on Ceres. Science Advances, 2018, 4, e1701645.	10.3	83

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37	Olivine in an unexpected location on Vestaâ€™s surface. Nature, 2013, 504, 122-125.	27.8	82
38	Vestan lithologies mapped by the visual and infrared spectrometer on Dawn. Meteoritics and Planetary Science, 2013, 48, 2185-2198.	1.6	75
39	Fractures on comet 67P/Churyumovâ€Gerasimenko observed by Rosetta/OSIRIS. Geophysical Research Letters, 2015, 42, 5170-5178.	4.0	71
40	Fission and reconfiguration of bilobate comets as revealed by 67P/Churyumovâ€“Gerasimenko. Nature, 2016, 534, 352-355.	27.8	68
41	Heterogeneous delivery of silicate and metal to the Earth by large planetesimals. Nature Geoscience, 2018, 11, 77-81.	12.9	67
42	Surface changes on comet 67P/Churyumov-Gerasimenko suggest a more active past. Science, 2017, 355, 1392-1395.	12.6	63
43	An aqueously altered carbon-rich Ceres. Nature Astronomy, 2019, 3, 140-145.	10.1	62
44	Observations, Meteorites, and Models: A Preflight Assessment of the Composition and Formation of (16) Psyche. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006296.	3.6	61
45	Temporal morphological changes in the Imhotep region of comet 67P/Churyumov-Gerasimenko. Astronomy and Astrophysics, 2015, 583, A36.	5.1	60
46	Geomorphology of the Imhotep region on comet 67P/Churyumov-Gerasimenko from OSIRIS observations. Astronomy and Astrophysics, 2015, 583, A35.	5.1	59
47	The geomorphology of (21) Lutetia: Results from the OSIRIS imaging system onboard ESA's Rosetta spacecraft. Planetary and Space Science, 2012, 66, 96-124.	1.7	58
48	Dawn completes its mission at 4 Vesta. Meteoritics and Planetary Science, 2013, 48, 2076-2089.	1.6	54
49	Small crater populations on Vesta. Planetary and Space Science, 2014, 103, 96-103.	1.7	54
50	Lucy Mission to the Trojan Asteroids: Science Goals. Planetary Science Journal, 2021, 2, 171.	3.6	54
51	Comet 67P/Churyumov-Gerasimenko: Constraints on its origin from OSIRIS observations. Astronomy and Astrophysics, 2015, 583, A44.	5.1	53
52	Boulders on Lutetia. Planetary and Space Science, 2012, 66, 71-78.	1.7	52
53	The effects of the target material properties and layering on the crater chronology: The case of Raditladi and Rachmaninoff basins on Mercury. Planetary and Space Science, 2011, 59, 1968-1980.	1.7	51
54	Ages of large lunar impact craters and implications for bombardment during the Moonâ€™s middle age. Icarus, 2013, 225, 325-341.	2.5	50

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55	Impact-driven mobilization of deep crustal brines on dwarf planet Ceres. Nature Astronomy, 2020, 4, 741-747.	10.1	50
56	Pitted terrains on (1) Ceres and implications for shallow subsurface volatile distribution. Geophysical Research Letters, 2017, 44, 6570-6578.	4.0	48
57	SIMBIO-SYS: Scientific Cameras and Spectrometer for the BepiColombo Mission. Space Science Reviews, 2020, 216, 1.	8.1	47
58	The cratering history of asteroid (2867) Steins. Planetary and Space Science, 2010, 58, 1116-1123.	1.7	46
59	Post-impact thermal structure and cooling timescales of Occator crater on asteroid 1 Ceres. Icarus, 2019, 320, 110-118.	2.5	44
60	The cratering history of asteroid (21) Lutetia. Planetary and Space Science, 2012, 66, 87-95.	1.7	43
61	Geological map and stratigraphy of asteroid 21 Lutetia. Planetary and Space Science, 2012, 66, 125-136.	1.7	42
62	Crater depth-to-diameter distribution and surface properties of (4) vesta. Planetary and Space Science, 2014, 103, 57-65.	1.7	41
63	Constraining the cratering chronology of Vesta. Planetary and Space Science, 2014, 103, 131-142.	1.7	41
64	Tensile strength of 67P/Churyumovâ€“Gerasimenko nucleus material from overhangs. Astronomy and Astrophysics, 2018, 611, A33.	5.1	40
65	Spectral and mineralogical characterization of inner main-belt V-type asteroids. Astronomy and Astrophysics, 2011, 533, A77.	5.1	38
66	The various ages of Occator crater, Ceres: Results of a comprehensive synthesis approach. Icarus, 2019, 320, 60-82.	2.5	38
67	The geology of the Marcia quadrangle of asteroid Vesta: Assessing the effects of large, young craters. Icarus, 2014, 244, 74-88.	2.5	36
68	Elemental composition and mineralogy of Vesta and Ceres: Distribution and origins of hydrogen-bearing species. Icarus, 2019, 318, 42-55.	2.5	34
69	Interpreting the Cratering Histories of Bennu, Ryugu, and Other Spacecraft-explored Asteroids. Astronomical Journal, 2020, 160, 14.	4.7	34
70	A Global Inventory of Iceâ€Related Morphological Features on Dwarf Planet Ceres: Implications for the Evolution and Current State of the Cryosphere. Journal of Geophysical Research E: Planets, 2019, 124, 1650-1689.	3.6	33
71	Evidence for the Interior Evolution of Ceres from Geologic Analysis of Fractures. Geophysical Research Letters, 2017, 44, 9564-9572.	4.0	31
72	Boulders on asteroid Toutatis as observed by Changâ€™e-2. Scientific Reports, 2015, 5, 16029.	3.3	28

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73	The geology of the Kerwan quadrangle of dwarf planet Ceres: Investigating Ceresâ€™ oldest, largest impact basin. Icarus, 2018, 316, 99-113.	2.5	28
74	A re-assessment of the Kuiper belt size distribution for sub-kilometer objects, revealing collisional equilibrium at small sizes. Icarus, 2021, 356, 114256.	2.5	28
75	The chronostratigraphy of protoplanet Vesta. Icarus, 2014, 244, 158-165.	2.5	26
76	The geology of the occator quadrangle of dwarf planet Ceres: Floor-fractured craters and other geomorphic evidence of cryomagmatism. Icarus, 2018, 316, 128-139.	2.5	26
77	A compositionally heterogeneous martian mantle due to late accretion. Science Advances, 2020, 6, eaay2338.	10.3	24
78	Mercury's geochronology revised by applying Model Production Function to Mariner 10 data: Geological implications. Geophysical Research Letters, 2009, 36, .	4.0	23
79	Antipodal terrains created by the Rheasilvia basin forming impact on asteroid 4 Vesta. Journal of Geophysical Research E: Planets, 2013, 118, 1821-1834.	3.6	22
80	Ceresâ€™ Ezinu quadrangle: a heavily cratered region with evidence for localized subsurface water ice and the context of Occator crater. Icarus, 2018, 316, 46-62.	2.5	21
81	Lucy Mission to the Trojan Asteroids: Instrumentation and Encounter Concept of Operations. Planetary Science Journal, 2021, 2, 172.	3.6	21
82	Water Vapor Contribution to Ceres' Exosphere From Observed Surface Ice and Postulated Iceâ€Exposing Impacts. Journal of Geophysical Research E: Planets, 2019, 124, 61-75.	3.6	20
83	Impact heat driven volatile redistribution at Occator crater on Ceres as a comparative planetary process. Nature Communications, 2020, 11, 3679.	12.8	19
84	Hypervelocity Impact Experiments in Ironâ€Nickel Ingots and Iron Meteorites: Implications for the NASA Psyche Mission. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE005927.	3.6	18
85	Late movement of basin-edge lobate scarps on Mercury. Icarus, 2017, 288, 226-234.	2.5	16
86	Impact melting upon basin formation on early Mars. Icarus, 2021, 357, 114128.	2.5	16
87	Morphological Indicators of a Mascon Beneath Ceres's Largest Crater, Kerwan. Geophysical Research Letters, 2018, 45, 1297-1304.	4.0	15
88	Ceres Crater Degradation Inferred From Concentric Fracturing. Journal of Geophysical Research E: Planets, 2019, 124, 1188-1203.	3.6	15
89	Delayed and variable late Archaean atmospheric oxidation due to high collision rates on Earth. Nature Geoscience, 2021, 14, 827-831.	12.9	15
90	Age relationships of the Rembrandt basin and Enterprise Rupes, Mercury. Geological Society Special Publication, 2015, 401, 159-172.	1.3	14

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91	An Integrated Geologic Map of the Rembrandt Basin, on Mercury, as a Starting Point for Stratigraphic Analysis. Remote Sensing, 2020, 12, 3213.	4.0	14
92	Compositional control on impact crater formation on mid-sized planetary bodies: Dawn at Ceres and Vesta, Cassini at Saturn. Icarus, 2021, 359, 114343.	2.5	14
93	Detection of a Satellite of the Trojan Asteroid (3548) Eurybatesâ€"A Lucy Mission Target. Planetary Science Journal, 2020, 1, 44.	3.6	13
94	Distinguishing the Origin of Asteroid (16) Psyche. Space Science Reviews, 2022, 218, 17.	8.1	13
95	Massive impact-induced release of carbon and sulfur gases in the early Earth's atmosphere. Earth and Planetary Science Letters, 2016, 449, 96-104.	4.4	12
96	An endogenic origin of cerean organics. Earth and Planetary Science Letters, 2020, 534, 116069.	4.4	12
97	A New Martian Crater Chronology: Implications for Jezero Crater. Astronomical Journal, 2021, 161, 187.	4.7	12
98	Vesta, vestoids, and the HED meteorites: Interconnections and differences based on Dawn Framing Camera observations. Journal of Geophysical Research E: Planets, 2013, 118, 1991-2003.	3.6	11
99	Global variations in regolith properties on asteroid Vesta from Dawn's lowâ€altitude mapping orbit. Meteoritics and Planetary Science, 2016, 51, 2366-2386.	1.6	11
100	Convex Shape and Rotation Model of Lucy Target (11351) Leucus from Lightcurves and Occultations. Planetary Science Journal, 2020, 1, 73.	3.6	11
101	Impact Cratering of Mercury. , 2018, , 217-248.		10
102	The Orbit and Density of the Jupiter Trojan Satellite System Eurybatesâ€"Queta. Planetary Science Journal, 2021, 2, 170.	3.6	10
103	Age dating of an extensive thrust system on Mercury: implications for the planet's thermal evolution. Geological Society Special Publication, 2015, 401, 291-311.	1.3	9
104	Mineralogy of Marcia, the youngest large crater of Vesta: Character and distribution of pyroxenes and hydrated material. Icarus, 2015, 248, 392-406.	2.5	9
105	Dark primitive asteroids account for a large share of K/Pg-scale impacts on the Earth. Icarus, 2021, 368, 114621.	2.5	9
106	Origin and Dynamical Evolution of the Asteroid Belt. , 2022, , 227-249.		9
107	Laboratory impact experiments with decimeter-to meter-scale targets to measure momentum enhancement. Planetary and Space Science, 2019, 178, 104694.	1.7	8
108	Suggestion that recent (â‰ 3ÂGa) flux of kilometer and larger impactors in the Earth-Moon system has not been constant. Icarus, 2021, 355, 114110.	2.5	7

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109	A young age of formation of Rheasilvia basin on Vesta from floor deformation patterns and crater counts. Meteoritics and Planetary Science, 2022, 57, 22-47.	1.6	6
110	The Chaotic Terrains of Mercury Reveal a History of Planetary Volatile Retention and Loss in the Innermost Solar System. Scientific Reports, 2020, 10, 4737.	3.3	5
111	NASA's Lucy Mission to the Trojan Asteroids. , 2021, , .		4
112	The Psyche Topography and Geomorphology Investigation. Space Science Reviews, 2022, 218, 1.	8.1	4
113	Determining the Relative Cratering Ages of Regions of Psycheâ€™s Surface. Space Science Reviews, 2022, 218, 1.	8.1	4
114	Formation of Main Belt Asteroids. , 2022, , 199-211.		3
115	Replenishment of Nearâ€Surface Water Ice by Impacts Into Ceres' Volatileâ€Rich Crust: Observations by Dawn's Gamma Ray and Neutron Detector. Geophysical Research Letters, 2021, 48, e2021GL094223.	4.0	2
116	Spectroscopic study of Ceres' collisional family candidates. Astronomy and Astrophysics, 0, , .	5.1	2
117	Protoplanet Vesta and HED Meteorites. , 2022, , 41-52.		2
118	Ceresâ€™ Broadâ€Scale Surface Geomorphology Largely Due To Asymmetric Internal Convection. AGU Advances, 2022, 3, .	5.4	2
119	Lucy in the sky with Trojan asteroids. Nature Astronomy, 0, , .	10.1	1
120	Collisional Evolution of the Main Belt as Recorded by Vesta. , 2022, , 250-261.		1
121	Isotopic Constraints on the Formation of the Main Belt. , 2022, , 212-226.		1
122	Vestaâ€™s many ties to Earth. Nature Astronomy, 2021, 5, 1214-1215.	10.1	1
123	Ceres and Pluto. , 2021, , 150-159.		0
124	Carbon and Organic Matter on Ceres. , 2022, , 121-133.		0
125	Geomorphology of Ceres. , 2022, , 143-158.		0
126	Ceresâ€™ Surface Composition. , 2022, , 105-120.		0

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127	Ammonia on Ceres. , 2022, , 134-142.		0
128	Geophysics of Vesta and Ceres. , 2022, , 173-196.		0
129	The Surface Composition of Vesta. , 2022, , 81-104.		0
130	Remote Observations of the Main Belt. , 2022, , 3-25.		0
131	Geomorphology of Vesta. , 2022, , 67-80.		0
132	Ceresâ€™ Internal Evolution. , 2022, , 159-172.		0
133	Exploring Vesta and Ceres. , 2022, , 26-38.		0