

Stéphane Erard

List of Publications by Year in descending order

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106
papers

5,612
citations

66343

42
h-index

79698

73
g-index

116
all docs

116
docs citations

116
times ranked

3623
citing authors

#	ARTICLE	IF	CITATIONS
1	Phyllosilicates on Mars and implications for early martian climate. <i>Nature</i> , 2005, 438, 623-627.	27.8	825
2	The organic-rich surface of comet 67P/Churyumov-Gerasimenko as seen by VIRTIS/Rosetta. <i>Science</i> , 2015, 347, aaa0628.	12.6	293
3	The diurnal cycle of water ice on comet 67P/Churyumov-Gerasimenko. <i>Nature</i> , 2015, 525, 500-503.	27.8	199
4	Virtis: An Imaging Spectrometer for the Rosetta Mission. <i>Space Science Reviews</i> , 2007, 128, 529-559.	8.1	181
5	Scientific goals for the observation of Venus by VIRTIS on ESA/Venus express mission. <i>Planetary and Space Science</i> , 2007, 55, 1653-1672.	1.7	155
6	Refractory and semi-volatile organics at the surface of comet 67P/Churyumov-Gerasimenko: Insights from the VIRTIS/Rosetta imaging spectrometer. <i>Icarus</i> , 2016, 272, 32-47.	2.5	127
7	Results from the ISM experiment. <i>Nature</i> , 1989, 341, 591-593.	27.8	124
8	Variable winds on Venus mapped in three dimensions. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	119
9	Ammonium salts are a reservoir of nitrogen on a cometary nucleus and possibly on some asteroids. <i>Science</i> , 2020, 367, .	12.6	115
10	The surface of Syrtis Major: Composition of the volcanic substrate and mixing with altered dust and soil. <i>Journal of Geophysical Research</i> , 1993, 98, 3387-3400.	3.3	112
11	South-polar features on Venus similar to those near the north pole. <i>Nature</i> , 2007, 450, 637-640.	27.8	110
12	The Surface Composition and Temperature of Asteroid 21 Lutetia As Observed by Rosetta/VIRTIS. <i>Science</i> , 2011, 334, 492-494.	12.6	110
13	Exposed water ice on the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Nature</i> , 2016, 529, 368-372.	27.8	104
14	In situ compositions of Martian volcanics: Implications for the mantle. <i>Journal of Geophysical Research</i> , 1997, 102, 25605-25615.	3.3	97
15	A dynamic upper atmosphere of Venus as revealed by VIRTIS on Venus Express. <i>Nature</i> , 2007, 450, 641-645.	27.8	95
16	Spectral Properties and Heterogeneity of Phobos from Measurements by Phobos 2. <i>Icarus</i> , 1996, 123, 63-86.	2.5	91
17	Spatial Variations in the Spectral Properties of Bright Regions on Mars. <i>Icarus</i> , 1993, 105, 454-468.	2.5	89
18	Nonlinear spectral mixing: Quantitative analysis of laboratory mineral mixtures. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	89

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19	Three-dimensional direct simulation Monte-Carlo modeling of the coma of comet 67P/Churyumov-Gerasimenko observed by the VIRTIS and ROSINA instruments on board Rosetta. <i>Astronomy and Astrophysics</i> , 2016, 588, A134.	5.1	88
20	Direct Simulation Monte Carlo modelling of the major species in the coma of comet 67P/Churyumov-Gerasimenko. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S156-S169.	4.4	87
21	First detection of hydroxyl in the atmosphere of Venus. <i>Astronomy and Astrophysics</i> , 2008, 483, L29-L33.	5.1	86
22	Venus surface thermal emission at 1 μm in VIRTIS imaging observations: Evidence for variation of crust and mantle differentiation conditions. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	84
23	The 2.4 μm spectrum of Mars observed with the infrared space observatory. <i>Planetary and Space Science</i> , 2000, 48, 1393-1405.	1.7	79
24	New Composite Spectra of Mars, 0.4 μm –5.7 μm . <i>Icarus</i> , 1997, 130, 449-460.	2.5	78
25	First observations of H_2O and CO_2 vapor in comet 67P/Churyumov-Gerasimenko made by VIRTIS onboard Rosetta. <i>Astronomy and Astrophysics</i> , 2015, 583, A6.	5.1	77
26	Virtis : an imaging spectrometer for the rosetta mission. <i>Planetary and Space Science</i> , 1998, 46, 1291-1304.	1.7	72
27	Discrimination between maturity and composition of lunar soils from integrated Clementine UV-visible/near-infrared data: Application to the Aristarchus Plateau. <i>Journal of Geophysical Research</i> , 2000, 105, 9445-9455.	3.3	72
28	Evolution of CO_2 , CH_4 , and OCS abundances relative to H_2O in the coma of comet 67P around perihelion from Rosetta/VIRTIS-H observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, S170-S183.	4.4	72
29	Photometric properties of comet 67P/Churyumov-Gerasimenko from VIRTIS-M onboard Rosetta. <i>Astronomy and Astrophysics</i> , 2015, 583, A31.	5.1	71
30	SIMBIO-SYS: The spectrometer and imagers integrated observatory system for the BepiColombo planetary orbiter. <i>Planetary and Space Science</i> , 2010, 58, 125-143.	1.7	70
31	Detection of exposed H_2O ice on the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2016, 595, A102.	5.1	67
32	Water and carbon dioxide distribution in the 67P/Churyumov-Gerasimenko coma from VIRTIS-M infrared observations. <i>Astronomy and Astrophysics</i> , 2016, 589, A45.	5.1	62
33	Investigation into the disparate origin of CO_2 and H_2O outgassing for Comet 67P. <i>Icarus</i> , 2016, 277, 78-97.	2.5	61
34	Seasonal exposure of carbon dioxide ice on the nucleus of comet 67P/Churyumov-Gerasimenko. <i>Science</i> , 2016, 354, 1563-1566.	12.6	61
35	Physical properties of (2) Pallas. <i>Icarus</i> , 2010, 205, 460-472.	2.5	58
36	Comet 67P outbursts and quiescent coma at 1.3 au from the Sun: dust properties from Rosetta/VIRTIS-H observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S443-S458.	4.4	56

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37	Martian Aerosols: Near-Infrared Spectral Properties and Effects on the Observation of the Surface. <i>Icarus</i> , 1994, 111, 317-337.	2.5	55
38	Venus's Southern Polar Vortex Reveals Precessing Circulation. <i>Science</i> , 2011, 332, 577-580.	12.6	54
39	The global surface composition of 67P/CG nucleus by Rosetta/VIRTIS. (I) Prelanding mission phase. <i>Icarus</i> , 2016, 274, 334-349.	2.5	54
40	Distribution of the O ₂ infrared nightglow observed with VIRTIS on board Venus Express. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	50
41	SIMBIO-SYS: Scientific Cameras and Spectrometer for the BepiColombo Mission. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	47
42	Minor constituents in the Martian atmosphere from the ISM/Phobos experiment. <i>Icarus</i> , 1992, 98, 254-270.	2.5	42
43	PHEBUS: A double ultraviolet spectrometer to observe Mercury's exosphere. <i>Planetary and Space Science</i> , 2010, 58, 201-223.	1.7	42
44	Infrared detection of aliphatic organics on a cometary nucleus. <i>Nature Astronomy</i> , 2020, 4, 500-505.	10.1	41
45	The Aristarchus Plateau on the Moon: Mineralogical and structural study from integrated Clementine UV-Vis-NIR spectral data. <i>Icarus</i> , 2009, 199, 9-24.	2.5	36
46	An orbital water-ice cycle on comet 67P from colour changes. <i>Nature</i> , 2020, 578, 49-52.	27.8	36
47	Reflectance spectra of regolith analogs in the mid-infrared: effects of grain size. <i>Planetary and Space Science</i> , 2003, 51, 281-294.	1.7	34
48	The changing temperature of the nucleus of comet 67P induced by morphological and seasonal effects. <i>Nature Astronomy</i> , 2019, 3, 649-658.	10.1	34
49	Mercury's surface and composition to be studied by BepiColombo. <i>Planetary and Space Science</i> , 2010, 58, 21-39.	1.7	31
50	Thermal properties of the asteroid (2867) Steins as observed by VIRTIS/Rosetta. <i>Astronomy and Astrophysics</i> , 2011, 531, A168.	5.1	29
51	Rotation period of Venus estimated from Venus Express VIRTIS images and Magellan altimetry. <i>Icarus</i> , 2012, 217, 474-483.	2.5	28
52	Dwarf planet Ceres: Ellipsoid dimensions and rotational pole from Keck and VLT adaptive optics images. <i>Icarus</i> , 2014, 236, 28-37.	2.5	28
53	VESPA: A community-driven Virtual Observatory in Planetary Science. <i>Planetary and Space Science</i> , 2018, 150, 65-85.	1.7	28
54	Martian atmosphere studies from the ISM experiment. <i>Planetary and Space Science</i> , 1991, 39, 189-197.	1.7	27

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55	Limb observations of CO ₂ and CO non- Λ TE emissions in the Venus atmosphere by VIRTIS/Venus Express. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	27
56	The Planetary Virtual Observatory and Laboratory (PVOL) and its integration into the Virtual European Solar and Planetary Access (VESPA). <i>Planetary and Space Science</i> , 2018, 150, 22-35.	1.7	25
57	The distribution of olivine in the Crater Aristarchus inferred from Clementine NIR data. <i>Geophysical Research Letters</i> , 1999, 26, 1195-1198.	4.0	23
58	Laboratory simulations of the Vis-NIR spectra of comet 67P using sub- μ m sized cosmochemical analogues. <i>Icarus</i> , 2018, 306, 306-318.	2.5	23
59	How pristine is the interior of the comet 67P/Churyumov-Gerasimenko?. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S685-S694.	4.4	22
60	The Martian Surface Composition. <i>Space Science Reviews</i> , 2001, 96, 293-316.	8.1	21
61	The EPN-TAP protocol for the Planetary Science Virtual Observatory. <i>Astronomy and Computing</i> , 2014, 7-8, 52-61.	1.7	20
62	Summer outbursts in the coma of comet 67P/Churyumov-Gerasimenko as observed by Rosetta-VIRTIS. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 481, 1235-1250.	4.4	20
63	Multivariate analysis of Visible and Infrared Thermal Imaging Spectrometer (VIRTIS) Venus Express nightside and limb observations. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	19
64	A new data reduction approach for the Clementine NIR data set: Application to Aristillus, Aristarchus and Kepler. <i>Journal of Geophysical Research</i> , 1999, 104, 3833-3843.	3.3	18
65	A Spectro-Photometric Model of Mars in the near-infrared. <i>Geophysical Research Letters</i> , 2001, 28, 1291-1294.	4.0	18
66	Science data visualization in planetary and heliospheric contexts with 3DView. <i>Planetary and Space Science</i> , 2018, 150, 111-130.	1.7	18
67	VIRTIS-H observations of the dust coma of comet 67P/Churyumov-Gerasimenko: spectral properties and color temperature variability with phase and elevation. <i>Astronomy and Astrophysics</i> , 2019, 630, A22.	5.1	17
68	Photometric behaviour of 67P/Churyumov-Gerasimenko and analysis of its pre-perihelion diurnal variations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2017, 469, S346-S356.	4.4	16
69	Topography of the Martian tropical regions with ISM. <i>Planetary and Space Science</i> , 1991, 39, 225-236.	1.7	15
70	ISM observation of Phobos reinvestigated: Identification of a mixture of olivine and low-calcium pyroxene. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	14
71	The 1994-1995 apparition of Mars observed from Pic-du-Midi. <i>Planetary and Space Science</i> , 2000, 48, 1271-1287.	1.7	13
72	A new view of dark Martian regions from geomorphic and spectroscopic analysis of Syrtis Major. <i>Astronomy and Astrophysics</i> , 2003, 412, L19-L23.	5.1	13

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73	The temporal evolution of exposed water ice-rich areas on the surface of 67P/Churyumov-Gerasimenko: spectral analysis. Monthly Notices of the Royal Astronomical Society, 0, , stw3281.	4.4	13
74	The light curve of asteroid 21 Lutetia measured by VIRTIS-M during the Rosetta fly-by. Planetary and Space Science, 2012, 66, 9-22.	1.7	12
75	Rosetta Alice/VIRTIS observations of the water vapour UV electroglow emissions around comet 67P/Churyumov-Gerasimenko. Monthly Notices of the Royal Astronomical Society, 2017, 469, S416-S426.	4.4	12
76	Cometary coma dust size distribution from in situ IR spectra. Monthly Notices of the Royal Astronomical Society, 2017, 469, S598-S605.	4.4	12
77	The light curve of asteroid 2867 Steins measured by VIRTIS-M during the Rosetta fly-by. Planetary and Space Science, 2010, 58, 1066-1076.	1.7	11
78	Exocam: Mars in a box to simulate soil-atmosphere interactions. Advances in Space Research, 2001, 27, 189-193.	2.6	10
79	Martian atmosphere as observed by VIRTIS-M on Rosetta spacecraft. Journal of Geophysical Research, 2010, 115, .	3.3	10
80	Planetary Science Virtual Observatory architecture. Astronomy and Computing, 2014, 7-8, 71-80.	1.7	10
81	and seasonal variability. Monthly Notices of the Royal Astronomical Society, 0, , stw3177.	4.4	10
82	METALLIC SPECIES IN MERCURY'S EXOSPHERE: EMMI/NEW TECHNOLOGY TELESCOPE OBSERVATIONS. Astronomical Journal, 2009, 137, 3859-3863.	4.7	9
83	Diurnal variation of dust and gas production in comet 67P/Churyumov-Gerasimenko at the inbound equinox as seen by OSIRIS and VIRTIS-M on board Rosetta. Astronomy and Astrophysics, 2019, 630, A23.	5.1	9
84	The Mars flyby of ROSETTA: an opportunity for infrared and microwave high-resolution sounding. Planetary and Space Science, 2001, 49, 673-687.	1.7	8
85	Description, accessibility and usage of SOIR/Venus Express atmospheric profiles of Venus distributed in VESPA (Virtual European Solar and Planetary Access). Planetary and Space Science, 2018, 150, 60-64.	1.7	8
86	Analysis of night-side dust activity on comet 67P observed by VIRTIS-M: a new method to constrain the thermal inertia on the surface. Astronomy and Astrophysics, 2019, 630, A21.	5.1	8
87	67P/Churyumov-Gerasimenko active areas before perihelion identified by GIADA and VIRTIS data fusion. Monthly Notices of the Royal Astronomical Society, 2019, 483, 2165-2176.	4.4	8
88	Analysis of thermal emission from the nightside of Venus at 1.51 and 1.55 μ m. Icarus, 2009, 201, 814-817.	2.5	7
89	Resolved spectroscopy of Mercury in the near-IR with SpeX/IRTF. Icarus, 2010, 209, 125-137.	2.5	7
90	Virtual European Solar & Planetary Access (VESPA): A Planetary Science Virtual Observatory Cornerstone. Data Science Journal, 2020, 19, .	1.3	7

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91	Observation of pressure variations in the Martian atmosphere. <i>Geophysical Research Letters</i> , 2003, 30, n/a-n/a.	4.0	6
92	History of telescopic observations of the Martian satellites. <i>Planetary and Space Science</i> , 2014, 102, 2-8.	1.7	6
93	MARS-IRMA: in-situ infrared microscope analysis of Martian soil and rock samples.. <i>Advances in Space Research</i> , 2001, 28, 1219-1224.	2.6	5
94	Mars Crater Database: A participative project for the classification of the morphological characteristics of large Martian craters. , 2021, , 629-644.		5
95	The Martian Surface Composition. <i>Space Sciences Series of ISSI</i> , 2001, , 293-316.	0.0	5
96	VIRTIS on Rosetta: a unique technique to observe comet 67P/Churyumov-Gerasimenko " first results and prospects. <i>Proceedings of SPIE</i> , 2015, , .	0.8	4
97	Production and 3D visualization of high-level data of minor bodies: The MATISSE tool in the framework of VESPA-Europlanet 2020 activity. <i>Advances in Space Research</i> , 2018, 62, 2317-2325.	2.6	4
98	MASER: A Science Ready Toolbox for Low Frequency Radio Astronomy. <i>Data Science Journal</i> , 2020, 19, .	1.3	4
99	Numerical simulation of the visible and near infrared radiance of Mars: effects of atmospheric scattering. <i>Advances in Space Research</i> , 2004, 34, 1683-1689.	2.6	3
100	VIRTIS: An Imaging Spectrometer for the ROSETTA Mission. , 2009, , 563-585.		3
101	Water ortho-to-para ratio in the coma of comet 67P/Churyumov-Gerasimenko. <i>Astronomy and Astrophysics</i> , 2022, 663, A43.	5.1	3
102	Virtis-H: an infrared spectrometer for the Rosetta mission -- calibration results. , 2002, 4818, 14.		2
103	Mercury resolved spectroscopy from NTT. <i>Planetary and Space Science</i> , 2011, 59, 1842-1852.	1.7	2
104	Properties of the dust in the coma of 67P/Churyumov-Gerasimenko observed with VIRTIS- M. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, , stw3197.	4.4	2
105	FITS Format for Planetary Surfaces: Definitions, Applications, and Best Practices. <i>Earth and Space Science</i> , 2018, 5, 640-651.	2.6	2
106	Bridging the Gap Between Geographical Information Systems and Planetary Virtual Observatory. <i>Earth and Space Science</i> , 2019, 6, 515-526.	2.6	1