Alain Herique

List of Publications by Year
in descending order

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88	2,972	186265 28	168389 53
papers	citations	h-index	g-index

98	98	98	2141
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Radar Soundings of the Subsurface of Mars. Science, 2005, 310, 1925-1928.	12.6	327
2	The landing(s) of Philae and inferences about comet surface mechanical properties. Science, 2015, 349, aaa9816.	12.6	212
3	Properties of the 67P/Churyumov-Gerasimenko interior revealed by CONSERT radar. Science, 2015, 349, aab0639.	12.6	178
4	North polar deposits of Mars: Extreme purity of the water ice. Geophysical Research Letters, 2009, 36, .	4.0	129
5	European component of the AIDA mission to a binary asteroid: Characterization and interpretation of the impact of the DART mission. Advances in Space Research, 2018, 62, 2261-2272.	2.6	118
6	The Comet Nucleus Sounding Experiment by Radiowave Transmission (CONSERT): A Short Description of the Instrument and of the Commissioning Stages. Space Science Reviews, 2007, 128, 413-432.	8.1	116
7	Estimation of the total electron content of the Martian ionosphere using radar sounder surface echoes. Geophysical Research Letters, 2007, 34, .	4.0	115
8	Science case for the Asteroid Impact Mission (AIM): A component of the Asteroid Impact & Deflection Assessment (AIDA) mission. Advances in Space Research, 2016, 57, 2529-2547.	2.6	95
9	Comet nucleus sounding experiment by radiowave transmission. Advances in Space Research, 1998, 21, 1589-1598.	2.6	90
10	The 3â€“5MHz global reflectivity map of Mars by MARSIS/Mars Express: Implications for the current inventory of subsurface H2O. Icarus, 2010, 210, 612-625.	2.5	82
11	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. Planetary Science Journal, 2022, 3, 160.	3.6	82
12	TandEM: Titan and Enceladus mission. Experimental Astronomy, 2009, 23, 893-946.	3.7	77
13	Radar signal simulation: Surface modeling with the Facet Method. Radio Science, 2004, 39, n/a-n/a.	1.6	75
14	Impact of Mars ionosphere on orbital radar sounder operation and data processing. Planetary and Space Science, 2003, 51, 505-515.	1.7	70
15	Correction of the ionospheric distortion on the MARSIS surface sounding echoes. Planetary and Space Science, 2008, 56, 917-926.	1.7	68
16	Dust-to-Gas and Refractory-to-Ice Mass Ratios of Comet 67P/Churyumov-Gerasimenko from Rosetta Observations. Space Science Reviews, 2020, 216, 1.	8.1	61
17	Cosmochemical implications of CONSERT permittivity characterization of 67P/CG. Monthly Notices of the Royal Astronomical Society, 2016, 462, S516-S532.	4.4	59
18	The refractory-to-ice mass ratio in comets. Monthly Notices of the Royal Astronomical Society, 2019, 482, 3326-3340.	4.4	59

#	Article	IF	Citations
19	Direct observations of asteroid interior and regolith structure: Science measurement requirements. Advances in Space Research, 2018, 62, 2141-2162.	2.6	54
20	Quantitative analysis of Mars surface radar reflectivity at 20MHz. Icarus, 2012, 220, 84-99.	2.5	52
21	Radar properties of comets: Parametric dielectric modeling of Comet 67P/Churyumovâ€“Gerasimenko. Icarus, 2012, 221, 925-939.	2.5	50
22	The WISDOM Radar: Unveiling the Subsurface Beneath the ExoMars Rover and Identifying the Best Locations for Drilling. Astrobiology, 2017, 17, 565-584.	3.0	50
23	A characterization of a comet nucleus interior:. Planetary and Space Science, 1999, 47, 885-904.	1.7	42
24	Dielectric properties of comet analog refractory materials. Planetary and Space Science, 2002, 50, 857-863.	1.7	41
25	CONSERT suggests a change in local properties of 67P/Churyumov-Gerasimenkoâ€™s nucleus at depth. Astronomy and Astrophysics, 2015, 583, A40.	5.1	37
26	Natural radio emission of Jupiter as interferences for radar investigations of the icy satellites of Jupiter. Planetary and Space Science, 2012, 61, 32-45.	1.7	35
27	Microwave imaging from experimental data within a Bayesian framework with realistic random noise. Inverse Problems, 2009, 25, 024005.	2.0	34
28	A two dimensional simulation of the CONSERT experiment (radio tomography of comet Wirtanen). Advances in Space Research, 1999, 24, 1127-1138.	2.6	30
29	Detectability of subsurface interfaces in lunar maria by the LRS/SELENE sounding radar: Influence of mineralogical composition. Geophysical Research Letters, 2010, 37, .	4.0	29
30	A porosity gradient in 67P/C-G nucleus suggested from CONSERT and SESAME-PP results: an interpretation based on new laboratory permittivity measurements of porous icy analogues. Monthly Notices of the Royal Astronomical Society, 2016, 462, S89-S98.	4.4	29
31	MARSIS surface reflectivity of the south residual cap of Mars. Icarus, 2009, 201, 454-459.	2.5	28
32	The Castalia mission to Main Belt Comet 133P/Elst-Pizarro. Advances in Space Research, 2018, 62, 1947-1976.	2.6	27
33	Rosetta lander Philae: Flight Dynamics analyses for landing site selection and post-landing operations. Acta Astronautica, 2016, 125, 65-79.	3.2	26
34	Homogeneity of 67P/Churyumov-Gerasimenko as seen by CONSERT: implication on composition and formation. Astronomy and Astrophysics, 2019, 630, A6.	5.1	23
35	Computing lowâ€frequency radar surface echoes for planetary radar using Huygensâ€Fresnel's principle. Radio Science, 2015, 50, 1097-1109.	1.6	21
36	CONSERT constrains the internal structure of 67P at a few metres size scale. Monthly Notices of the Royal Astronomical Society, 2017, 469, S805-S817.	4.4	21

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37	Constraints on the subsurface structure and density of the nucleus of Comet 67P/Churyumov-Gerasimenko from Arecibo radar observations. Astronomy and Astrophysics, 2014, 568, A21.	5.1	19
38	Philae localization from CONSERT/Rosetta measurement. Planetary and Space Science, 2015, 117, 475-484.	1.7	18
39	DePhine â€“ The Deimos and Phobos Interior Explorer. Advances in Space Research, 2018, 62, 2220-2238.	2.6	17
40	The Global Search for Liquid Water on Mars from Orbit: Current and Future Perspectives. Life, 2020, 10, 120.	2.4	16
41	Large asymmetric polar scarps on Planum Australe, Mars: Characterization and evolution. Icarus, 2011, 212, 96-109.	2.5	15
42	A study on Ganymede's surface topography: Perspectives for radar sounding. Planetary and Space Science, 2013, 77, 40-44.	1.7	14
43	MASCOT2 â€“ A small body lander to investigate the interior of 65803 Didymosâ€² moon in the frame of the AIDA/AIM mission. Acta Astronautica, 2018, 149, 25-34.	3.2	14
44	Determination of the ice dielectric permittivity using the data of the test in Antarctica of the ground-penetrating radar for Mars'98 mission. IEEE Transactions on Geoscience and Remote Sensing, 1997, 35, 1338-1349.	6.3	13
45	A radar package for asteroid subsurface investigations: Implications of implementing and integration into the MASCOT nanoscale landing platform from science requirements to baseline design. Acta Astronautica, 2019, 156, 317-329.	3.2	12
46	The interior of Comet 67P/Câ€“G; revisiting CONSERT results with the exact position of the Philae lander. Monthly Notices of the Royal Astronomical Society, 2020, 497, 2616-2622.	4.4	12
47	The Basal Detectability of an Iceâ€Covered Mars by MARSIS. Geophysical Research Letters, 2022, 49, .	4.0	12
48	The CONSERT operations planning process for the Rosetta mission. Acta Astronautica, 2016, 125, 212-233.	3.2	11
49	The WISDOM radar on board the ExoMars 2022 Rover: Characterization and calibration of the flight model. Planetary and Space Science, 2020, 189, 104939.	1.7	11
50	Three-dimensional reconstruction of a comet nucleus by optimal control of Maxwell's equations: A contribution to the experiment CONSERT onboard space craft Rosetta. , 2010, , .		9
51	The Subsurface Structure and Density of Cometary Nuclei. Space Science Reviews, 2015, 197, 85-99.	8.1	9
52	Oversampled Pulse Compression Based on Signal Modeling: Application to CONSERT/Rosetta Radar. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 2225-2238.	6.3	9
53	Imaging the interior of a comet from bistatic microwave measurements: Case of a scale comet model. Advances in Space Research, 2018, 62, 1977-1986.	2.6	9
54	The search campaign to identify and image the Philae Lander on the surface of comet 67P/Churyumov-Gerasimenko. Acta Astronautica, 2019, 157, 199-214.	3.2	9

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55	A spaceborne ground penetrating radar: MIMOSA. , 0, , .		8
56	Top layers charaterization of the Martian surface: Permittivity estimation based on geomorphology analysis. Planetary and Space Science, 2006, 54, 337-344.	1.7	8
57	MEP (Mars Environment Package): toward a package for studying environmental conditions at the surface of Mars from future lander/rover missions. Advances in Space Research, 2004, 34, 1702-1709.	2.6	7
58	Rosetta rendezvous and CONSERT operations in 2014: A chimeric surface model of 67P/Churyumov Gerasimenko. Planetary and Space Science, 2012, 67, 84-91.	1.7	4
59	Operation of CONSERT aboard Rosetta during the descent of Philae. Planetary and Space Science, 2013, 89, 151-158.	1.7	4
60	CONSERT line-of-sight link budget simulator. Planetary and Space Science, 2015, 111, 55-61.	1.7	4
61	Observations of the surface of Titan by the Radar Altimeters on the Huygens Probe. Icarus, 2016, 270, 248-259.	2.5	4
62	Reconstruction of the flight and attitude of Rosetta's lander Philae. Acta Astronautica, 2017, 140, 509-516.	3.2	4
63	Post-rendezvous radar properties of comet 67P/CG from the Rosetta Mission: understanding future Earth-based radar observations and the dynamical evolution of comets. Monthly Notices of the Royal Astronomical Society, 2019, 489, 1667-1683.	4.4	4
64	AMBITION â€“ comet nucleus cryogenic sample return. Experimental Astronomy, 2022, 54, 1077-1128.	3.7	4
65	3D Time-domain electromagnetic full waveform inversion in Debye dispersive medium accelerated by multi-GPU paralleling. Computer Physics Communications, 2021, 265, 108002.	7.5	4
66	Optimal windows for step frequency radar. Signal Processing, 1997, 62, 335-349.	3.7	3
67	Radio wave back-propagating in polar coordinates: A linear filter in the time-frequency angle-frequency domain. Radio Science, 1999, 34, 509-519.	1.6	3
68	Towards Asteroid Tomography: Modellings and Measurements Using an Analogue Model. , 2020, , .		3
69	Complex-structured 3D-printed wireframes as asteroid analogues for tomographic microwave radar measurements. Materials and Design, 2021, 198, 109364.	7.0	3
70	Ultraâ€Wideband SAR Tomography on Asteroids. Radio Science, 2021, 56, e2020RS007186.	1.6	3
71	Rosetta CONSERT Data as a Testbed for In Situ Navigation of Space Probes and Radiosciences in Orbit/Escort Phases for Small Bodies of the Solar System. Remote Sensing, 2021, 13, 3747.	4.0	2
72	Angular and radial sampling criteria for monostatic and bistatic radar tomography of solar system small bodies. Advances in Space Research, 2021, 68, 3903-3924.	2.6	2

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73	SPRATS: a versatile Simulation and Processing RAdar ToolS for planetary missions. , 2020, , .		2
74	Marsis radar signal simulation. , 0, , .		1
75	Surface echo reduction by clutter simulation, application to the Marsis data. , 2009, , .		1
76	PSTD-based approach to a large-scale inverse scattering problem. , 2011, , .		1
77	Imaging of a scaled comet model from lab experiments. , 2014, , .		1
78	Clock stability for low frequency radar tomography of asteroids. , 2017, , .		1
79	Long term simulations for bi-static radar and test bench design. , 2018, , .		1
80	The Comet Nucleus Sounding Experiment by Radio-wave Transmission (CONSERT). , 2009, , 1-17.		1
81	Performances of the Passive SAR Imaging of Jupiterâ€™s Icy Moons. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-13.	6.3	1
82	Calibration of the CONSERT/ROSETTA radar. , 0, , .		0
83	The CONSERT operations planning process for the Rosetta mission. , 2018, , .		0
84	Imaging the interior of small Solar bodies: towards a quantitative approach. , 2019, , .		0
85	EI + FWI Method for Reconstructing Interior Structure of Asteroid Using Lander-to-Orbiter Bistatic Radar System. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-16.	6.3	0
86	Time analysis for a bistatic radar for asteroid tomography: simulations and test bench. CEAS Space Journal, 2021, 13, 653-664.	2.3	0
87	The Subsurface Structure and Density of Cometary Nuclei. , 2017, , 85-99.		0
88	Imaging the inner structure of a comet from few measurements in a bistatic scenario: case of a scale model.. , 2018, , .		0