Veronique Dehant

List of Publications by Year
in descending order

107 papers	3,613 citations	117571 34 h-index	155592 55 g-index
112 all docs	112 docs citations	112 times ranked	2363 citing authors

#	Article	IF	Citations
1	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	5.4	274
2	SEIS: Insightâ€™s Seismic Experiment for Internal Structure of Mars. Space Science Reviews, 2019, 215, 12.	3.7	238
3	Geodesy constraints on the interior structure and composition of Mars. Icarus, 2011, 213, 451-472.	1.1	183
4	Outgassing History and Escape of the Martian Atmosphere and Water Inventory. Space Science Reviews, 2013, 174, 113-154.	3.7	159
5	First numerical ephemerides of the Martian moons. Astronomy and Astrophysics, 2007, 465, 1075-1084.	2.1	106
6	Atmospheric Science with InSight. Space Science Reviews, 2018, 214, 1.	3.7	88
7	Pre-mission InSights on the Interior of Mars. Space Science Reviews, 2019, 215, 1.	3.7	85
8	Precise mass determination and the nature of Phobos. Geophysical Research Letters, 2010, 37, .	1.5	74
9	Analytical approach to the computation of the Earth, the outer core and the inner core rotational motions. Physics of the Earth and Planetary Interiors, 1993, 76, 259-282.	0.7	72
10	Interior structure of terrestrial planets: Modeling Mars' mantle and its electromagnetic, geodetic, and seismic properties. Journal of Geophysical Research, 2005, 110, .	3.3	68
11	Martian gravity field model and its time variations from MGS and Odyssey data. Planetary and Space Science, 2009, 57, 350-363.	0.9	66
12	RDAN97: An Analytical Development of Rigid Earth Nutation Series Using the Torque Approach. Celestial Mechanics and Dynamical Astronomy, 1998, 70, 215-253.	0.5	65
13	The Rotation and Interior Structure Experiment on the InSight Mission to Mars. Space Science Reviews, 2018, 214, 1.	3.7	64
14	Internal Loading of an Inhomogeneous Compressible Earth With Phase Boundaries. Geophysical Journal International, 1996, 125, 173-192.	1.0	61
15	The NetLander very broad band seismometer. Planetary and Space Science, 2000, 48, 1289-1302.	0.9	61
16	Planetary Magnetic Dynamo Effect on Atmospheric Protection of Early Earth and Mars. Space Science Reviews, 2007, 129, 279-300.	3.7	53
17	Tidally induced surface displacements, external potential variations, and gravity variations on Mars. Icarus, 2003, 161, 281-296.	1.1	52
18	Penetrators for in situ subsurface investigations of Europa. Advances in Space Research, 2011, 48, 725-742.	1.2	51

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19	Constraints on the coupling at the core-mantle and inner core boundaries inferred from nutation observations. Geophysical Journal International, 2010, 182, 1279-1294.	1.0	47
20	Network science landers for Mars. Advances in Space Research, 1999, 23, 1915-1924.	1.2	46
21	Mars rotation variations induced by atmosphere and ice caps. Journal of Geophysical Research, 2000, 105, 24563-24570.	3.3	45
22	Integration of the gravitational motion equations for an elliptical uniformly rotating earth with an inelastic mantle. Physics of the Earth and Planetary Interiors, 1987, 49, 242-258.	0.7	42
23	The Effect of Mantle Inelasticity On Tidal Gravity: A Comparison Between the Spherical and the Elliptical Earth Model. Geophysical Journal International, 1989, 97, 549-555.	1.0	41
24	Considerations concerning the non-rigid Earth nutation theory. Celestial Mechanics and Dynamical Astronomy, 1998, 72, 245-309.	0.5	41
25	Atmospheric torque on the Earth and comparison with atmospheric angular momentum variations. Journal of Geophysical Research, 1999, 104, 4861-4875.	3.3	41
26	New constraints on Mars rotation determined from radiometric tracking of the Opportunity Mars Exploration Rover. Icarus, 2014, 229, 340-347.	1.1	41
27	Influence of the inner core viscosity on the rotational eigenmodes of the Earth. Physics of the Earth and Planetary Interiors, 2000, 122, 187-204.	0.7	40
28	Accurate Mars Express orbits to improve the determination of the mass and ephemeris of the Martian moons. Planetary and Space Science, 2008, 56, 1043-1053.	0.9	39
29	On atmospheric pressure perturbations on precession and nutations. Physics of the Earth and Planetary Interiors, 1996, 96, 25-39.	0.7	38
30	Influence of the seasonal winds and the CO2mass exchange between atmosphere and polar caps on Mars' rotation. Journal of Geophysical Research, 2002, 107, 9-1.	3.3	38
31	Detection of the Chandler Wobble of Mars From Orbiting Spacecraft. Geophysical Research Letters, 2020, 47, e2020GL090568.	1.5	37
32	Chandler wobble and Free Core Nutation for Mars. Planetary and Space Science, 2000, 48, 1145-1151.	0.9	36
33	Computation of Mars' transfer functions for nutations, tides and surface loading. Physics of the Earth and Planetary Interiors, 2000, 117, 385-395.	0.7	36
34	Sensitivity of the Free Core Nutation and the Chandler Wobble to changes in the interior structure of Mars. Physics of the Earth and Planetary Interiors, 2000, 117, 397-405.	0.7	36
35	The deep interior of Venus, Mars, and the Earth: A brief review and the need for planetary surface-based measurements. Planetary and Space Science, 2011, 59, 1048-1061.	0.9	34
36	Influence of triaxiality and second-order terms in flattenings on the rotation of terrestrial planets. Physics of the Earth and Planetary Interiors, 2002, 134, 17-33.	0.7	33

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37	On the nutations of a more realistic earth model. Geophysical Journal International, 1990, 100, 477-483.	1.0	32
38	The response of a compressible, non-homogeneous Earth to internal loading: Theory.. Journal of Geomagnetism and Geoelectricity, 1991, 43, 157-178.	0.8	32
39	Estimation of Earth interior parameters from a Bayesian inversion of very long baseline interferometry nutation time series. Journal of Geophysical Research, 2008, 113, .	3.3	32
40	Lander radioscience for obtaining the rotation and orientation of Mars. Planetary and Space Science, 2009, 57, 1050-1067.	0.9	32
41	Future Mars geophysical observatories for understanding its internal structure, rotation, and evolution. Planetary and Space Science, 2012, 68, 123-145.	0.9	32
42	The netlander ionosphere and geodesy experiment. Advances in Space Research, 2001, 28, 1237-1249.	1.2	31
43	Phobos: Observed bulk properties. Planetary and Space Science, 2014, 102, 86-94.	0.9	30
44	The Earth's core parameters as seen by the VLBI. Astronomy and Astrophysics, 2007, 469, 777-781.	2.1	28
45	Gravity, Geodesy and Fundamental Physics with BepiColomboâ€™s MORE Investigation. Space Science Reviews, 2021, 217, 1.	3.7	28
46	The influence of the solid inner core on gravity changes and spatial nutations induced by luni-solar tides and surface loading. Physics of the Earth and Planetary Interiors, 1993, 76, 283-315.	0.7	27
47	Network science, NetLander: a european mission to study the planet Mars. Planetary and Space Science, 2004, 52, 977-985.	0.9	27
48	Link between the retrograde-prograde nutations and nutations in obliquity and longitude. Celestial Mechanics and Dynamical Astronomy, 1995, 62, 363-376.	0.5	25
49	Comparison Between the Nutations of the Planet Mars and the Nutations of the Earth. Surveys in Geophysics, 2000, 21, 89-110.	2.1	25
50	Mars' time-variable gravity and its determination: Simulated geodesy experiments. Journal of Geophysical Research, 2005, 110, .	3.3	25
51	On the precession constant: Values and constraints on the dynamical ellipticity; link with Oppolzer terms and tilt-over-mode. Celestial Mechanics and Dynamical Astronomy, 1997, 65, 439-458.	0.5	24
52	Effects of impacts on the atmospheric evolution: Comparison between Mars, Earth, and Venus. Planetary and Space Science, 2011, 59, 1087-1092.	0.9	24
53	Lander radio science experiment with a direct link between Mars and the Earth. Planetary and Space Science, 2012, 68, 105-122.	0.9	24
54	On the IAU 2000/2006 precessionâ€“nutation and comparison with other models and VLBI observations. Celestial Mechanics and Dynamical Astronomy, 2009, 103, 179-190.	0.5	23

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55	Habitability: from stars to cells. Astronomy and Astrophysics Review, 2010, 18, 383-416.	9.1	23
56	What characterizes planetary space weather?. Astronomy and Astrophysics Review, 2014, 22, 1.	9.1	23
57	Martian global-scale CO2exchange from time-variable gravity measurements. Journal of Geophysical Research, 2006, 111, .	3.3	21
58	Can a solid inner core of Mars be detected from observations of polar motion and nutation of Mars?. Journal of Geophysical Research, 2003, 108, .	3.3	20
59	Analytical modeling of the Doppler tracking between a lander and a Mars orbiter in terms of rotational dynamics. Journal of Geophysical Research, 2003, 108, .	3.3	19
60	Revealing Marsâ€™ deep interior: Future geodesy missions using radio links between landers, orbiters, and the Earth. Planetary and Space Science, 2011, 59, 1069-1081.	0.9	18
61	The radioscience LaRa instrument onboard ExoMars 2020 to investigate the rotation and interior of mars. Planetary and Space Science, 2020, 180, 104776.	0.9	18
62	GETEMMEâ€”a mission to explore the Martian satellites and the fundamentals of solar system physics. Experimental Astronomy, 2012, 34, 243-271.	1.6	17
63	Understanding the effects of the core on the nutation of the Earth. Geodesy and Geodynamics, 2017, 8, 389-395.	1.0	17
64	Mars nutation resonance due to Free Inner Core Nutation. Journal of Geophysical Research, 2003, 108, .	3.3	16
65	The coupling between inertial and rotational eigenmodes in planets with liquid cores. Geophysical Journal International, 2019, 218, 1071-1086.	1.0	16
66	Indirect effect of the atmosphere through the oceans on the Earth nutation using the torque approach. Journal of Geophysical Research, 2001, 106, 8841-8851.	3.3	15
67	Atmospheric angular momentum variations of Earth, Mars and Venus at seasonal time scales. Planetary and Space Science, 2011, 59, 923-933.	0.9	15
68	Mars precession rate determined from radiometric tracking of the InSight Lander. Planetary and Space Science, 2021, 199, 105208.	0.9	15
69	The effects of seasonal mass redistribution and interior structure on Length-of-Day variations of Mars. Advances in Space Research, 2006, 38, 739-744.	1.2	14
70	The effect of the internal structure of Mars on its seasonal loading deformations. Icarus, 2008, 194, 476-486.	1.1	14
71	Constraining Ceresâ€™ interior from its rotational motion. Astronomy and Astrophysics, 2011, 535, A43.	2.1	14
72	Geoscience for Understanding Habitability in the Solar System and Beyond. Space Science Reviews, 2019, 215, 1.	3.7	14

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73	Inertial Modes of a Freely Rotating Ellipsoidal Planet and Their Relation to Nutations. Planetary Science Journal, 2020, 1, 20.	1.5	14
74	Earth's Rotation And High Frequency Equatorial Angular Momentum Budget Of The Atmosphere. , 1999, 20, 441-462.		13
75	Earthâ€™s Rotation: Observations and Relation to Deep Interior. Surveys in Geophysics, 2022, 43, 149-175.	2.1	13
76	Review of the Earth tidal models and contribution of Earth tides in geodynamics. Journal of Geophysical Research, 1991, 96, 20235-20240.	3.3	12
77	Excitation of Mars polar motion. Astronomy and Astrophysics, 2006, 446, 345-355.	2.1	12
78	Inertial modes in near-spherical geometries. Geophysical Journal International, 2019, 216, 777-793.	1.0	12
79	Signatures of the Martian rotation parameters in the Doppler and range observables. Planetary and Space Science, 2017, 144, 74-88.	0.9	11
80	Effects of inner core viscosity on gravity changes and spatial nutations induced by luni-solar tides. Physics of the Earth and Planetary Interiors, 2002, 129, 31-41.	0.7	10
81	The explicit scalar equations of infinitesimal elastic-gravitational motion in the rotating, slightly elliptical fluid outer core of the Earth. Geophysical Journal International, 2004, 157, 831-837.	1.0	10
82	MoMo: a new empirical model of the Mars ionospheric total electron content based on Mars Express MARSIS data. Journal of Space Weather and Space Climate, 2019, 9, A36.	1.1	10
83	Structure, Materials and Processes in the Earthâ€™s Core and Mantle. Surveys in Geophysics, 2022, 43, 263-302.	2.1	10
84	Mars geodesy, rotation and gravity. Research in Astronomy and Astrophysics, 2010, 10, 713-736.	0.7	9
85	Numerical simulations of a Mars geodesy network experiment: Effect of orbiter angular momentum desaturation on Mars' rotation estimation. Planetary and Space Science, 2004, 52, 965-975.	0.9	8
86	Basic Earth's Parameters as estimated from VLBI observations. Geodesy and Geodynamics, 2017, 8, 427-432.	1.0	8
87	The Viscous and Ohmic Damping of the Earth's Free Core Nutation. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021042.	1.4	8
88	Mars and Mercury rotation variations from altimetry crossover data: Feasibility study. Journal of Geophysical Research, 2008, 113, .	3.3	7
89	Survey of Capabilities and Applications of Accurate Clocks: Directions for Planetary Science. Space Science Reviews, 2017, 212, 1433-1451.	3.7	7
90	Mars rotation determination from a moving rover using Doppler tracking data: What could be done?. Planetary and Space Science, 2018, 159, 17-27.	0.9	7

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91	The precession and nutations of a rigid Mars. Celestial Mechanics and Dynamical Astronomy, 2020, 132, 1.	0.5	6
92	Quantification of corrections for the main lunisolar nutation components and analysis of the free core nutation from VLBI-observed nutation residuals. Journal of Geodesy, 2021, 95, 1.	1.6	6
93	Outgassing History and Escape of the Martian Atmosphere and Water Inventory. Space Sciences Series of ISSI, 2012, , 113-154.	0.0	6
94	On the impact of the operational and technical characteristics of the LaRa experiment on the determination of Marsâ€™ nutation. Planetary and Space Science, 2020, 180, 104766.	0.9	5
95	Joint estimation of Martian20and rotation variations from simultaneous geodetic measurements: Numerical simulations of a Network Science Experiment. Geophysical Research Letters, 2003, 30, .	1.5	4
96	Degree-one displacements on Mars. Geophysical Research Letters, 2002, 29, 6-1.	1.5	3
97	Subsurface water detection on Mars by astronauts using a seismic refraction method: Tests during a manned Mars mission simulation. Acta Astronautica, 2009, 64, 457-466.	1.7	3
98	Geodesy instrument package on the Moon for improving our knowledge of the Moon and the realization of reference frames. Planetary and Space Science, 2012, 68, 94-104.	0.9	3
99	A conical frustum-type array devoted to a Mars-based transponder. , 2016, , .		3
100	Introduction to Chapter 6: Planetary/Sun Interactions. Space Science Reviews, 2007, 129, 205-206.	3.7	2
101	Reply to the comment of Robert E. Grimm and David E. Stillman on â€œSubsurface water detection on mars by astronauts using a seismic refraction method: Tests during a manned mars simulationâ€• Acta Astronautica, 2009, 64, 656-657.	1.7	0
102	Commission 19: ROTATION OF THE EARTH. Proceedings of the International Astronomical Union, 2010, 6, 130-139.	0.0	0
103	Editorial to the Topical Collection on High Performance Clocks with Special Emphasis on Geodesy and Geophysics and Applications to Other Bodies of the Solar System. Space Science Reviews, 2018, 214, 1.	3.7	0
104	On the eve of the 100th anniversary of IAU Commission 19/A2 â€œRotation of the Earthâ€• Proceedings of the International Astronomical Union, 2018, 13, 325-331.	0.0	0
105	Introduction of JD 3 ON â€˜PRECESSION, NUTATION AND ASTRONOMICAL CONSTANTS IN THE DAWN OF THE 21ST CENTURYâ€™.. Highlights of Astronomy, 1998, 11, 150-152.	0.0	0
106	Survey of Capabilities and Applications of Accurate Clocks: Directions for Planetary Science. Space Sciences Series of ISSI, 2017, , 163-181.	0.0	0
107	Guest Editorial: International Space Science Institute (ISSI) Workshop on Probing Earthâ€™s Deep Interior Using Space Observations Synergistically. Surveys in Geophysics, 0, , 1.	2.1	0