

Aymeric Spiga

List of Publications by Year in descending order

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Version: 2024-02-01

139
papers

5,647
citations

71102

41
h-index

95266

68
g-index

162
all docs

162
docs citations

162
times ranked

2862
citing authors

#	ARTICLE	IF	CITATIONS
1	Nighttime convection in water-ice clouds at high northern latitudes on Mars. <i>Icarus</i> , 2022, 371, 114693.	2.5	5
2	Seismic constraints from a Mars impact experiment using InSight and Perseverance. <i>Nature Astronomy</i> , 2022, 6, 59-64.	10.1	9
3	The Mars system revealed by the Martian Moons eXploration mission. <i>Earth, Planets and Space</i> , 2022, 74, .	2.5	11
4	Investigation of magnetic field signals during vortex-induced pressure drops at InSight. <i>Planetary and Space Science</i> , 2022, 217, 105487.	1.7	3
5	InSight Pressure Data Recalibration, and Its Application to the Study of Long-Term Pressure Changes on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	12
6	Joint evolution of equatorial oscillation and interhemispheric circulation in Saturn's stratosphere. <i>Nature Astronomy</i> , 2022, 6, 804-811.	10.1	6
7	Troposphere-to-mesosphere microphysics of carbon dioxide ice clouds in a Mars Global Climate Model. <i>Icarus</i> , 2022, 385, 115098.	2.5	9
8	Spectral Analysis of the Martian Atmospheric Turbulence: InSight Observations. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	7
9	Companion guide to the marsquake catalog from InSight, Sols 0-478: Data content and non-seismic events. <i>Physics of the Earth and Planetary Interiors</i> , 2021, 310, 106597.	1.9	64
10	The whirlwinds of Elysium: A catalog and meteorological characteristics of dust devils/vortices observed by InSight on Mars. <i>Icarus</i> , 2021, 355, 114119.	2.5	20
11	Global climate modeling of Saturn's atmosphere. Part IV: Stratospheric equatorial oscillation. <i>Icarus</i> , 2021, 354, 114042.	2.5	8
12	The Marsquake catalogue from InSight, sols 0-478. <i>Physics of the Earth and Planetary Interiors</i> , 2021, 310, 106595.	1.9	97
13	The Polarization of Ambient Noise on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006545.	3.6	33
14	Vortex-Dominated Aeolian Activity at InSight's Landing Site, Part 2: Local Meteorology, Transport Dynamics, and Model Analysis. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006514.	3.6	19
15	Multi-model Meteorological and Aeolian Predictions for Mars 2020 and the Jezero Crater Region. <i>Space Science Reviews</i> , 2021, 217, 20.	8.1	35
16	Constraining Martian Regolith and Vortex Parameters From Combined Seismic and Meteorological Measurements. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006410.	3.6	16
17	Listening for the Landing: Seismic Detections of Perseverance's Arrival at Mars With InSight. <i>Earth and Space Science</i> , 2021, 8, e2020EA001585.	2.6	5
18	A Comodulation Analysis of Atmospheric Energy Injection Into the Ground Motion at InSight, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006538.	3.6	33

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19	Polarimetry as a Tool for Observing Orographic Gravity Waves on Venus. Planetary Science Journal, 2021, 2, 96.	3.6	0
20	TRAPPIST Habitable Atmosphere Intercomparison (THAI) Workshop Report. Planetary Science Journal, 2021, 2, 106.	3.6	29
21	Vortex-Dominated Aeolian Activity at InSight's Landing Site, Part 1: Multi-Instrument Observations, Analysis, and Implications. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006757.	3.6	23
22	Seismic Noise Autocorrelations on Mars. Earth and Space Science, 2021, 8, e2021EA001755.	2.6	31
23	Mars perihelion cloud trails as revealed by MARCI: Mesoscale topographically focused updrafts and gravity wave forcing of high altitude clouds. Icarus, 2021, 362, 114411.	2.5	9
24	Soil Thermophysical Properties Near the InSight Lander Derived From 50 Sols of Radiometer Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006859.	3.6	22
25	Mapping the zonal winds of Jupiter's stratospheric equatorial oscillation. Astronomy and Astrophysics, 2021, 652, A125.	5.1	4
26	Lander and rover histories of dust accumulation on and removal from solar arrays on Mars. Planetary and Space Science, 2021, 207, 105337.	1.7	23
27	A Study of Daytime Convective Vortices and Turbulence in the Martian Planetary Boundary Layer Based on Half-a-Year of InSight Atmospheric Measurements and Large-Eddy Simulations. Journal of Geophysical Research E: Planets, 2021, 126, .	3.6	45
28	Search for Infrasound Signals in InSight Data Using Coupled Pressure/Ground Deformation Methods. Bulletin of the Seismological Society of America, 2021, 111, 3055-3064.	2.3	8
29	Seasonal Variability of the Daytime and Nighttime Atmospheric Turbulence Experienced by InSight on Mars. Geophysical Research Letters, 2021, 48, e2021GL095453.	4.0	31
30	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. Planetary Science Journal, 2021, 2, 211.	3.6	6
31	Seasonal seismic activity on Mars. Earth and Planetary Science Letters, 2021, 576, 117171.	4.4	13
32	Turbulence in the Lower Atmosphere of Mars Enhanced by Transported Dust Particles. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE007066.	3.6	4
33	Anatomy of Continuous Mars SEIS and Pressure Data from Unsupervised Learning. Bulletin of the Seismological Society of America, 2021, 111, 2964-2981.	2.3	14
34	Questions to Heaven. Astronomy and Geophysics, 2021, 62, 6.22-6.25.	0.2	2
35	Global climate modeling of Saturn's atmosphere. Part II: Multi-annual high-resolution dynamical simulations. Icarus, 2020, 335, 113377.	2.5	31
36	Mesoscale modeling of Venus' bow-shape waves. Icarus, 2020, 335, 113376.	2.5	24

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37	Diurnal Variations of Dust During the 2018 Global Dust Storm Observed by the Mars Climate Sounder. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006115.	3.6	52
38	Mars's Twilight Cloud Band: A New Cloud Feature Seen During the Mars Year 34 Global Dust Storm. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL084997.	4.0	16
39	A New Crater Near InSight: Implications for Seismic Impact Detectability on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006382.	3.6	24
40	Geophysical Observations of Phobos Transits by InSight. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089099.	4.0	10
41	The Origin of Observed Magnetic Variability for a Sol on Mars From InSight. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006505.	3.6	15
42	Effects of a Large Dust Storm in the Near-Surface Atmosphere as Measured by InSight in Elysium Planitia, Mars. Comparison With Contemporaneous Measurements by Mars Science Laboratory. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006493.	3.6	30
43	Scientific Observations With the InSight Solar Arrays: Dust, Clouds, and Eclipses on Mars. <i>Earth and Space Science</i> , 2020, 7, e2019EA000992.	2.6	24
44	Subsurface Structure at the InSight Landing Site From Compliance Measurements by Seismic and Meteorological Experiments. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006387.	3.6	44
45	Pressure Effects on the SEIS-InSight Instrument, Improvement of Seismic Records, and Characterization of Long Period Atmospheric Waves From Ground Displacements. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006278.	3.6	31
46	Martian Infrasound: Numerical Modeling and Analysis of InSight's Data. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006376.	3.6	28
47	Radiative-equilibrium model of Jupiter's atmosphere and application to estimating stratospheric circulations. <i>Icarus</i> , 2020, 351, 113935.	2.5	11
48	Global climate modeling of Saturn's atmosphere. Part III: Global statistical picture of zonostrophic turbulence in high-resolution 3D-turbulent simulations. <i>Icarus</i> , 2020, 345, 113705.	2.5	12
49	Impact of Gravity Waves on the Middle Atmosphere of Mars: A Non-Orographic Gravity Wave Parameterization Based on Global Climate Modeling and MCS Observations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2018JE005873.	3.6	23
50	Geology of the InSight landing site on Mars. <i>Nature Communications</i> , 2020, 11, 1014.	12.8	107
51	The atmosphere of Mars as observed by InSight. <i>Nature Geoscience</i> , 2020, 13, 190-198.	12.9	161
52	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. <i>Nature Geoscience</i> , 2020, 13, 213-220.	12.9	207
53	Crustal and time-varying magnetic fields at the InSight landing site on Mars. <i>Nature Geoscience</i> , 2020, 13, 199-204.	12.9	68
54	The seismicity of Mars. <i>Nature Geoscience</i> , 2020, 13, 205-212.	12.9	194

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55	Martian Year 34 Column Dust Climatology from Mars Climate Sounder Observations: Reconstructed Maps and Model Simulations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006111.	3.6	137
56	Monitoring of Dust Devil Tracks Around the InSight Landing Site, Mars, and Comparison With In Situ Atmospheric Data. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087234.	4.0	30
57	Initial results from the InSight mission on Mars. <i>Nature Geoscience</i> , 2020, 13, 183-189.	12.9	274
58	Study of gravity waves distribution and propagation in the thermosphere of Mars based on MGS, ODY, MRO and MAVEN density measurements. <i>Planetary and Space Science</i> , 2019, 178, 104708.	1.7	25
59	Marsâ€™™ Background Free Oscillations. <i>Space Science Reviews</i> , 2019, 215, 1.	8.1	7
60	Idealised simulations of the deep atmosphere of hot Jupiters. <i>Astronomy and Astrophysics</i> , 2019, 632, A114.	5.1	38
61	ExoMars Atmospheric Mars Entry and Landing Investigations and Analysis (AMELIA). <i>Space Science Reviews</i> , 2019, 215, 1.	8.1	14
62	Equatorial Oscillation and Planetary Wave Activity in Saturn's Stratosphere Through the Cassini Epoch. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 246-261.	3.6	19
63	Katabatic jumps in the Martian northern polar regions. <i>Icarus</i> , 2018, 308, 197-208.	2.5	14
64	First quantification of relationship between dune orientation and sediment availability, Olympia Undae, Mars. <i>Earth and Planetary Science Letters</i> , 2018, 489, 241-250.	4.4	14
65	6th international conference on Mars polar science and exploration: Conference summary and five top questions. <i>Icarus</i> , 2018, 308, 2-14.	2.5	17
66	Seasonal variability in winds in the north polar region of Mars. <i>Icarus</i> , 2018, 308, 188-196.	2.5	14
67	A Seasonally Recurrent Annular Cyclone in Mars Northern Latitudes and Observations of a Companion Vortex. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 3020-3034.	3.6	11
68	Threeâ€™™Dimensional Turbulenceâ€™™Resolving Modeling of the Venusian Cloud Layer and Induced Gravity Waves: Inclusion of Complete Radiative Transfer and Wind Shear. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2773-2789.	3.6	31
69	Atmospheric Science with InSight. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	88
70	The DREAMS Experiment Onboard the Schiaparelli Module of the ExoMars 2016 Mission: Design, Performances and Expected Results. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	19
71	Planetary boundary layer and slope winds on Venus. <i>Icarus</i> , 2018, 314, 149-158.	2.5	27
72	Geology and Physical Properties Investigations by the InSight Lander. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	77

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73	The DREAMS experiment flown on the ExoMars 2016 mission for the study of Martian environment during the dust storm season. Measurement: Journal of the International Measurement Confederation, 2018, 122, 484-493.	5.0	9
74	Parameterization of Rocket Dust Storms on Mars in the LMD Martian GCM: Modeling Details and Validation. Journal of Geophysical Research E: Planets, 2018, 123, 982-1000.	3.6	28
75	Three-dimensional turbulence-resolving modeling of the Venusian cloud layer and induced gravity waves. Journal of Geophysical Research E: Planets, 2017, 122, 134-149.	3.6	19
76	Unraveling the martian water cycle with high-resolution global climate simulations. Icarus, 2017, 291, 82-106.	2.5	34
77	The water cycle and regolith-atmosphere interaction at Gale crater, Mars. Icarus, 2017, 289, 56-79.	2.5	33
78	On the dynamical nature of Saturn's North Polar hexagon. Icarus, 2017, 297, 59-70.	2.5	21
79	Finite-Difference Modeling of Acoustic and Gravity Wave Propagation in Mars Atmosphere: Application to Infrasounds Emitted by Meteor Impacts. Space Science Reviews, 2017, 211, 547-570.	8.1	20
80	Snow precipitation on Mars driven by cloud-induced night-time convection. Nature Geoscience, 2017, 10, 652-657.	12.9	32
81	Preparing for InSight: An Invitation to Participate in a Blind Test for Martian Seismicity. Seismological Research Letters, 2017, 88, 1290-1302.	1.9	37
82	Modeling of Ground Deformation and Shallow Surface Waves Generated by Martian Dust Devils and Perspectives for Near-Surface Structure Inversion. Space Science Reviews, 2017, 211, 501-524.	8.1	49
83	Mesoscale Meteorology. , 2017, , 203-228.		5
84	Estimations of the Seismic Pressure Noise on Mars Determined from Large Eddy Simulations and Demonstration of Pressure Decorrelation Techniques for the Insight Mission. Space Science Reviews, 2017, 211, 457-483.	8.1	53
85	Large-Eddy Simulations of Dust Devils and Convective Vortices. Space Sciences Series of ISSI, 2017, , 245-275.	0.0	2
86	History and Applications of Dust Devil Studies. Space Sciences Series of ISSI, 2017, , 5-37.	0.0	1
87	Special Issue on Dust Devils. Space Sciences Series of ISSI, 2017, , 1-4.	0.0	1
88	Dust Devil Sediment Transport: From Lab to Field to Global Impact. Space Sciences Series of ISSI, 2017, , 377-426.	0.0	1
89	Stratospheric aftermath of the 2010 Storm on Saturn as observed by the TEXES instrument. I. Temperature structure. Icarus, 2016, 277, 196-214.	2.5	12
90	History and Applications of Dust Devil Studies. Space Science Reviews, 2016, 203, 5-37.	8.1	43

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91	Dust Devil Sediment Transport: From Lab to Field to Global Impact. <i>Space Science Reviews</i> , 2016, 203, 377-426.	8.1	35
92	Large-Eddy Simulations of Dust Devils and Convective Vortices. <i>Space Science Reviews</i> , 2016, 203, 245-275.	8.1	37
93	Editorial: Topical Volume on Dust Devils. <i>Space Science Reviews</i> , 2016, 203, 1-4.	8.1	2
94	Planum Boreum basal unit topography, Mars: Irregularities and insights from SHARAD. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1357-1375.	3.6	72
95	An assessment of the impact of local processes on dust lifting in martian climate models. <i>Icarus</i> , 2015, 252, 212-227.	2.5	17
96	Seasonal changes in Saturn's stratosphere inferred from Cassini/CIRS limb observations. <i>Icarus</i> , 2015, 258, 224-238.	2.5	22
97	Aeolian processes as drivers of landform evolution at the South Pole of Mars. <i>Geomorphology</i> , 2015, 240, 54-69.	2.6	25
98	Stratospheric benzene and hydrocarbon aerosols detected in Saturn's auroral regions. <i>Astronomy and Astrophysics</i> , 2015, 580, A89.	5.1	19
99	The Mars Analysis Correction Data Assimilation (MACDA) Dataset V1.0. <i>Geoscience Data Journal</i> , 2014, 1, 129-139.	4.4	61
100	The DREAMS experiment on the ExoMars 2016 mission for the study of Martian environment during the dust storm season. , 2014, , .		13
101	Scientific rationale for Saturn's in situ exploration. <i>Planetary and Space Science</i> , 2014, 104, 29-47.	1.7	49
102	Modeling the microphysics of CO ₂ ice clouds within wave-induced cold pockets in the martian mesosphere. <i>Icarus</i> , 2014, 237, 239-261.	2.5	30
103	Sedimentation waves on the Martian North Polar Cap: Analogy with megadunes in Antarctica. <i>Earth and Planetary Science Letters</i> , 2014, 403, 56-66.	4.4	20
104	Initial results from radio occultation measurements with the Mars Reconnaissance Orbiter: A nocturnal mixed layer in the tropics and comparisons with polar profiles from the Mars Climate Sounder. <i>Icarus</i> , 2014, 243, 91-103.	2.5	28
105	Recent Ice Ages on Mars: The role of radiatively active clouds and cloud microphysics. <i>Geophysical Research Letters</i> , 2014, 41, 4873-4879.	4.0	75
106	The horizontal motion of dust devils on Mars derived from CRISM and CTX/HiRISE observations. <i>Icarus</i> , 2014, 227, 8-20.	2.5	59
107	Global climate modeling of Saturn's atmosphere. Part I: Evaluation of the radiative transfer model. <i>Icarus</i> , 2014, 238, 110-124.	2.5	45
108	Global climate modeling of the Martian water cycle with improved microphysics and radiatively active water ice clouds. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1479-1495.	3.6	162

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109	The spiral troughs of Mars as cyclic steps. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1835-1857.	3.6	65
110	3D climate modeling of close-in land planets: Circulation patterns, climate moist bistability, and habitability. <i>Astronomy and Astrophysics</i> , 2013, 554, A69.	5.1	203
111	Rocket dust storms and detached dust layers in the Martian atmosphere. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 746-767.	3.6	98
112	Orbital radar, imagery, and atmospheric modeling reveal an aeolian origin for Abalos Mensa, Mars. <i>Geophysical Research Letters</i> , 2013, 40, 1334-1339.	4.0	15
113	A thermal plume model for the Martian convective boundary layer. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1468-1487.	3.6	61
114	Exploring the faint young Sun problem and the possible climates of the Archean Earth with a 3D GCM. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 10,414.	3.3	106
115	The influence of radiatively active water ice clouds on the Martian climate. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	115
116	Wide distribution and glacial origin of polar gypsum on Mars. <i>Earth and Planetary Science Letters</i> , 2012, 317-318, 44-55.	4.4	76
117	Gravity waves, cold pockets and CO ₂ clouds in the Martian mesosphere. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	71
118	Aphelion water ice cloud mapping and property retrieval using the OMEGA imaging spectrometer onboard Mars Express. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	42
119	Gravity waves mapped by the OMEGA/MEX instrument through O ₂ dayglow at 1.27 μ m: Data analysis and atmospheric modeling. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	21
120	Field measurements of horizontal forward motion velocities of terrestrial dust devils: Towards a proxy for ambient winds on Mars and Earth. <i>Icarus</i> , 2012, 221, 632-645.	2.5	51
121	Comment on "Observing desert dust devils with a pressure logger" by Lorenz (2012) – insights on measured pressure fluctuations from large-eddy simulations. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2012, 1, 151-154.	1.6	7
122	Winter and spring evolution of northern seasonal deposits on Mars from OMEGA on Mars Express. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	79
123	THE MARTIAN ATMOSPHERIC BOUNDARY LAYER. <i>Reviews of Geophysics</i> , 2011, 49, .	23.0	119
124	Elements of comparison between Martian and terrestrial mesoscale meteorological phenomena: Katabatic winds and boundary layer convection. <i>Planetary and Space Science</i> , 2011, 59, 915-922.	1.7	40
125	The martian mesosphere as revealed by CO ₂ cloud observations and General Circulation Modeling. <i>Icarus</i> , 2011, 216, 10-22.	2.5	41
126	The impact of martian mesoscale winds on surface temperature and on the determination of thermal inertia. <i>Icarus</i> , 2011, 212, 504-519.	2.5	44

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127	Distribution and time-variation of spire streaks at Pavonis Mons on Mars. <i>Planetary and Space Science</i> , 2011, 59, 672-682.	1.7	12
128	Gully formation on Mars: Two recent phases of formation suggested by links between morphology, slope orientation and insolation history. <i>Icarus</i> , 2010, 208, 658-666.	2.5	43
129	Mapping the mesospheric CO ₂ clouds on Mars: MEx/OMEGA and MEx/HRSC observations and challenges for atmospheric models. <i>Icarus</i> , 2010, 209, 452-469.	2.5	71
130	Assessing the power law hypothesis for the size–frequency distribution of terrestrial and martian dust devils. <i>Icarus</i> , 2010, 209, 851-853.	2.5	33
131	Structure and dynamics of the convective boundary layer on Mars as inferred from large–eddy simulations and remote–sensing measurements. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2010, 136, 414-428.	2.7	49
132	Near–tropical subsurface ice on Mars. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	79
133	A new model to simulate the Martian mesoscale and microscale atmospheric circulation: Validation and first results. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	116
134	Fast and accurate estimation of solar irradiance on Martian slopes. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	27
135	Identification of the sources of inertia-gravity waves in the Andes Cordillera region. <i>Annales Geophysicae</i> , 2008, 26, 2551-2568.	1.6	29
136	Remote sensing of surface pressure on Mars with the Mars Express/OMEGA spectrometer: 2. Meteorological maps. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	31
137	Remote sensing of surface pressure on Mars with the Mars Express/OMEGA spectrometer: 1. Retrieval method. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	38
138	The Mars Climate Database (version 4.3). , 0, , .		9
139	Preparing for InSight: Evaluation of the Blind Test for Martian Seismicity. <i>Seismological Research Letters</i> , 0, , .	1.9	5