J R Espley

List of Publications by Year
in descending order

137 papers	5,522 citations	87888 38 h-index	95266 68 g-index
137 all docs	137 docs citations	137 times ranked	2339 citing authors

#	Article	IF	Citations
1	The Mars Atmosphere and Volatile Evolution (MAVEN) Mission. Space Science Reviews, 2015, 195, 3-48.	8.1	563
2	The MAVEN Magnetic Field Investigation. Space Science Reviews, 2015, 195, 257-291.	8.1	371
3	A New Model of Jupiter's Magnetic Field From Juno's First Nine Orbits. Geophysical Research Letters, 2018, 45, 2590-2596.	4.0	258
4	Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time. Icarus, 2018, 315, 146-157.	2.5	216
5	The Juno Magnetic Field Investigation. Space Science Reviews, 2017, 213, 39-138.	8.1	209
6	Structure, dynamics, and seasonal variability of the Marsâ€solar wind interaction: MAVEN Solar Wind Ion Analyzer inâ€flight performance and science results. Journal of Geophysical Research: Space Physics, 2017, 122, 547-578.	2.4	191
7	MAVEN observations of the response of Mars to an interplanetary coronal mass ejection. Science, 2015, 350, aad0210.	12.6	166
8	First results of the <scp>MAVEN</scp> magnetic field investigation. Geophysical Research Letters, 2015, 42, 8819-8827.	4.0	102
9	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90
10	Interplanetary coronal mass ejection observed at STEREOâ€A, Mars, comet 67P/Churyumovâ€Gerasimenko, Saturn, and New Horizons en route to Pluto: Comparison of its Forbush decreases at 1.4, 3.1, and 9.9ÂAU. Journal of Geophysical Research: Space Physics, 2017, 122, 7865-7890.	2.4	87
11	Observations of low-frequency magnetic oscillations in the Martian magnetosheath, magnetic pileup region, and tail. Journal of Geophysical Research, 2004, 109, .	3.3	85
12	MAVEN observations of solar wind hydrogen deposition in the atmosphere of Mars. Geophysical Research Letters, 2015, 42, 8901-8909.	4.0	78
13	MAVEN observations of the solar cycle 24 space weather conditions at Mars. Journal of Geophysical Research: Space Physics, 2017, 122, 2768-2794.	2.4	78
14	The Twisted Configuration of the Martian Magnetotail: MAVEN Observations. Geophysical Research Letters, 2018, 45, 4559-4568.	4.0	66
15	Flows, Fields, and Forces in the Marsâ€Solar Wind Interaction. Journal of Geophysical Research: Space Physics, 2017, 122, 11,320.	2.4	64
16	Mars Global Surveyor observations of the Halloween 2003 solar superstorm's encounter with Mars. Journal of Geophysical Research, 2005, 110, .	3.3	60
17	A New Model of Jupiter's Magnetic Field at the Completion of Juno's Prime Mission. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	60
18	Magnetic reconnection in the nearâ€Mars magnetotail: MAVEN observations. Geophysical Research Letters, 2015, 42, 8838-8845.	4.0	59

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19	MHD model results of solar wind interaction with Mars and comparison with MAVEN plasma observations. Geophysical Research Letters, 2015, 42, 9113-9120.	4.0	58
20	A Technique to Infer Magnetic Topology at Mars and Its Application to the Terminator Region. Journal of Geophysical Research: Space Physics, 2019, 124, 1823-1842.	2.4	58
21	MAVEN measured oxygen and hydrogen pickup ions: Probing the Martian exosphere and neutral escape. Journal of Geophysical Research: Space Physics, 2017, 122, 3689-3706.	2.4	55
22	The global current systems of the Martian induced magnetosphere. Nature Astronomy, 2020, 4, 979-985.	10.1	55
23	Electron oscillations in the induced martian magnetosphere. Icarus, 2006, 182, 360-370.	2.5	54
24	Multifluid MHD study of the solar wind interaction with Mars' upper atmosphere during the 2015 March 8th ICME event. Geophysical Research Letters, 2015, 42, 9103-9112.	4.0	54
25	Magnetotail dynamics at Mars: Initial MAVEN observations. Geophysical Research Letters, 2015, 42, 8828-8837.	4.0	52
26	Proton cyclotron waves occurrence rate upstream from Mars observed by MAVEN: Associated variability of the Martian upper atmosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 11,113.	2.4	50
27	Response of Mars O⁺ pickup ions to the 8 March 2015 ICME: Inferences from MAVEN dataâ€based models. Geophysical Research Letters, 2015, 42, 9095-9102.	4.0	47
28	Dayside induced magnetic field in the ionosphere of Mars. Icarus, 2010, 206, 104-111.	2.5	46
29	Lowâ€frequency waves in the Martian magnetosphere and their response to upstream solar wind driving conditions. Geophysical Research Letters, 2015, 42, 8917-8924.	4.0	45
30	Statistical Study of Relations Between the Induced Magnetosphere, Ion Composition, and Pressure Balance Boundaries Around Mars Based On MAVEN Observations. Journal of Geophysical Research: Space Physics, 2017, 122, 9723-9737.	2.4	44
31	Magnetic Reconnection on Dayside Crustal Magnetic Fields at Mars: MAVEN Observations. Geophysical Research Letters, 2018, 45, 4550-4558.	4.0	44
32	Ionopauseâ€like density gradients in the Martian ionosphere: A first look with MAVEN. Geophysical Research Letters, 2015, 42, 8885-8893.	4.0	42
33	Altitude dependence of nightside Martian suprathermal electron depletions as revealed by MAVEN observations. Geophysical Research Letters, 2015, 42, 8877-8884.	4.0	41
34	Survey of magnetic reconnection signatures in the Martian magnetotail with MAVEN. Journal of Geophysical Research: Space Physics, 2017, 122, 5114-5131.	2.4	40
35	Martian magnetic storms. Journal of Geophysical Research: Space Physics, 2017, 122, 6185-6209.	2.4	40
36	Variations of the Martian plasma environment during the ICME passage on 8 March 2015: A timeâ€dependent MHD study. Journal of Geophysical Research: Space Physics, 2017, 122, 1714-1730.	2.4	40

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37	The Threeâ€Dimensional Bow Shock of Mars as Observed by MAVEN. Journal of Geophysical Research: Space Physics, 2018, 123, 4542-4555.	2.4	40
38	MAVEN Observations of Solar Windâ€Driven Magnetosonic Waves Heating the Martian Dayside Ionosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 4129-4149.	2.4	40
39	Electric Mars: The first direct measurement of an upper limit for the Martian â€œpolar windâ€• electric potential. Geophysical Research Letters, 2015, 42, 9128-9134.	4.0	38
40	MAVEN observations of partially developed Kelvinâ€Helmholtz vortices at Mars. Geophysical Research Letters, 2016, 43, 4763-4773.	4.0	38
41	Seasonal Variability of Neutral Escape from Mars as Derived From MAVEN Pickup Ion Observations. Journal of Geophysical Research E: Planets, 2018, 123, 1192-1202.	3.6	38
42	MAVEN observations of tail current sheet flapping at Mars. Journal of Geophysical Research: Space Physics, 2017, 122, 4308-4324.	2.4	37
43	Plasma clouds and snowplows: Bulk plasma escape from Mars observed by MAVEN. Geophysical Research Letters, 2016, 43, 1426-1434.	4.0	36
44	Using Magnetic Topology to Probe the Sources of Mars' Nightside Ionosphere. Geophysical Research Letters, 2018, 45, 12,190.	4.0	36
45	Absorption of MARSIS radar signals: Solar energetic particles and the daytime ionosphere. Geophysical Research Letters, 2007, 34, .	4.0	35
46	Implications of MAVEN Mars nearâ€wake measurements and models. Geophysical Research Letters, 2015, 42, 9087-9094.	4.0	35
47	Ionizing Electrons on the Martian Nightside: Structure and Variability. Journal of Geophysical Research: Space Physics, 2018, 123, 4349-4363.	2.4	35
48	The Influence of Solar Wind Pressure on Martian Crustal Magnetic Field Topology. Geophysical Research Letters, 2019, 46, 2347-2354.	4.0	35
49	Marsward and tailward ions in the nearâ€Mars magnetotail: MAVEN observations. Geophysical Research Letters, 2015, 42, 8925-8932.	4.0	34
50	MAVEN observations of dayside peak electron densities in the ionosphere of Mars. Journal of Geophysical Research: Space Physics, 2017, 122, 891-906.	2.4	33
51	Solar Wind Induced Waves in the Skies of Mars: Ionospheric Compression, Energization, and Escape Resulting From the Impact of Ultralow Frequency Magnetosonic Waves Generated Upstream of the Martian Bow Shock. Journal of Geophysical Research: Space Physics, 2018, 123, 7241-7256.	2.4	32
52	Low-frequency plasma oscillations at Mars during the October 2003 solar storm. Journal of Geophysical Research, 2005, 110, .	3.3	31
53	ULF waves in planetary magnetospheres. Geophysical Monograph Series, 2006, , 341-359.	0.1	31
54	The influence of production mechanisms on pickâ€up ion loss at Mars. Journal of Geophysical Research: Space Physics, 2013, 118, 554-569.	2.4	31

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55	Characterization of turbulence in the Mars plasma environment with MAVEN observations. Journal of Geophysical Research: Space Physics, 2017, 122, 656-674.	2.4	30
56	Electric and magnetic variations in the nearâ€Mars environment. Journal of Geophysical Research: Space Physics, 2017, 122, 8536-8559.	2.4	30
57	The Impact and Solar Wind Proxy of the 2017 September ICME Event at Mars. Geophysical Research Letters, 2018, 45, 7248-7256.	4.0	29
58	The Martian Photoelectron Boundary as Seen by MAVEN. Journal of Geophysical Research: Space Physics, 2017, 122, 10,472.	2.4	28
59	Comparative study of the Martian suprathermal electron depletions based on Mars Global Surveyor, Mars Express, and Mars Atmosphere and Volatile EvolutioN mission observations. Journal of Geophysical Research: Space Physics, 2017, 122, 857-873.	2.4	28
60	On the origins of magnetic flux ropes in nearâ€Mars magnetotail current sheets. Geophysical Research Letters, 2017, 44, 7653-7662.	4.0	28
61	MAVEN observations of electronâ€induced whistler mode waves in the Martian magnetosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 9717-9731.	2.4	27
62	Importance of Ambipolar Electric Field in Driving Ion Loss From Mars: Results From a Multifluid MHD Model With the Electron Pressure Equation Included. Journal of Geophysical Research: Space Physics, 2019, 124, 9040-9057.	2.4	27
63	Autocorrelation Study of Solar Wind Plasma and IMF Properties as Measured by the MAVEN Spacecraft. Journal of Geophysical Research: Space Physics, 2018, 123, 2493-2512.	2.4	26
64	Invertedâ€V Electron Acceleration Events Concurring With Localized Auroral Observations at Mars by MAVEN. Geophysical Research Letters, 2020, 47, e2020GL087414.	4.0	26
65	Nonâ€detection of impulsive radio signals from lightning in Martian dust storms using the radar receiver on the Mars Express spacecraft. Geophysical Research Letters, 2010, 37, .	4.0	25
66	Timeâ€dispersed ion signatures observed in the Martian magnetosphere by MAVEN. Geophysical Research Letters, 2015, 42, 8910-8916.	4.0	25
67	The Induced Magnetosphere of Mars: Asymmetrical Topology of the Magnetic Field Lines. Geophysical Research Letters, 2019, 46, 12722-12730.	4.0	25
68	The Influence of Interplanetary Magnetic Field Direction on Martian Crustal Magnetic Field Topology. Geophysical Research Letters, 2020, 47, e2020GL087757.	4.0	25
69	MARSIS Observations of the Martian Nightside Ionosphere During the September 2017 Solar Event. Geophysical Research Letters, 2018, 45, 7960-7967.	4.0	23
70	Test particle comparison of heavy atomic and molecular ion distributions at Mars. Journal of Geophysical Research: Space Physics, 2014, 119, 2328-2344.	2.4	21
71	MAVEN observations of a giant ionospheric flux rope near Mars resulting from interaction between the crustal and interplanetary draped magnetic fields. Journal of Geophysical Research: Space Physics, 2017, 122, 828-842.	2.4	21
72	An Artificial Neural Network for Inferring Solar Wind Proxies at Mars. Geophysical Research Letters, 2018, 45, 10,855.	4.0	21

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73	Martian Electron Temperatures in the Subsolar Region: MAVEN Observations Compared to a Oneâ€Dimensional Model. Journal of Geophysical Research: Space Physics, 2018, 123, 5960-5973.	2.4	21
74	A hot flow anomaly at Mars. Geophysical Research Letters, 2015, 42, 9121-9127.	4.0	20
75	Imprints of Quasiâ€Adiabatic Ion Dynamics on the Current Sheet Structures Observed in the Martian Magnetotail by MAVEN. Journal of Geophysical Research: Space Physics, 2017, 122, 10,176.	2.4	20
76	Reconnection in the Martian Magnetotail: Hallâ€<scp>MHD</scp> With Embedded Particleâ€inâ€Cell Simulations. Journal of Geophysical Research: Space Physics, 2018, 123, 3742-3763.	2.4	20
77	Ion Jets Within Current Sheets in the Martian Magnetosphere. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028576.	2.4	20
78	Radar absorption due to a corotating interaction region encounter with Mars detected by MARSIS. Icarus, 2010, 206, 95-103.	2.5	19
79	MAVEN observation of an obliquely propagating lowâ€frequency wave upstream of Mars. Journal of Geophysical Research: Space Physics, 2016, 121, 2374-2389.	2.4	19
80	Responses of the Martian Magnetosphere to an Interplanetary Coronal Mass Ejection: MAVEN Observations and LatHyS Results. Geophysical Research Letters, 2018, 45, 7891-7900.	4.0	19
81	Magnetic Holes Upstream of the Martian Bow Shock: MAVEN Observations. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027198.	2.4	19
82	MAVEN observations of energyâ€time dispersed electron signatures in Martian crustal magnetic fields. Geophysical Research Letters, 2016, 43, 939-944.	4.0	18
83	The Martian Magnetosphere: Areas of Unsettled Terminology. Journal of Geophysical Research: Space Physics, 2018, 123, 4521-4525.	2.4	18
84	Ambipolar Electric Field in the Martian Ionosphere: MAVEN Measurements. Journal of Geophysical Research: Space Physics, 2019, 124, 4518-4524.	2.4	18
85	Estimation of the spatial structure of a detached magnetic flux rope at Mars based on simultaneous MAVEN plasma and magnetic field observations. Geophysical Research Letters, 2015, 42, 8933-8941.	4.0	17
86	Properties of Plasma Waves Observed Upstream From Mars. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028221.	2.4	17
87	Localized Heating of the Martian Topside Ionosphere Through the Combined Effects of Magnetic Pumping by Largeâ€Scale Magnetosonic Waves and Pitch Angle Diffusion by Whistler Waves. Geophysical Research Letters, 2020, 47, e2019GL086408.	4.0	17
88	MAVEN Observations of Ionospheric Irregularities at Mars. Geophysical Research Letters, 2017, 44, 10,845.	4.0	16
89	Electric Mars: A large transâ€terminator electric potential drop on closed magnetic field lines above Utopia Planitia. Journal of Geophysical Research: Space Physics, 2017, 122, 2260-2271.	2.4	16
90	Magnetic Field in the Martian Magnetosheath and the Application as an IMF Clock Angle Proxy. Journal of Geophysical Research: Space Physics, 2019, 124, 4295-4313.	2.4	16

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91	On determining the nature and orientation of magnetic directional discontinuities: Problems with the minimum variance method. Journal of Geophysical Research, 2004, 109, .	3.3	15
92	Spontaneous hot flow anomalies at Mars and Venus. Journal of Geophysical Research: Space Physics, 2017, 122, 9910-9923.	2.4	15
93	Recovery Timescales of the Dayside Martian Magnetosphere to IMF Variability. Geophysical Research Letters, 2019, 46, 10977-10986.	4.0	15
94	Variations in Nightside Magnetic Field Topology at Mars. Geophysical Research Letters, 2020, 47, e2020GL088921.	4.0	15
95	The impact of a slow interplanetary coronal mass ejection on Venus. Journal of Geophysical Research: Space Physics, 2015, 120, 3489-3502.	2.4	14
96	MAVEN observations of magnetic flux ropes with a strong field amplitude in the Martian magnetosheath during the ICME passage on 8 March 2015. Geophysical Research Letters, 2016, 43, 4816-4824.	4.0	14
97	Dynamic response of the Martian ionosphere to an interplanetary shock: Mars Express and MAVEN observations. Geophysical Research Letters, 2017, 44, 9116-9123.	4.0	14
98	Constantly forming sporadic E-like layers and rifts in the Martian ionosphere and their implications for Earth. Nature Astronomy, 2020, 4, 486-491.	10.1	14
99	Martian Crustal Field Influence on O⁺ and O₂⁺ Escape as Measured by MAVEN. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029234.	2.4	14
100	Induced Magnetic Fields and Plasma Motions in the Inner Part of the Martian Magnetosphere. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	14
101	A Statistical Investigation of Factors Influencing the Magnetotail Twist at Mars. Geophysical Research Letters, 2022, 49, .	4.0	14
102	MARSIS subsurface radar investigations of the South Polar reentrant Chasma Australe. Journal of Geophysical Research, 2008, 113, .	3.3	13
103	Traveling Ionospheric Disturbances at Mars. Geophysical Research Letters, 2019, 46, 4554-4563.	4.0	13
104	Variability of Upstream Proton Cyclotron Wave Properties and Occurrence at Mars Observed by MAVEN. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028616.	2.4	13
105	Martian electron foreshock from MAVEN observations. Journal of Geophysical Research: Space Physics, 2017, 122, 1531-1541.	2.4	12
106	Evidence for Neutralsâ€Foreshock Electrons Impact at Mars. Geophysical Research Letters, 2018, 45, 3768-3774.	4.0	12
107	Energetic Particle Showers Over Mars from Comet C/2013 A1 Siding Spring. Journal of Geophysical Research: Space Physics, 2018, 123, 8778-8796.	2.4	11
108	Initial observations of low-frequency magnetic fluctuations in the Martian ionosphere. Journal of Geophysical Research, 2006, 111, .	3.3	10

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109	Lunar surface electric potential changes associated with traversals through the Earth's foreshock. Planetary and Space Science, 2011, 59, 1727-1743.	1.7	10
110	Oneâ€Hertz Waves at Mars: MAVEN Observations. Journal of Geophysical Research: Space Physics, 2018, 123, 3460-3476.	2.4	10
111	Ion Composition Boundary Layer Instabilities at Mars. Geophysical Research Letters, 2019, 46, 10303-10312.	4.0	10
112	Correlations between enhanced electron temperatures and electric field wave power in the Martian ionosphere. Geophysical Research Letters, 2018, 45, 493-501.	4.0	9
113	Upstream Ultraâ€Low Frequency Waves Observed by MESSENGER's Magnetometer: Implications for Particle Acceleration at Mercury's Bow Shock. Geophysical Research Letters, 2020, 47, e2020GL087350.	4.0	9
114	On the Growth and Development of Nonâ€Linear Kelvinâ€"Helmholtz Instability at Mars: MAVEN Observations. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029224.	2.4	9
115	Variability of the Solar Wind Flow Asymmetry in the Martian Magnetosheath Observed by MAVEN. Geophysical Research Letters, 2020, 47, .	4.0	9
116	A comet engulfs Mars: MAVEN observations of comet Siding Spring's influence on the Martian magnetosphere. Geophysical Research Letters, 2015, 42, 8810-8818.	4.0	8
117	Ion Heating in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 10,612.	2.4	8
118	The Statistical Characteristics of Smallâ€Scale Ionospheric Irregularities Observed in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2019, 124, 5874-5893.	2.4	8
119	The Penetration of Draped Magnetic Field Into the Martian Upper Ionosphere and Correlations With Upstream Solar Wind Dynamic Pressure. Journal of Geophysical Research: Space Physics, 2019, 124, 3021-3035.	2.4	8
120	Locally Generated ULF Waves in the Martian Magnetosphere: MAVEN Observations. Journal of Geophysical Research: Space Physics, 2019, 124, 8707-8726.	2.4	8
121	Largeâ€Amplitude Oscillatory Motion of Mercury's Crossâ€Tail Current Sheet. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA027783.	2.4	8
122	MAVEN Observations of Low Frequency Steepened Magnetosonic Waves and Associated Heating of the Martian Nightside Ionosphere. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029615.	2.4	8
123	The interplanetary magnetic field observed by Juno enroute to Jupiter. Geophysical Research Letters, 2017, 44, 5936-5942.	4.0	7
124	Foreshock Cavities at Venus and Mars. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028023.	2.4	7
125	First Detection of Kilometerâ€Scale Density Irregularities in the Martian Ionosphere. Geophysical Research Letters, 2020, 47, e2020GL090906.	4.0	7
126	MAVEN Case Studies of Plasma Dynamics in Lowâ€Altitude Crustal Magnetic Field at Mars 1: Dayside Ion Spikes Associated With Radial Crustal Magnetic Fields. Journal of Geophysical Research: Space Physics, 2019, 124, 1239-1261.	2.4	6

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127	The Structure of the Martian Quasiâ€Perpendicular Supercritical Shock as Seen by MAVEN. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028938.	2.4	6
128	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
129	Space Weather Observations With InSight. Geophysical Research Letters, 2021, 48, e2021GL095432.	4.0	5
130	Making Waves: Mirror Mode Structures Around Mars Observed by the MAVEN Spacecraft. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	5
131	Mars' Ionospheric Interaction With Comet C/2013 A1 Siding Spring's Coma at Their Closest Approach as Seen by Mars Express. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027344.	2.4	3
132	A Generalized Magnetospheric Disturbance Index: Initial Application to Mars Using MAVEN Observations. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029479.	2.4	2
133	Plasma Waves in the Distant Martian Environment: Implications for Mars' Sphere of Influence. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029686.	2.4	2
134	Energetic Neutral Atoms near Mars: Predicted Distributions Based on MAVEN Measurements. Astrophysical Journal, 2022, 927, 11.	4.5	2
135	X-ray excesses in GRB spectra. AIP Conference Proceedings, 2000, , .	0.4	1
136	Measuring noise in magnetometers: An example using the Mars Global Surveyor magnetometers. Journal of Geophysical Research, 2006, 111, .	3.3	1
137	Space Weather Storm Responses at Mars: Lessons from A Weakly Magnetized Terrestrial Planet. Proceedings of the International Astronomical Union, 2016, 12, 211-217.	0.0	0