M K Elrod

List of Publications by Year
in descending order

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50 papers	2,255 citations	218677 26 h-index	214800 47 g-index
52 all docs	52 docs citations	52 times ranked	1442 citing authors

#	Article	IF	Citations
1	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
2	Marsâ€™ atmospheric history derived from upper-atmosphere measurements of ³⁸ Ar/ ³⁶ Ar. Science, 2017, 355, 1408-1410.	12.6	183
3	Structure and composition of the neutral upper atmosphere of Mars from the MAVEN NGIMS investigation. Geophysical Research Letters, 2015, 42, 8951-8957.	4.0	168
4	MAVEN observations of the response of Mars to an interplanetary coronal mass ejection. Science, 2015, 350, aad0210.	12.6	166
5	The structure and variability of Mars dayside thermosphere from MAVEN NGIMS and IUVS measurements: Seasonal and solar activity trends in scale heights and temperatures. Journal of Geophysical Research: Space Physics, 2017, 122, 1296-1313.	2.4	124
6	Photochemical escape of oxygen from Mars: First results from MAVEN in situ data. Journal of Geophysical Research: Space Physics, 2017, 122, 3815-3836.	2.4	106
7	Thermal Structure of the Martian Upper Atmosphere From MAVEN NGIMS. Journal of Geophysical Research E: Planets, 2018, 123, 2842-2867.	3.6	91
8	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90
9	MAVEN NGIMS observations of atmospheric gravity waves in the Martian thermosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 2310-2335.	2.4	88
10	Global distribution and parameter dependences of gravity wave activity in the Martian upper thermosphere derived from MAVEN/NGIMS observations. Journal of Geophysical Research: Space Physics, 2017, 122, 2374-2397.	2.4	66
11	Hydrogen escape from Mars is driven by seasonal and dust storm transport of water. Science, 2020, 370, 824-831.	12.6	66
12	Ion Densities in the Nightside Ionosphere of Mars: Effects of Electron Impact Ionization. Geophysical Research Letters, 2017, 44, 11248-11256.	4.0	64
13	Atmospheric Escape Processes and Planetary Atmospheric Evolution. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027639.	2.4	58
14	He bulge revealed: He and CO₂ diurnal and seasonal variations in the upper atmosphere of Mars as detected by MAVEN NGIMS. Journal of Geophysical Research: Space Physics, 2017, 122, 2564-2573.	2.4	52
15	Simultaneous observations of atmospheric tides from combined in situ and remote observations at Mars from the MAVEN spacecraft. Journal of Geophysical Research E: Planets, 2016, 121, 594-607.	3.6	48
16	Nightside ionosphere of Mars: Composition, vertical structure, and variability. Journal of Geophysical Research: Space Physics, 2017, 122, 4712-4725.	2.4	46
17	The Mars Topside Ionosphere Response to the X8.2 Solar Flare of 10 September 2017. Geophysical Research Letters, 2018, 45, 8005-8013.	4.0	38
18	Structural and Compositional Changes in the Upper Atmosphere Related to the PEDEâ€2018 Dust Event on Mars as Observed by MAVEN NGIMS. Geophysical Research Letters, 2020, 47, e2019GL084378.	4.0	38

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19	Ionizing Electrons on the Martian Nightside: Structure and Variability. Journal of Geophysical Research: Space Physics, 2018, 123, 4349-4363.	2.4	35
20	Photoelectrons and solar ionizing radiation at Mars: Predictions versus MAVEN observations. Journal of Geophysical Research: Space Physics, 2016, 121, 8859-8870.	2.4	33
21	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
22	Longitudinal structures in Mars' upper atmosphere as observed by MAVEN/NGIMS. Journal of Geophysical Research: Space Physics, 2017, 122, 1258-1268.	2.4	32
23	Variability of Martian Turbopause Altitudes. Journal of Geophysical Research E: Planets, 2018, 123, 2939-2957.	3.6	30
24	Seasonal variations in Saturn's plasma between the main rings and Enceladus. Journal of Geophysical Research, 2012, 117, .	3.3	27
25	Thermospheric Expansion Associated With Dust Increase in the Lower Atmosphere on Mars Observed by MAVEN/NGIMS. Geophysical Research Letters, 2018, 45, 2901-2910.	4.0	27
26	September 2017 Solar Flare Event: Rapid Heating of the Martian Neutral Upper Atmosphere From the Xâ€Class Flare as Observed by MAVEN. Geophysical Research Letters, 2018, 45, 8803-8810.	4.0	26
27	Mars's Dayside Upper Ionospheric Composition Is Affected by Magnetic Field Conditions. Journal of Geophysical Research: Space Physics, 2019, 124, 3100-3109.	2.4	26
28	Comparison of model predictions for the composition of the ionosphere of Mars to MAVEN NGIMS data. Geophysical Research Letters, 2015, 42, 8966-8976.	4.0	25
29	Martian Thermospheric Response to an X8.2 Solar Flare on 10 September 2017 as Seen by MAVEN/IUVS. Geophysical Research Letters, 2018, 45, 7312-7319.	4.0	24
30	Atmospheric Tides at High Latitudes in the Martian Upper Atmosphere Observed by MAVEN and MRO. Journal of Geophysical Research: Space Physics, 2019, 124, 2943-2953.	2.4	24
31	Neutral H₂and H₂⁺ions in the Saturnian magnetosphere. Journal of Geophysical Research, 2011, 116, .	3.3	22
32	Changes in the thermosphere and ionosphere of Mars from Viking to MAVEN. Geophysical Research Letters, 2015, 42, 9071-9079.	4.0	20
33	Mars Upper Atmospheric Responses to the 10 September 2017 Solar Flare: A Global, Timeâ€Dependent Simulation. Geophysical Research Letters, 2019, 46, 9334-9343.	4.0	19
34	Ionâ€Neutral Coupling in the Upper Atmosphere of Mars: A Dominant Driver of Topside Ionospheric Structure. Journal of Geophysical Research: Space Physics, 2019, 124, 3786-3798.	2.4	18
35	In Situ Measurements of Thermal Ion Temperature in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029531.	2.4	17
36	MAVEN Observations of Ionospheric Irregularities at Mars. Geophysical Research Letters, 2017, 44, 10,845.	4.0	16

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37	Tidal Wave-Driven Variability in the Mars Ionosphere-Thermosphere System. Atmosphere, 2020, 11, 521.	2.3	14
38	Large amplitude perturbations in the martian exosphere seen in MAVEN NGIMS data. Icarus, 2019, 331, 110-115.	2.5	13
39	Electron Temperature Response to Solar Forcing in the Lowâ€Latitude Martian Ionosphere. Journal of Geophysical Research E: Planets, 2019, 124, 3082-3094.	3.6	8
40	Latitudinal and Seasonal Asymmetries of the Helium Bulge in the Martian Upper Atmosphere. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006976.	3.6	8
41	First Evidence of Persistent Nighttime Temperature Structures in the Neutral Thermosphere of Mars. Geophysical Research Letters, 2018, 45, 8819-8825.	4.0	7
42	First In Situ Evidence of Mars Nonthermal Exosphere. Geophysical Research Letters, 2019, 46, 4144-4150.	4.0	7
43	First Detection of Kilometerâ€Scale Density Irregularities in the Martian Ionosphere. Geophysical Research Letters, 2020, 47, e2020GL090906.	4.0	7
44	Effects of the 10 September 2017 Solar Flare on the Density and Composition of the Thermosphere of Mars. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028518.	2.4	5
45	Ionization Efficiency in the Dayside Ionosphere of Mars: Structure and Variability. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006923.	3.6	5
46	Precipitating Solar Wind Hydrogen as Observed by the MAVEN Spacecraft: Distribution as a Function of Column Density, Altitude, and Solar Zenith Angle. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006725.	3.6	4
47	Neutral Composition and Horizontal Variations of the Martian Upper Atmosphere From MAVEN NGIMS. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	4
48	Influence of Magnetic Fields on Precipitating Solar Wind Hydrogen at Mars. Geophysical Research Letters, 2022, 49, .	4.0	4
49	NANOGRAIN DENSITY OUTSIDE SATURNâ€™S A RING. Astrophysical Journal Letters, 2017, 834, L6.	8.3	3
50	Martian nonmigrating atmospheric tides in the thermosphere and ionosphere at solar minimum. Icarus, 2023, 393, 114767.	2.5	2