Alexander S Medvedev

List of Publications by Year
in descending order

82	3,830	101384 36	128067 60
papers	citations	h-index	g-index

92	92	92	2731
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A chemical survey of exoplanets with ARIEL. Experimental Astronomy, 2018, 46, 135-209.	1.6	249
2	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.	1.1	216
3	Internal wave coupling processes in Earthâ€™s atmosphere. Advances in Space Research, 2015, 55, 983-1003.	1.2	192
4	Ozone climatology using interactive chemistry: Results from the Canadian Middle Atmosphere Model. Journal of Geophysical Research, 2000, 105, 26475-26491.	3.3	162
5	Parameterization of the effects of vertically propagating gravity waves for thermosphere general circulation models: Sensitivity study. Journal of Geophysical Research, 2008, 113, .	3.3	157
6	Vertical evolution of gravity wave spectra and the parameterization of associated wave drag. Journal of Geophysical Research, 1995, 100, 25841.	3.3	119
7	Modeling the effects of gravity wave momentum deposition on the general circulation above the turbopause. Journal of Geophysical Research, 2009, 114, .	3.3	119
8	The Atmospheric Chemistry Suite (ACS) of Three Spectrometers for the ExoMars 2016 Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	3.7	119
9	No detection of methane on Mars from early ExoMars Trace Gas Orbiter observations. Nature, 2019, 568, 517-520.	13.7	111
10	Martian dust storm impact on atmospheric H2O and D/H observed by ExoMars Trace Gas Orbiter. Nature, 2019, 568, 521-525.	13.7	107
11	Heating and cooling of the thermosphere by internal gravity waves. Geophysical Research Letters, 2009, 36, .	1.5	98
12	Influence of gravity waves on the Martian atmosphere: General circulation modeling. Journal of Geophysical Research, 2011, 116, .	3.3	89
13	Parameterization of gravity wave momentum deposition based on nonlinear wave interactions: basic formulation and sensitivity tests. Journal of Atmospheric and Solar-Terrestrial Physics, 2000, 62, 1015-1033.	0.6	85
14	Internal gravity waves in the thermosphere during low and high solar activity: Simulation study. Journal of Geophysical Research, 2010, 115, .	3.3	80
15	Highâ€altitude gravity waves in the Martian thermosphere observed by MAVEN/NGIMS and modeled by a gravity wave scheme. Geophysical Research Letters, 2015, 42, 8993-9000.	1.5	79
16	Thermal effects of internal gravity waves in the Martian upper atmosphere. Geophysical Research Letters, 2012, 39, .	1.5	70
17	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.	0.8	66
18	Description and climatology of a new general circulation model of the Martian atmosphere. Journal of Geophysical Research, 2005, 110, .	3.3	63

#	Article	IF	Citations
19	First results ofHerschel-PACS observations of Neptune. Astronomy and Astrophysics, 2010, 518, L152.	2.1	60
20	Water and related chemistry in the solar system. A guaranteed time key programme for Herschel. Planetary and Space Science, 2009, 57, 1596-1606.	0.9	58
21	Thermal effects of saturating gravity waves in the atmosphere. Journal of Geophysical Research, 2003, 108, ACL 4-1.	3.3	57
22	Herschel/HIFI observations of Mars: First detection of O₂at submillimetre wavelengths and upper limits on HCl and H₂O₂. Astronomy and Astrophysics, 2010, 521, L49.	2.1	57
23	Gravity waves in the thermosphere during a sudden stratospheric warming. Geophysical Research Letters, 2012, 39, .	1.5	52
24	Cooling of the Martian thermosphere by CO₂radiation and gravity waves: An intercomparison study with two general circulation models. Journal of Geophysical Research E: Planets, 2015, 120, 913-927.	1.5	51
25	Seasonal Water â€œPumpâ€•in the Atmosphere of Mars: Vertical Transport to the Thermosphere. Geophysical Research Letters, 2019, 46, 4161-4169.	1.5	50
26	Dynamical effects of internal gravity waves in the equinoctial thermosphere. Journal of Atmospheric and Solar-Terrestrial Physics, 2012, 90-91, 104-116.	0.6	49
27	General circulation modeling of the Martian upper atmosphere during global dust storms. Journal of Geophysical Research E: Planets, 2013, 118, 2234-2246.	1.5	49
28	Influence of parameterized smallâ€scale gravity waves on the migrating diurnal tide in Earth's thermosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 4846-4864.	0.8	49
29	The nonlinear mechanism of gravity wave generation by meteorological motions in the atmosphere. Journal of Atmospheric and Solar-Terrestrial Physics, 1995, 57, 1221-1231.	0.9	48
30	Estimates of gravity wave drag on Mars: Indication of a possible lower thermospheric wind reversal. Icarus, 2011, 211, 909-912.	1.1	48
31	On the role of an anisotropic gravity wave spectrum in maintaining the circulation of the middle atmosphere. Geophysical Research Letters, 1998, 25, 509-512.	1.5	47
32	Simulated variability of the highâ€latitude thermosphere induced by smallâ€scale gravity waves during a sudden stratospheric warming. Journal of Geophysical Research: Space Physics, 2014, 119, 357-365.	0.8	44
33	Winter polar warmings and the meridional transport on Mars simulated with a general circulation model. Icarus, 2007, 186, 97-110.	1.1	42
34	Gravity Waves in Planetary Atmospheres: Their Effects and Parameterization in Global Circulation Models. Atmosphere, 2019, 10, 531.	1.0	41
35	Gravity waves and highâ€altitude CO₂ ice cloud formation in the Martian atmosphere. Geophysical Research Letters, 2015, 42, 4294-4300.	1.5	39
36	Seasonal changes of the baroclinic wave activity in the northern hemisphere of Mars simulated with a GCM. Geophysical Research Letters, 2007, 34, .	1.5	37

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37	Role of gravity waves in vertical coupling during sudden stratospheric warmings. Geoscience Letters, 2016, 3, .	1.3	36
38	A study of the distant activity of comet C/2006ÂW3Â(Christensen) withHerscheland ground-based radio telescopes. Astronomy and Astrophysics, 2010, 518, L149.	2.1	35
39	Carbon dioxide ice clouds, snowfalls, and baroclinic waves in the northern winter polar atmosphere of Mars. Geophysical Research Letters, 2013, 40, 1484-1488.	1.5	35
40	Comparison of the Martian thermospheric density and temperature from IUVS/MAVEN data and general circulation modeling. Geophysical Research Letters, 2016, 43, 3095-3104.	1.5	34
41	From cold to warm gas giants: A three-dimensional atmospheric general circulation modeling. Icarus, 2013, 225, 228-235.	1.1	33
42	Dust Stormâ€Enhanced Gravity Wave Activity in the Martian Thermosphere Observed by MAVEN and Implication for Atmospheric Escape. Geophysical Research Letters, 2021, 48, e2020GL092095.	1.5	33
43	HIFI observations of water in the atmosphere of comet C/2008 Q3 (Garradd). Astronomy and Astrophysics, 2010, 518, L150.	2.1	31
44	The EChO science case. Experimental Astronomy, 2015, 40, 329-391.	1.6	31
45	Middle atmosphere polar warmings on Mars: Simulations and study on the validation with sub-millimeter observations. Planetary and Space Science, 2007, 55, 1103-1112.	0.9	30
46	On Forcing the Winter Polar Warmings in the Martian Middle Atmosphere during Dust Storms. Journal of the Meteorological Society of Japan, 2009, 87, 913-921.	0.7	28
47	Gravity Wave Activity in the Atmosphere of Mars During the 2018 Global Dust Storm: Simulations With a Highâ€Resolution Model. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006556.	1.5	27
48	On advection and diffusion in the mesosphere and lower thermosphere: The role of rotational fluxes. Journal of Geophysical Research, 2004, 109, .	3.3	26
49	Water production in comet 81P/WildÂ2 as determined byHerschel/HIFI. Astronomy and Astrophysics, 2010, 521, L50.	2.1	25
50	A global view of gravity waves in the Martian atmosphere inferred from a highâ€resolution general circulation model. Geophysical Research Letters, 2015, 42, 9213-9222.	1.5	24
51	Influence of dust on the dynamics of the martian atmosphere above the first scale height. Aeolian Research, 2011, 3, 145-156.	1.1	23
52	Semiannual oscillations in the atmosphere of Mars. Geophysical Research Letters, 2008, 35, .	1.5	22
53	Influence of gravity waves on the climatology of high-altitude Martian carbon dioxide ice clouds. Annales Geophysicae, 2018, 36, 1631-1646.	0.6	22
54	Gravity Wave Activity in the Martian Atmosphere at Altitudes 20â€“160Âkm From ACS/TGO Occultation Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006899.	1.5	22

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55	Annual Cycle of Gravity Wave Activity Derived From a Highâ€Resolution Martian General Circulation Model. Journal of Geophysical Research E: Planets, 2019, 124, 1618-1632.	1.5	21
56	Realistic semiannual oscillation simulated in a middle atmosphere general circulation model. Geophysical Research Letters, 2001, 28, 733-736.	1.5	20
57	Global Distribution of Gravity Wave Sources and Fields in the Martian Atmosphere during Equinox and Solstice Inferred from a High-Resolution General Circulation Model. Journals of the Atmospheric Sciences, 2016, 73, 4895-4909.	0.6	20
58	Obscure waves in planetary atmospheres. Physics Today, 2019, 72, 40-46.	0.3	20
59	First results on Martian carbon monoxide fromHerschel/HIFI observations. Astronomy and Astrophysics, 2010, 521, L48.	2.1	19
60	Density Fluctuations in the Lower Thermosphere of Mars Retrieved From the ExoMars Trace Gas Orbiter (TGO) Aerobraking. Atmosphere, 2019, 10, 620.	1.0	16
61	Modeling the Hydrological Cycle in the Atmosphere of Mars: Influence of a Bimodal Size Distribution of Aerosol Nucleation Particles. Journal of Geophysical Research E: Planets, 2018, 123, 508-526.	1.5	14
62	Effects of Latitude-Dependent Gravity Wave Source Variations on the Middle and Upper Atmosphere. Frontiers in Astronomy and Space Sciences, 2021, 7, .	1.1	14
63	Parameterization of radiative heating and cooling rates in the stratosphere of Jupiter. Icarus, 2014, 242, 149-157.	1.1	13
64	General circulation modeling of the Martian upper atmosphere during global dust storms. Journal of Geophysical Research E: Planets, 2013, 118, n/a-n/a.	1.5	10
65	Martian Dust Storms and Gravity Waves: Disentangling Water Transport to the Upper Atmosphere. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	10
66	Net radiative heating and diagnostics of the diabatic circulation in the 15â€“110 km height layer. Journal of Atmospheric and Solar-Terrestrial Physics, 1994, 56, 1571-1584.	0.9	9
67	TheHerschel-SPIRE submillimetre spectrum of Mars. Astronomy and Astrophysics, 2010, 518, L151.	2.1	9
68	Extending the Parameterization of Gravity Waves into the Thermosphere and Modeling Their Effects. Springer Atmospheric Sciences, 2013, , 467-480.	0.4	9
69	Smallâ€scale temperature fluctuations associated with gravity waves cause additional radiative cooling of mesopause the region. Geophysical Research Letters, 2007, 34, .	1.5	8
70	Ion Friction and Quantification of the Geomagnetic Influence on Gravity Wave Propagation and Dissipation in the Thermosphereâ€Ionosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 12,464.	0.8	8
71	Variations of the Martian Thermospheric Gravity-wave Activity during the Recent Solar Minimum as Observed by MAVEN. Astrophysical Journal, 2021, 920, 69.	1.6	8
72	The water cycle in the general circulation model of the martian atmosphere. Solar System Research, 2016, 50, 90-101.	0.3	7

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73	Intense Zonal Wind in the Martian Mesosphere During the 2018 Planetâ€Encircling Dust Event Observed by Groundâ€Based Infrared Heterodyne Spectroscopy. Geophysical Research Letters, 2021, 48, e2021GL092413.	1.5	4
74	Evidence for Gravity Waves in the Thermosphere of Saturn and Implications for Global Circulation. Geophysical Research Letters, 2022, 49, .	1.5	4
75	Reply to â€œComments on the Gravity Wave Theory of J. Weinstock Concerning Dissipation Induced by Nonlinear Effectsâ€. Journals of the Atmospheric Sciences, 2007, 64, 1027-1041.	0.6	3
76	A NEW COUPLED 3D-MODEL OF THE DYNAMICS AND CHEMISTRY OF THE MARTIAN ATMOSPHERE. , 0, , 177-194.		2
77	Simulation of Water Vapor Photodissociation during Dust Storm Season on Mars. Solar System Research, 2022, 56, 23-31.	0.3	2
78	THE DOPPLER-SONNEMANN EFFECT (DSE) ON THE PHOTOCHEMISTRY ON MARS. , 0, , 163-175.		1
79	Definition of a generalized diabatic circulation based on a variational approach. Izvestiya - Atmospheric and Oceanic Physics, 2007, 43, 436-441.	0.2	0
80	MARTIAN ATMOSPHERE DURING THE 2001 GLOBAL DUST STORM: OBSERVATIONS WITH SWAS AND SIMULATIONS WITH A GENERAL CIRCULATION MODEL. , 2006, , 145-154.		0
81	Infra-red Radiative Cooling/Heating of the Mesosphere and Lower Thermosphere Due to the Small-Scale Temperature Fluctuations Associated with Gravity Waves. Springer Atmospheric Sciences, 2013, , 429-442.	0.4	0
82	Editorial: Coupling Processes in Terrestrial and Planetary Atmospheres. Frontiers in Astronomy and Space Sciences, 2022, 9, .	1.1	0