

Chester S Gardner

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

74 papers	2,468 citations	30 h-index	46 g-index
78 ext. papers	2,662 ext. citations	5.3 avg, IF	4.92 L-index

#	Paper	IF	Citations
74	Eliminating photon noise biases in the computation of second-order statistics of lidar temperature, wind, and species measurements. <i>Applied Optics</i> , 2020 , 59, 8259-8271	1.7	1
73	First Simultaneous Lidar Observations of Thermosphere-Ionosphere Fe and Na (TIFe and TINa) Layers at McMurdo (77.84°S, 166.67°E), Antarctica With Concurrent Measurements of Aurora Activity, Enhanced Ionization Layers, and Converging Electric Field. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL090181	4.9	5
72	Parameterizing Wave-Driven Vertical Constituent Transport in the Upper Atmosphere. <i>Earth and Space Science</i> , 2019 , 6, 904-913	3.1	5
71	Role of Wave-Induced Diffusion and Energy Flux in the Vertical Transport of Atmospheric Constituents in the Mesopause Region. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 6581-6604	4.4	12
70	Vertical and horizontal transport of mesospheric Na: Implications for the mass influx of cosmic dust. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2017 , 162, 192-202	2	9
69	First Na lidar measurements of turbulence heat flux, thermal diffusivity, and energy dissipation rate in the mesopause region. <i>Geophysical Research Letters</i> , 2017 , 44, 5782-5790	4.9	19
68	From Antarctica Lidar Discoveries to Oasis Exploration. <i>EPJ Web of Conferences</i> , 2016 , 119, 12001	0.3	9
67	Impact of horizontal transport, temperature, and PMC uptake on mesospheric Fe at high latitudes. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016 , 121, 6564-6580	4.4	3
66	OH* imager response to turbulence-induced temperature fluctuations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016 , 121, 13,919	4.4	2
65	Chemical transport of neutral atmospheric constituents by waves and turbulence: Theory and observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016 , 121, 494-520	4.4	12
64	Measurements of the vertical fluxes of atomic Fe and Na at the mesopause: Implications for the velocity of cosmic dust entering the atmosphere. <i>Geophysical Research Letters</i> , 2015 , 42, 169-175	4.9	25
63	Winter temperature tides from 30 to 110 km at McMurdo (77.8°S, 166.7°E), Antarctica: Lidar observations and comparisons with WAM. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 2846-2863	4.4	19
62	Inferring the global cosmic dust influx to the Earth's atmosphere from lidar observations of the vertical flux of mesospheric Na. <i>Journal of Geophysical Research: Space Physics</i> , 2014 , 119, 7870-7879	2.6	39
61	Measuring eddy heat, constituent, and momentum fluxes with high-resolution Na and Fe Doppler lidars. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 10583-10603	4.4	14
60	Scale-Independent Diffusive Filtering Theory of Gravity Wave Spectra in the Atmosphere. <i>Geophysical Monograph Series</i> , 2013 , 153-175	1.1	2
59	Simultaneous, common-volume lidar observations and theoretical studies of correlations among Fe/Na layers and temperatures in the mesosphere and lower thermosphere at Boulder Table Mountain (40°N, 105°W), Colorado. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 8748-8759	4.4	12
58	Seasonal variations of the mesospheric Fe layer at Rothera, Antarctica (67.5°S, 68.0°W). <i>Journal of Geophysical Research</i> , 2011 , 116,		22

57	First lidar observations of polar mesospheric clouds and Fe temperatures at McMurdo (77.8°S, 166.7°E), Antarctica. <i>Geophysical Research Letters</i> , 2011 , 38, n/a-n/a	4.9	23
56	Lidar observations of neutral Fe layers and fast gravity waves in the thermosphere (110–155 km) at McMurdo (77.8°S, 166.7°E), Antarctica. <i>Geophysical Research Letters</i> , 2011 , 38, n/a-n/a	4.9	69
55	Wave-induced transport of atmospheric constituents and its effect on the mesospheric Na layer. <i>Journal of Geophysical Research</i> , 2010 , 115,		47
54	Seasonal variations of the vertical fluxes of heat and horizontal momentum in the mesopause region at Starfire Optical Range, New Mexico. <i>Journal of Geophysical Research</i> , 2007 , 112,		48
53	Polar mesospheric clouds observed by an iron Boltzmann lidar at Rothera (67.5°S, 68.0°W), Antarctica from 2002 to 2005: Properties and implications. <i>Journal of Geophysical Research</i> , 2006 , 111,		44
52	Nocturnal thermal structure of the mesosphere and lower thermosphere region at Maui, Hawaii (20.7°N), and Starfire Optical Range, New Mexico (35°N). <i>Journal of Geophysical Research</i> , 2005 , 110,		27
51	Vertical heat and constituent transport in the mesopause region by dissipating gravity waves at Maui, Hawaii (20.7°N), and Starfire Optical Range, New Mexico (35°N). <i>Journal of Geophysical Research</i> , 2005 , 110,		8
50	Seasonal variations of the Na and Fe layers at the South Pole and their implications for the chemistry and general circulation of the polar mesosphere. <i>Journal of Geophysical Research</i> , 2005 , 110,		58
49	Removal of meteoric iron on polar mesospheric clouds. <i>Science</i> , 2004 , 304, 426-8	33.3	60
48	Vertical dynamical transport of mesospheric constituents by dissipating gravity waves. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2004 , 66, 267-275	2	14
47	Unstable layers in the mesopause region observed with Na lidar during the Turbulent Oxygen Mixing Experiment (TOMEX) campaign. <i>Journal of Geophysical Research</i> , 2004 , 109,		35
46	Lidar observations of polar mesospheric clouds at Rothera, Antarctica (67.5°S, 68.0°W). <i>Geophysical Research Letters</i> , 2004 , 31,	4.9	25
45	Observed temperature structure of the atmosphere above Syowa Station, Antarctica (69°S, 39°E). <i>Journal of Geophysical Research</i> , 2004 , 109,		18
44	Performance capabilities of middle-atmosphere temperature lidars: comparison of Na, Fe, K, Ca, Ca+, and Rayleigh systems. <i>Applied Optics</i> , 2004 , 43, 4941-56	1.7	30
43	Seasonal and Nocturnal Variations of the Mesospheric Sodium Layer at Starfire Optical Range, New Mexico. <i>Chinese Journal of Geophysics</i> , 2003 , 46, 432-437		4
42	Measurements of atmospheric stability in the mesopause region at starfire optical range, NM. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2003 , 65, 219-232	2	42
41	Lidar studies of interannual, seasonal, and diurnal variations of polar mesospheric clouds at the South Pole. <i>Journal of Geophysical Research</i> , 2003 , 108,		58
40	Seasonal variations of the atmospheric temperature structure at South Pole. <i>Journal of Geophysical Research</i> , 2003 , 108,		29

39	The Application of Terrestrial Aeronomy Groundbased Instruments to Planetary Studies. <i>Geophysical Monograph Series</i> , 2002 , 329-337	1.1	
38	Fe Boltzmann temperature lidar: design, error analysis, and initial results at the north and south poles. <i>Applied Optics</i> , 2002 , 41, 4400-10	1.7	63
37	Characteristics of quasi-monochromatic gravity waves observed with Na lidar in the mesopause region at Starfire Optical Range, NM. <i>Geophysical Research Letters</i> , 2002 , 29, 22-1-22-4	4.9	39
36	The temperature structure of the winter atmosphere at South Pole. <i>Geophysical Research Letters</i> , 2002 , 29, 49-1-49-4	4.9	15
35	Observations of persistent Leonid meteor trails 3. The "lowworm". <i>Journal of Geophysical Research</i> , 2002 , 107, SIA 5-1-SIA 5-10		7
34	Lidar observations of polar mesospheric clouds at South Pole: Diurnal variations. <i>Geophysical Research Letters</i> , 2001 , 28, 1937-1940	4.9	29
33	Thermal Structure of the Mesopause Region (80–105 km) at 40°N Latitude. Part I: Seasonal Variations. <i>Journals of the Atmospheric Sciences</i> , 2000 , 57, 66-77	2.1	62
32	Thermal Structure of the Mesopause Region (80–105 km) at 40°N Latitude. Part II: Diurnal Variations. <i>Journals of the Atmospheric Sciences</i> , 2000 , 57, 78-92	2.1	62
31	Meteor trail advection observed during the 1998 Leonid Shower. <i>Geophysical Research Letters</i> , 2000 , 27, 1819-1822	4.9	21
30	Characteristics of Fe ablation trails observed during the 1998 Leonid Meteor Shower. <i>Geophysical Research Letters</i> , 2000 , 27, 1807-1810	4.9	25
29	Gravity wave characteristics in the lower atmosphere at south pole. <i>Journal of Geophysical Research</i> , 1999 , 104, 5963-5984		54
28	A model of meteoric iron in the upper atmosphere. <i>Journal of Geophysical Research</i> , 1998 , 103, 10913-10925		60
27	Influence of the diurnal tide and thermospheric heat sources on the formation of mesospheric temperature inversion layers. <i>Geophysical Research Letters</i> , 1998 , 25, 1483-1486	4.9	42
26	Measurements of the dynamical cooling rate associated with the vertical transport of heat by dissipating gravity waves in the mesopause region at the Starfire Optical Range, New Mexico. <i>Journal of Geophysical Research</i> , 1998 , 103, 16909-16926		61
25	Observations of tidal temperature and wind perturbations in the mesopause region above Urbana, IL (40°N, 88°W). <i>Geophysical Research Letters</i> , 1997 , 24, 1207-1210	4.9	19
24	Testing theories of atmospheric gravity wave saturation and dissipation. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1996 , 58, 1575-1589		42
23	Mesospheric Na Wind/Temperature Lidar.. <i>The Review of Laser Engineering</i> , 1995 , 23, 131-134	0	15
22	Horizontal wave number spectra of density and temperature perturbations in the mesosphere measured during the 4 August flight of ANLC-93. <i>Geophysical Research Letters</i> , 1995 , 22, 2865-2868	4.9	7

21	High resolution horizontal wave number spectra of mesospheric wave perturbations observed during the 21 October triangular flight of ALOHA-93. <i>Geophysical Research Letters</i> , 1995 , 22, 2869-2872	4.9	8
20	Introduction to ALOHA/ANLC-93: The 1993 airborne lidar and observations of the Hawaiian Airglow/Airborne Noctilucent Cloud Campaigns. <i>Geophysical Research Letters</i> , 1995 , 22, 2789-2792	4.9	16
19	Heat flux observations in the mesopause region above Haleakala. <i>Geophysical Research Letters</i> , 1995 , 22, 2829-2832	4.9	44
18	Simultaneous lidar observations of vertical wind, temperature, and density profiles in the upper mesosphere: Evidence for nonseparability of atmospheric perturbation spectra. <i>Geophysical Research Letters</i> , 1995 , 22, 2877-2880	4.9	22
17	Gravity waves in the upper mesosphere over Antarctica: Lidar observations at the South Pole and Syowa. <i>Journal of Geophysical Research</i> , 1994 , 99, 5475		49
16	Seasonal variations of the thermal structure of the mesopause region at Urbana, IL (40°N, 88°W) and Ft. Collins, CO (41°N, 105°W). <i>Geophysical Research Letters</i> , 1994 , 21, 821-824	4.9	30
15	Diffusive filtering theory of gravity wave spectra in the atmosphere. <i>Journal of Geophysical Research</i> , 1994 , 99, 20601		112
14	Influence of the mean wind field on the separability of atmospheric perturbation spectra. <i>Journal of Geophysical Research</i> , 1993 , 98, 8859-8872		25
13	Structure and seasonal variability of the nighttime mesospheric Fe layer at midlatitudes. <i>Journal of Geophysical Research</i> , 1993 , 98, 16875		66
12	Observations of a 12 H wave in the mesopause region at the South Pole. <i>Geophysical Research Letters</i> , 1992 , 19, 57-60	4.9	27
11	Evidence for substantial seasonal variations in the structure of the mesospheric Fe layer. <i>Geophysical Research Letters</i> , 1992 , 19, 405-408	4.9	12
10	Spectra of gravity wave density and wind perturbations observed during ALOHA-90 on the 25 March flight between Maui and Christmas Island. <i>Geophysical Research Letters</i> , 1991 , 18, 1325-1328	4.9	23
9	Horizontal and vertical structure of the major sporadic sodium layer events observed during ALOHA-90. <i>Geophysical Research Letters</i> , 1991 , 18, 1365-1368	4.9	53
8	Introduction to ALOHA-90: The airborne lidar and observations of the Hawaiian Airglow Campaign. <i>Geophysical Research Letters</i> , 1991 , 18, 1313-1316	4.9	30
7	Seasonal variability of gravity wave activity and spectra in the mesopause region at Urbana. <i>Journal of Geophysical Research</i> , 1991 , 96, 17229		118
6	Lidar observations of mesospheric Fe and sporadic Fe layers at Urbana, Illinois. <i>Geophysical Research Letters</i> , 1990 , 17, 143-146	4.9	44
5	Mid-latitude lidar observations of large sporadic sodium layers. <i>Geophysical Research Letters</i> , 1989 , 16, 715-718	4.9	35
4	Simultaneous radar and lidar observations of sporadic E and Na layers at Arecibo. <i>Geophysical Research Letters</i> , 1989 , 16, 1019-1022	4.9	70

3	CEDAR lidar observations of sporadic Na layers at Urbana, Illinois. <i>Geophysical Research Letters</i> , 1988 , 15, 1137-1140	4.9	25
2	Experiments on laser guide stars at Mauna Kea Observatory for adaptive imaging in astronomy. <i>Nature</i> , 1987 , 328, 229-231	50.4	149
1	Atmospheric Refractivity Corrections in Satellite Laser Ranging. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 1985 , GE-23, 414-425	8.1	38