James Hecht

List of Publications by Year in descending order

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88 papers	2,217 citations	186265 28 h-index	265206 42 g-index
88 all docs	88 docs citations	88 times ranked	1305 citing authors

#	Article	IF	Citations
1	Deducing composition and incident electron spectra from groundâ€based auroral optical measurements: Theory and model results. Journal of Geophysical Research, 1989, 94, 13527-13539.	3.3	119
2	Wave breaking signatures in OH airglow and sodium densities and temperatures: 1. Airglow imaging, Na lidar, and MF radar observations. Journal of Geophysical Research, 1997, 102, 6655-6668.	3.3	110
3	Instability layers and airglow imaging. Reviews of Geophysics, 2004, 42, .	23.0	107
4	First measurements of the two-dimensional horizontal wave number spectrum from CCD images of the nightglow. Journal of Geophysical Research, 1994, 99, 11449.	3.3	69
5	Diffuse and Pulsating Aurora. Space Science Reviews, 2020, 216, 1.	8.1	69
6	The dust around R Coronae Borealis type stars. Astrophysical Journal, 1984, 280, 228.	4.5	64
7	Wave breaking signatures in sodium densities and OH nightglow: 2. Simulation of wave and instability structures. Journal of Geophysical Research, 1997, 102, 6669-6684.	3.3	58
8	Signatures of aging silicate dust. Astrophysics and Space Science, 1990, 163, 79-94.	1.4	57
9	Maui Mesosphere and Lower Thermosphere (Maui MALT) observations of the evolution of Kelvin-Helmholtz billows formed near 86 km altitude. Journal of Geophysical Research, 2005, 110, .	3.3	57
10	Deducing composition and incident electron spectra from groundâ€based auroral optical measurements: A study of auroral red line processes. Journal of Geophysical Research, 1989, 94, 13541-13552.	3.3	55
11	A physical model for the 2175 A interstellar extinction feature. Astrophysical Journal, 1986, 305, 817.	4.5	52
12	A reexamination of evanescent acoustic-gravity waves: Special properties and aeronomical significance. Journal of Geophysical Research, 2003, 108, .	3.3	51
13	Unstable layers in the mesopause region observed with Na lidar during the Turbulent Oxygen Mixing Experiment (TOMEX) campaign. Journal of Geophysical Research, 2004, 109, .	3.3	50
14	Thermospheric density in the Earth's magnetic cusp as observed by the Streak mission. Geophysical Research Letters, 2008, 35, .	4.0	41
15	Observations of the OH Meinel (6,2) and O₂ atmospheric (0,1) Nightglow emissions from Maui during the ALOHAâ€90 Campaign. Geophysical Research Letters, 1991, 18, 1341-1344.	4.0	40
16	Observations of gravity wave breakdown into ripples associated with dynamical instabilities. Journal of Geophysical Research, 2005, 110, .	3.3	40
17	Observations of the breakdown of an atmospheric gravity wave near the cold summer mesopause at 54N. Geophysical Research Letters, 2000, 27, 879-882.	4.0	39
18	Airglow observations of dynamical (wind shear-induced) instabilities over Adelaide, Australia, associated with atmospheric gravity waves. Journal of Geophysical Research, 2001, 106, 28189-28197.	3.3	38

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19	TOMEX: Mesospheric and lower thermospheric diffusivities and instability layers. Journal of Geophysical Research, 2004, 109, .	3.3	38
20	Lower thermospheric composition changes derived from optical and radar data taken at Sondre Stromfjord during the Great Magnetic Storm of February 1986. Journal of Geophysical Research, 1991, 96, 5757-5776.	3.3	36
21	Comparison of groundâ€based optical observations of N₂ second positive to N₂⁺ first negative emission ratios with electron precipitation energies inferred from the Sondre Stromfjord radar. Journal of Geophysical Research, 1991, 96, 11341-11351.	3.3	35
22	An investigation comparing groundâ€based techniques that quantify auroral electron flux and conductance. Journal of Geophysical Research: Space Physics, 2015, 120, 9038-9056.	2.4	34
23	Highâ€resolution auroral observations of the OI(7774) and OI(8446) multiplets. Geophysical Research Letters, 1985, 12, 605-608.	4.0	33
24	Formation characteristics of sporadic Na layers observed simultaneously by lidar and airglow instruments during ALOHAâ€90. Geophysical Research Letters, 1991, 18, 1369-1372.	4.0	32
25	Observations of the phaseâ€locked 2 day wave over the Australian sector using mediumâ€frequency radar and airglow data. Journal of Geophysical Research, 2010, 115, .	3.3	32
26	The life cycle of instability features measured from the Andes Lidar Observatory over Cerro Pachon on 24 March 2012. Journal of Geophysical Research D: Atmospheres, 2014, 119, 8872-8898.	3.3	32
27	Photofragmentation of massâ€selected (C6H6)+n clusters: Measurement of monomerâ€“cluster binding energy for n=7â€“15. Journal of Chemical Physics, 1992, 96, 1975-1981.	3.0	30
28	An overview of observations of unstable layers during the Turbulent Oxygen Mixing Experiment (TOMEX). Journal of Geophysical Research, 2004, 109, .	3.3	30
29	Characteristics of shortâ€period wavelike features near 87 km altitude from airglow and lidar observations over Maui. Journal of Geophysical Research, 2007, 112, .	3.3	29
30	Observations of variations in airglow emissions during ALOHA-93. Geophysical Research Letters, 1995, 22, 2817-2820.	4.0	28
31	Airglow imager observations of atmospheric gravity waves at Alice Springs and Adelaide, Australia during the Darwin Area Wave Experiment (DAWEX). Journal of Geophysical Research, 2004, 109, .	3.3	27
32	Modeling the implications of Kelvinâ€Helmholtz instability dynamics for airglow observations. Journal of Geophysical Research D: Atmospheres, 2014, 119, 8858-8871.	3.3	25
33	Observations of spectra of intensity fluctuations of the OH Meinel nightglow during ALOHA-93. Geophysical Research Letters, 1995, 22, 2873-2876.	4.0	24
34	Comparison of simulated and observed trapped and precipitating electron fluxes during a magnetic storm. Geophysical Research Letters, 2015, 42, 8302-8311.	4.0	24
35	Observations of Electron Precipitation During Pulsating Aurora and Its Chemical Impact. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027713.	2.4	23
36	Trends of airglow imager observations near Adelaide, Australia. Geophysical Research Letters, 1997, 24, 587-590.	4.0	22

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37	The excitation of the Na airglow from Coqui Dos rocket and ground-based observations. Geophysical Research Letters, 2000, 27, 453-456.	4.0	22
38	Diffuse Auroral Electron and Ion Precipitation Effects on RCMâ€E Comparisons With Satellite Data During the 17 March 2013 Storm. Journal of Geophysical Research: Space Physics, 2019, 124, 4194-4216.	2.4	22
39	SuperDARN Radarâ€Derived HF Radio Attenuation During the September 2017 Solar Proton Events. Space Weather, 2018, 16, 1455-1469.	3.7	21
40	Altitude profiles of lower thermospheric temperature from RAIDS/NIRS and TIMED/SABER remote sensing experiments. Journal of Geophysical Research: Space Physics, 2013, 118, 3740-3746.	2.4	19
41	Observations of the Breakdown of Mountain Waves Over the Andes Lidar Observatory at Cerro Pachon on 8/9 July 2012. Journal of Geophysical Research D: Atmospheres, 2018, 123, 276-299.	3.3	19
42	Energetic Electron Precipitation Occurrence Rates Determined Using the Syowa East SuperDARN Radar. Journal of Geophysical Research: Space Physics, 2019, 124, 6253-6265.	2.4	19
43	Auroral Image Classification With Deep Neural Networks. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA027808.	2.4	19
44	Depletion of oxygen in aurora: Evidence for a local mechanism. Journal of Geophysical Research, 1997, 102, 22273-22277.	3.3	18
45	A seasonal study of mesospheric temperatures and emission intensities at Adelaide and Alice Springs. Journal of Geophysical Research, 2008, 113, .	3.3	18
46	The nature of the dust around R Coronae Borealis stars - Isolated amorphous carbon or graphite fractals?. Astrophysical Journal, 1991, 367, 635.	4.5	18
47	Coordinated satellite and groundâ€based measurements of the energy characteristics of a Sunâ€aligned arc over SÃ¸ndre StrÃ¸mfjord. Journal of Geophysical Research, 1989, 94, 17201-17213.	3.3	17
48	Observations of the neutral atmosphere between 100 and 200 km using ARIA rocket-borne and ground-based instruments. Journal of Geophysical Research, 1995, 100, 17285.	3.3	17
49	A comparison between auroral particle characteristics and atmospheric composition inferred from analyzing optical emission measurements alone and in combination with incoherent scatter radar measurements. Journal of Geophysical Research, 1999, 104, 33-44.	3.3	16
50	Airglow emissions and oxygen mixing ratios from the photometer experiment on the Turbulent Oxygen Mixing Experiment (TOMEX). Journal of Geophysical Research, 2004, 109, .	3.3	15
51	Observations of molecular oxygen Atmospheric band emission in the thermosphere using the near infrared spectrometer on the ISS/RAIDS experiment. Journal of Geophysical Research, 2012, 117, .	3.3	15
52	Kelvinâ€Helmholtz Billow Interactions and Instabilities in the Mesosphere Over the Andes Lidar Observatory: 1. Observations. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033414.	3.3	15
53	Simulation of cosmic dust spectra. Astrophysical Journal, 1986, 309, 90.	4.5	15
54	The Ultraviolet Extinction Curve for Circumstellar Dust Formed in the Hydrogenâ€poor Environment of V348 Sagittarii. Astrophysical Journal, 1997, 476, 865-869.	4.5	14

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55	An intense traveling airglow front in the upper mesosphereâ€“lower thermosphere with characteristics of a bore observed over Alice Springs, Australia, during a strong 2 day wave episode. Journal of Geophysical Research, 2012, 117, .	3.3	14
56	Fabry Perot observations of helium 10830 Ã... emission at Millstone Hill. Geophysical Research Letters, 1996, 23, 3239-3242.	4.0	13
57	A Comparative Study of Spectral Auroral Intensity Predictions From Multiple Electron Transport Models. Journal of Geophysical Research: Space Physics, 2018, 123, 993-1005.	2.4	13
58	Patch Size Evolution During Pulsating Aurora. Journal of Geophysical Research: Space Physics, 2019, 124, 4725-4738.	2.4	13
59	Simultaneous observations of lower thermospheric composition change during moderate auroral activity from Kangerlussuaq and Narsarsuaq, Greenland. Journal of Geophysical Research, 2000, 105, 27109-27118.	3.3	12
60	An observation of a fast external atmospheric acoustic-gravity wave. Journal of Geophysical Research, 2002, 107, ACL 12-1.	3.3	12
61	Satellite and groundâ€based observations of auroral energy deposition and the effects on thermospheric composition during large geomagnetic storms: 1. Great geomagnetic storm of 20 November 2003. Journal of Geophysical Research, 2008, 113, .	3.3	12
62	Kelvinâ€Helmholtz Billow Interactions and Instabilities in the Mesosphere Over the Andes Lidar Observatory: 2. Modeling and Interpretation. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033412.	3.3	12
63	Computational Analysis of High-Altitude Ionization Gauge Flight Measurements. Journal of Spacecraft and Rockets, 2006, 43, 186-193.	1.9	11
64	The Remote Atmospheric and Ionospheric Detection System experiment on the ISS: mission overview. , 2009, , .		11
65	Highâ€resolution modeling of the cusp density anomaly: Response to particle and Joule heating under typical conditions. Journal of Geophysical Research: Space Physics, 2016, 121, 2645-2661.	2.4	11
66	A multiyear (2002â€“2006) climatology of O/N₂ in the lower thermosphere from TIMED GUVI and groundâ€based photometer observations. Journal of Geophysical Research, 2012, 117, .	3.3	10
67	Instability structures during periods of large Richardson number (Riâ€‰>â€‰). Evidence of parametric instability. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6929-6939.	3.3	10
68	Thermospheric disturbance recorded by photometers onboard the ARIA II rocket. Journal of Geophysical Research, 2000, 105, 2461-2475.	3.3	9
69	Cosmic Noise Absorption During Solar Proton Events in WACCMâ€D and Riometer Observations. Journal of Geophysical Research: Space Physics, 2019, 124, 1361-1376.	2.4	8
70	Auroral and airglow Fabryâ€“Perot spectrometer. Review of Scientific Instruments, 1986, 57, 240-247.	1.3	7
71	The Remote Atmospheric and Ionospheric Detection System on the ISS: sensor performance and space weather applications from the extreme to the near ultraviolet. , 2009, , .		7
72	Simultaneous observations of the phaseâ€locked 2 day wave at Adelaide, Cerro Pachon, and Darwin. Journal of Geophysical Research D: Atmospheres, 2015, 120, 1808-1825.	3.3	7

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73	Overview of the Rocket Experiment for Neutral Upwelling Sounding Rocket 2 (RENU2). Geophysical Research Letters, 2020, 47, e2018GL081885.	4.0	7
74	Ultraviolet Observations of the Hot R Coronae Borealisâ€“Type Star V348 Sagittarii during a Deep Minimum. Astrophysical Journal, 1998, 501, 813-822.	4.5	7
75	GHOST: A Satellite Mission Concept for Persistent Monitoring of Stratospheric Gravity Waves Induced by Severe Storms. Bulletin of the American Meteorological Society, 2018, 99, 1813-1828.	3.3	6
76	Observations that link infrared cirrus and ultraviolet extinction. Astrophysical Journal, 1991, 375, 163.	4.5	6
77	Remote sensing of atomic oxygen in auroral rocket experiments using topside zenith viewing O/N2brightness ratios. Journal of Geophysical Research, 1997, 102, 2475-2482.	3.3	5
78	The Remote Atmospheric and Ionospheric Detection System on the ISS: sensor performance and space weather applications from the visible to the near infrared. , 2009, , .		5
79	Editorial: Topical Collection on Auroral Physics. Space Science Reviews, 2021, 217, 1.	8.1	4
80	A Physical Model for the 2175 Angstrom Interstellar Extinction Feature: Erratum. Astrophysical Journal, 1987, 314, 429.	4.5	4
81	A new technique for remote sensing of O2 density from 140 to 180 km. Geophysical Research Letters, 2015, 42, 233-240.	4.0	3
82	Observational Validation of Cutoff Models as Boundaries of Solar Proton Event Impact Area. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA027935.	2.4	3
83	RENU2 UV PMT Observations of the Cusp. Geophysical Research Letters, 2020, 47, e2019GL082314.	4.0	2
84	A New Technique for Estimating the Lifetime of Bursts of Electron Precipitation From Sounding Rocket Measurements. Geophysical Research Letters, 2020, 47, e2019GL082894.	4.0	2
85	Reply [to â€œComment on Paper: â€˜Trends of airglow imager observations near Adelaide, Australiaâ€˜ by J. H. Hecht, R. E. Walterscheid, J. Woithe, L. Campbell, R. A. Vincent, and I. M. Reidâ€]. Geophysical Research Letters, 1998, 25, 23-23.	4.0	1
86	Observations of sunlit N₂⁺ aurora at high altitudes during the RENU2 flight. Annales Geophysicae, 2021, 39, 849-859.	1.6	1
87	Backscatter Lidar Observations of Lower Tropospheric Dynamics during Southern California Wildfires. Journals of the Atmospheric Sciences, 2009, 66, 2116-2124.	1.7	0
88	Observations of Spatial Variations in O/N₂ During an Auroral Substorm Using the Multichannel Downlooking Camera on the VISIONS Rocket. Journal of Geophysical Research: Space Physics, 2018, 123, 7089-7105.	2.4	0