

Jay Herman

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133
papers

7,828
citations

38
h-index

87
g-index

173
ext. papers

8,549
ext. citations

5.5
avg. IF

5.47
L-index

#	Paper	IF	Citations
133	Global distribution of UV-absorbing aerosols from Nimbus 7/TOMS data. <i>Journal of Geophysical Research</i> , 1997 , 102, 16911-16922		860
132	Derivation of aerosol properties from satellite measurements of backscattered ultraviolet radiation: Theoretical basis. <i>Journal of Geophysical Research</i> , 1998 , 103, 17099-17110		731
131	A Long-Term Record of Aerosol Optical Depth from TOMS Observations and Comparison to AERONET Measurements. <i>Journals of the Atmospheric Sciences</i> , 2002 , 59, 398-413	2.1	456
130	Total Ozone trends deduced from Nimbus 7 Toms data. <i>Geophysical Research Letters</i> , 1991 , 18, 1015-1018	4.9	417
129	Record low global ozone in 1992. <i>Science</i> , 1993 , 260, 523-6	33.3	306
128	Earth surface reflectivity climatology at 340-80 nm from TOMS data. <i>Journal of Geophysical Research</i> , 1997 , 102, 28003-28011		256
127	African desert dust in the Caribbean atmosphere: Microbiology and public health. <i>Aerobiologia</i> , 2001 , 17, 203-213	2.4	242
126	Comparisons of the TOMS aerosol index with Sun-photometer aerosol optical thickness: Results and applications. <i>Journal of Geophysical Research</i> , 1999 , 104, 6269-6279		232
125	UV-B increases (1979-1992) from decreases in total ozone. <i>Geophysical Research Letters</i> , 1996 , 23, 2117-2120	4.2	218
124	Tropical tropospheric ozone and biomass burning. <i>Science</i> , 2001 , 291, 2128-32	33.3	180
123	Validation of Ozone Monitoring Instrument nitrogen dioxide columns. <i>Journal of Geophysical Research</i> , 2008 , 113,		168
122	Distribution of UV radiation at the Earth's surface from TOMS-measured UV-backscattered radiances. <i>Journal of Geophysical Research</i> , 1999 , 104, 12059-12076		165
121	Tropospheric Emissions: Monitoring of Pollution (TEMPO). <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017 , 186, 17-39	2.1	163
120	Satellite estimation of spectral surface UV irradiance in the presence of tropospheric aerosols: 1. Cloud-free case. <i>Journal of Geophysical Research</i> , 1998 , 103, 8779-8793		152
119	Evaluation of OMI operational standard NO ₂ column retrievals using in situ and surface-based NO ₂ observations. <i>Atmospheric Chemistry and Physics</i> , 2014 , 14, 11587-11609	6.8	143
118	NO ₂ column amounts from ground-based Pandora and MFDOAS spectrometers using the direct-sun DOAS technique: Intercomparisons and application to OMI validation. <i>Journal of Geophysical Research</i> , 2009 , 114,		127
117	A new self-calibration method applied to TOMS and SBUV backscattered ultraviolet data to determine long-term global ozone change. <i>Journal of Geophysical Research</i> , 1991 , 96, 7531		116

116	Validation of daily erythemal doses from Ozone Monitoring Instrument with ground-based UV measurement data. <i>Journal of Geophysical Research</i> , 2007 , 112,		112
115	Pyro-cumulonimbus injection of smoke to the stratosphere: Observations and impact of a super blowup in northwestern Canada on 3 rd August 1998. <i>Journal of Geophysical Research</i> , 2005 , 110,		103
114	Global increase in UV irradiance during the past 30 years (1979–2008) estimated from satellite data. <i>Journal of Geophysical Research</i> , 2010 , 115,		102
113	The impact of greenhouse gases and halogenated species on future solar UV radiation doses. <i>Geophysical Research Letters</i> , 2000 , 27, 1127-1130	4.9	100
112	Long-term ozone trends derived from the 16-year combined Nimbus 7/Meteor 3 TOMS Version 7 record. <i>Geophysical Research Letters</i> , 1996 , 23, 3699-3702	4.9	95
111	Satellite estimation of spectral surface UV irradiance: 2. Effects of homogeneous clouds and snow. <i>Journal of Geophysical Research</i> , 2001 , 106, 11743-11759		89
110	Validation of OMI tropospheric NO ₂ column densities using direct-Sun mode Brewer measurements at NASA Goddard Space Flight Center. <i>Journal of Geophysical Research</i> , 2008 , 113,		87
109	Remote sensing reflectance and inherent optical properties in the mid Chesapeake Bay. <i>Estuarine, Coastal and Shelf Science</i> , 2007 , 72, 16-32	2.9	87
108	Bio-optics of the Chesapeake Bay from measurements and radiative transfer closure. <i>Estuarine, Coastal and Shelf Science</i> , 2006 , 68, 348-362	2.9	85
107	New Era of Air Quality Monitoring from Space: Geostationary Environment Monitoring Spectrometer (GEMS). <i>Bulletin of the American Meteorological Society</i> , 2020 , 101, E1-E22	6.1	81
106	Earth Observations from DSCOVR/EPIC Instrument. <i>Bulletin of the American Meteorological Society</i> , 2018 , 99, 1829-1850	6.1	72
105	Photochemical Activity and Solar Ultraviolet Radiation (PAUR) Modulation Factors: An overview of the project. <i>Journal of Geophysical Research</i> , 2002 , 107, PAU 1-1		69
104	Comparison of daily UV doses estimated from Nimbus 7/TOMS measurements and ground-based spectroradiometric data. <i>Journal of Geophysical Research</i> , 2000 , 105, 5059-5067		66
103	Low ozone amounts during 1992–1993 from Nimbus 7 and Meteor 3 total ozone mapping spectrometers. <i>Journal of Geophysical Research</i> , 1994 , 99, 3483		65
102	Assessment of TOMS UV bias due to absorbing aerosols. <i>Journal of Geophysical Research</i> , 2005 , 110,		63
101	UV index climatology over the United States and Canada from ground-based and satellite estimates. <i>Journal of Geophysical Research</i> , 2004 , 109, n/a-n/a		62
100	Radiative impacts from biomass burning in the presence of clouds during boreal spring in southeast Asia. <i>Geophysical Research Letters</i> , 2003 , 30, n/a-n/a	4.9	61
99	Evaluating Ultraviolet Radiation Exposure with Satellite Data at Sites of Amphibian Declines in Central and South America. <i>Conservation Biology</i> , 2001 , 15, 914-929	6	61

98	Measurements of nitrogen dioxide total column amounts using a Brewer double spectrophotometer in direct Sun mode. <i>Journal of Geophysical Research</i> , 2006 , 111,		58
97	Ozone depletion at northern and southern latitudes derived from January 1979 to December 1991 Total Ozone Mapping Spectrometer data. <i>Journal of Geophysical Research</i> , 1993 , 98, 12783		45
96	Global mapping of underwater UV irradiances and DNA-weighted exposures using Total Ozone Mapping Spectrometer and Sea-viewing Wide Field-of-view Sensor data products. <i>Journal of Geophysical Research</i> , 2001 , 106, 27205-27219		43
95	Nitrogen dioxide observations from the Geostationary Trace gas and Aerosol Sensor Optimization (GeoTASO) airborne instrument: Retrieval algorithm and measurements during DISCOVER-AQ Texas 2013. <i>Atmospheric Measurement Techniques</i> , 2016 , 9, 2647-2668	4	38
94	A method of retrieving cloud top height and cloud geometrical thickness with oxygen A and B bands for the Deep Space Climate Observatory (DSCOVR) mission: Radiative transfer simulations. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2013 , 122, 141-149	2.1	37
93	Comparison of satellite-derived UV irradiances with ground-based measurements at four European stations. <i>Journal of Geophysical Research</i> , 2006 , 111,		37
92	Relationship between column-density and surface mixing ratio: Statistical analysis of O ₃ and NO ₂ data from the July 2011 Maryland DISCOVER-AQ mission. <i>Atmospheric Environment</i> , 2014 , 92, 429-441	5.3	36
91	High precision, absolute total column ozone measurements from the Pandora spectrometer system: Comparisons with data from a Brewer double monochromator and Aura OMI. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		36
90	Version 2 total ozone mapping spectrometer ultraviolet algorithm: problems and enhancements. <i>Optical Engineering</i> , 2002 , 41, 3028	1.1	36
89	Comparison of OMI NO ₂ observations and their seasonal and weekly cycles with ground-based measurements in Helsinki. <i>Atmospheric Measurement Techniques</i> , 2016 , 9, 5203-5212 ⁴		35
88	Atmospheric correction for NO ₂ absorption in retrieving water-leaving reflectances from the SeaWiFS and MODIS measurements. <i>Applied Optics</i> , 2007 , 46, 6504-12	1.7	35
87	Comparison of ozone retrievals from the Pandora spectrometer system and Dobson spectrophotometer in Boulder, Colorado. <i>Atmospheric Measurement Techniques</i> , 2015 , 8, 3407-3418	4	34
86	Synoptic ozone, cloud reflectivity, and erythemal irradiance from sunrise to sunset for the whole earth as viewed by the DSCOVR spacecraft from the earth-Sun Lagrange-1 orbit. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 177-194	4	33
85	Comparison of ground-based and Total Ozone Mapping Spectrometer erythemal UV doses at the island of Lampedusa in the period 1998-2003: Role of tropospheric aerosols. <i>Journal of Geophysical Research</i> , 2005 , 110,		32
84	UV 380 nm reflectivity of the Earth's surface, clouds and aerosols. <i>Journal of Geophysical Research</i> , 2001 , 106, 5335-5351		32
83	Global average ozone change from November 1978 to May 1990. <i>Journal of Geophysical Research</i> , 1991 , 96, 17297		32
82	Spatial and temporal variability of ozone and nitrogen dioxide over a major urban estuarine ecosystem. <i>Journal of Atmospheric Chemistry</i> , 2015 , 72, 287-309	3.2	30
81	Intercomparison of NO ₂ , O ₄ , O ₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV-visible spectrometers during CINDI-2. <i>Atmospheric Measurement Techniques</i> , 2020 , 13, 2169-2208	4	30

80	High-resolution NO ₂ observations from the Airborne Compact Atmospheric Mapper: Retrieval and validation. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017 , 122, 1953-1970	4.4	28
79	Assessment of the ultraviolet radiation field in ocean waters from space-based measurements and full radiative-transfer calculations. <i>Applied Optics</i> , 2005 , 44, 2863-9	1.7	28
78	Comparisons of spectral aerosol single scattering albedo in Seoul, South Korea. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 2295-2311	4	27
77	Changes in cloud and aerosol cover (1980-2006) from reflectivity time series using SeaWiFS, N7-TOMS, EP-TOMS, SBUV-2, and OMI radiance data. <i>Journal of Geophysical Research</i> , 2009 , 114,		25
76	Meteor 3/total ozone mapping spectrometer observations of the 1993 ozone hole. <i>Journal of Geophysical Research</i> , 1995 , 100, 2973		24
75	Nitrogen dioxide and formaldehyde measurements from the GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Airborne Simulator over Houston, Texas. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 5941-5964	4	24
74	NO ₂ and HCHO measurements in Korea from 2012 to 2016 from Pandora spectrometer instruments compared with OMI retrievals and with aircraft measurements during the KORUS-AQ campaign. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 4583-4603	4	24
73	Effects of local meteorology and aerosols on ozone and nitrogen dioxide retrievals from OMI and Pandora spectrometers in Maryland, USA during DISCOVER-AQ 2011. <i>Journal of Atmospheric Chemistry</i> , 2015 , 72, 455-482	3.2	23
72	A net decrease in the Earth's cloud, aerosol, and surface 340 nm reflectivity during the past 33 yr (1979-2011). <i>Atmospheric Chemistry and Physics</i> , 2013 , 13, 8505-8524	6.8	23
71	Ground-based direct-sun DOAS and airborne MAX-DOAS measurements of the collision-induced oxygen complex, O ₂ , absorption with significant pressure and temperature differences. <i>Atmospheric Measurement Techniques</i> , 2015 , 8, 793-809	4	22
70	Atmospheric chlorine and stratospheric ozone nonlinearities and trend detection. <i>Journal of Geophysical Research</i> , 1985 , 90, 5721		22
69	Inactivation times from 290 to 315 nm UVB in sunlight for SARS coronaviruses CoV and CoV-2 using OMI satellite data for the sunlit Earth. <i>Air Quality, Atmosphere and Health</i> , 2020 , 14, 1-17	5.6	22
68	Underestimation of column NO ₂ amounts from the OMI satellite compared to diurnally varying ground-based retrievals from multiple PANDORA spectrometer instruments. <i>Atmospheric Measurement Techniques</i> , 2019 , 12, 5593-5612	4	21
67	Diurnal variation of 340 nm Lambertian equivalent reflectivity due to clouds and aerosols over land and oceans. <i>Journal of Geophysical Research</i> , 2011 , 116,		20
66	Changes in the Earth's UV reflectivity from the surface, clouds, and aerosols. <i>Journal of Geophysical Research</i> , 2001 , 106, 5353-5368		20
65	TOMS-derived erythemal irradiance versus measurements at the stations of the Argentine UV Monitoring Network. <i>Journal of Geophysical Research</i> , 2004 , 109,		19
64	A new approach to estimating the albedo for snow-covered surfaces in the satellite UV method. <i>Journal of Geophysical Research</i> , 2003 , 108,		19
63	Problems in assessment of the ultraviolet penetration into natural waters from space-based measurements. <i>Optical Engineering</i> , 2002 , 41, 3019	1.1	19

62	The first evaluation of formaldehyde column observations by improved Pandora spectrometers during the KORUS-AQ field study. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 4943-4961	4	18
61	Direct Sun measurements of NO ₂ column abundances from Table Mountain, California: Intercomparison of low- and high-resolution spectrometers. <i>Journal of Geophysical Research</i> , 2010 , 115,		17
60	Use of an improved radiation amplification factor to estimate the effect of total ozone changes on action spectrum weighted irradiances and an instrument response function. <i>Journal of Geophysical Research</i> , 2010 , 115,		17
59	Total ozone mapping spectrometer retrievals of noon erythemal-CIE ultraviolet irradiance compared with Brewer ground-based measurements at El Arenosillo (southwestern Spain). <i>Journal of Geophysical Research</i> , 2007 , 112,		17
58	Atmospheric Trace Gas (NO ₂ and O ₃) Variability in South Korean Coastal Waters, and Implications for Remote Sensing of Coastal Ocean Color Dynamics. <i>Remote Sensing</i> , 2018 , 10, 1587	5	17
57	Correction of direct irradiance measurements of Brewer spectrophotometers due to the effect of internal polarization. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	16
56	First Top-Down Estimates of Anthropogenic NO _x Emissions Using High-Resolution Airborne Remote Sensing Observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 3269-3284	4.4	15
55	Topside ionosphere of venus and its interaction with the solar wind. <i>Nature</i> , 1970 , 225, 533-4	50.4	15
54	Assessment of NO observations during DISCOVER-AQ and KORUS-AQ field campaigns. <i>Atmospheric Measurement Techniques</i> , 2020 , 13,	4	14
53	Atmospheric NO ₂ dynamics and impact on ocean color retrievals in urban nearshore regions. <i>Journal of Geophysical Research: Oceans</i> , 2014 , 119, 3834-3854	3.3	12
52	Interannual variability of ozone and UV-B ultraviolet exposure. <i>Journal of Geophysical Research</i> , 2000 , 105, 29189-29193		12
51	Validation of tropospheric NO ₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations. <i>Atmospheric Measurement Techniques</i> , 2020 , 13, 6141-6174	4	12
50	Comparison of Near-surface NO Pollution with Pandora Total Column NO during the Korea-United States Ocean Color (KORUS OC) Campaign. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019 , 124, 13560-13575	4.4	12
49	The use of NO ₂ absorption cross section temperature sensitivity to derive NO ₂ profile temperature and stratospheric-tropospheric column partitioning from visible direct-sun DOAS measurements. <i>Atmospheric Measurement Techniques</i> , 2014 , 7, 4299-4316	4	10
48	Comparisons of USDA UV shadow-band irradiance measurements with TOMS satellite and DISORT model retrievals under all sky conditions 2002 ,		10
47	Intercomparison of total column ozone data from the Pandora spectrophotometer with Dobson, Brewer, and OMI measurements over Seoul, Korea. <i>Atmospheric Measurement Techniques</i> , 2017 , 10, 3664-3676 ⁹		
46	Partitioning between aerosol and NO ₂ absorption in the UV spectral region 2005 , 5886, 588601		9
45	Solar ultraviolet irradiance for clear sky days incident at Rosario, Argentina: Measurements and model calculations. <i>Journal of Geophysical Research</i> , 2002 , 107, AAC 6-1		9

44	Meteor-3/TOMS observations of the 1994 ozone hole. <i>Geophysical Research Letters</i> , 1995 , 22, 3227-3229.	4.9	9
43	TEMPO Green Paper: Chemistry, physics, and meteorology experiments with the Tropospheric Emissions: monitoring of pollution instrument 2019 ,		8
42	Ozone comparison between Pandora #34, Dobson #061, OMI, and OMPS in Boulder, Colorado, for the period December 2013-December 2016. <i>Atmospheric Measurement Techniques</i> , 2017 , 10, 3539-3545	4	7
41	Total ozone/UVB monitoring and forecasting: Impact of clouds and the horizontal resolution of satellite retrievals. <i>Journal of Geophysical Research</i> , 1998 , 103, 3865-3871		7
40	Spectral derivative analysis of solar spectroradiometric measurements: Theoretical basis. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 8908-8924	4.4	6
39	A new technique for retrieval of tropospheric and stratospheric ozone profiles using sky radiance measurements at multiple view angles: Application to a Brewer spectrometer. <i>Journal of Geophysical Research</i> , 2008 , 113,		6
38	Global distribution and 14-year changes in erythemal irradiance, UV atmospheric transmission, and total column ozone for 2005-2018 estimated from OMI and EPIC observations. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 8351-8380	6.8	6
37	Validation of Brewer and Pandora measurements using OMI total ozone. <i>Atmospheric Environment</i> , 2017 , 160, 165-175	5.3	5
36	Intercomparison of NO ₂ , O ₄ , O ₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV-Visible spectrometers during the CINDI-2 campaign		5
35	Langley Calibration Analysis of Solar Spectroradiometric Measurements: Spectral Aerosol Optical Thickness Retrievals. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 4221-4238	4.4	4
34	The Meteor 3/total ozone mapping spectrometer version 7 data set: Calibration and analysis. <i>Journal of Geophysical Research</i> , 1997 , 102, 19247-19256		4
33	Version 2 TOMS UV algorithm: problems and enhancements 2002 , 4482, 82		4
32	Retrieval Accuracy of HCHO Vertical Column Density from Ground-Based Direct-Sun Measurement and First HCHO Column Measurement Using Pandora. <i>Remote Sensing</i> , 2018 , 10, 173	5	4
31	Shortwave TOA Cloud Radiative Forcing Derived from a Long-Term (1980-Present) Record of Satellite UV Reflectivity and CERES Measurements. <i>Journal of Climate</i> , 2015 , 28, 9473-9488	4.4	3
30	Seasonal variation of UV radiation in the ocean under clear and cloudy conditions 2003 ,		3
29	Assessment of TOMS UV bias due to absorbing aerosols 2004 ,		3
28	The effect of polarization sensitivity of Brewer spectrometers on Direct Sun measurements 2004 , 5545, 131		3
27	Comparison of Brewer UV irradiance measurements with TOMS satellite retrievals 2002 ,		3

26	Assessment of NO ₂ observations during DISCOVER-AQ and KORUS-AQ field campaigns		
25	Validation of tropospheric NO ₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations		3
24	Reduction in 317–80 nm radiance reflected from the sunlit Earth during the eclipse of 21 August 2017. <i>Atmospheric Measurement Techniques</i> , 2018 , 11, 4373-4388	4	3
23	Measuring aerosol UV absorption optical thickness by combining use of shadowband and almucantar techniques 2004 ,		2
22	Measurements of O ₃ , SO ₂ , NO ₂ and HCHO column amounts using a Brewer spectrometer 2005 , 5886, 9		2
21	Comparisons between ground measurements of UV irradiance 290 to 380nm and TOMS UV estimates over Moscow for 1979-2000 2002 ,		2
20	Comparisons of spectral aerosol absorption in Seoul, South Korea		2
19	Global increases in UVB irradiance from changes in ozone and cloud-aerosol amounts 1979 to 2008 2009 ,		1
18	Goddard UV aerosol absorption closure experiment (2002-03) 2003 , 5156, 54		1
17	Possible changes in reflectivity of the Earth at 360 nm: 1980-2001 2003 , 4896, 20		1
16	Problems in assessment of the UV penetration into natural waters from space-based measurements 2002 ,		1
15	UVB (290-315 nm) inactivation of the SARS CoV-2 virus as a function of the standard UV index. <i>Air Quality, Atmosphere and Health</i> , 2021 , 1-6	5.6	1
14	Changes in the surface broadband shortwave radiation budget during the 2017 eclipse. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 10477-10491	6.8	1
13	A net decrease in the Earth's cloud plus aerosol reflectivity during the past 33 yr (1979–2011) and increased solar heating at the surface		1
12	Nitrogen dioxide observations from the Geostationary Trace gas and Aerosol Sensor Optimization (GeoTASO) airborne instrument: retrieval algorithm and measurements during DISCOVER-AQ Texas 2013		1
11	Changes in Ultraviolet and Visible Solar Irradiance 1979 to 2008 2010 , 106-159		1
10	Raw EPIC Data Calibration. <i>Frontiers in Remote Sensing</i> , 2021 , 2,	1	1
9	Comprehensive evaluations of diurnal NO ₂ measurements during DISCOVER-AQ 2011: effects of resolution-dependent representation of NO ₂ emissions. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 11133–11160	6.8	1

- 8 The SMART-s Trace Gas and Aerosol Inversions: I. Algorithm Theoretical Basis for Column Property Retrievals. *Journal of Geophysical Research D: Atmospheres*, **2020**, 125, e2019JD032088 4.4 ○
- 7 A model for the assessment of UV penetration into ocean waters from space-based measurements and full radiative transfer calculations **2003**, 5156, 316
- 6 Spectrally resolved comparison of TOMS estimates of surface UV irradiances with those of ground-based measurements at time of overpass **2003**, 4896, 70
- 5 Effect of aerosol on UV radiation: an overview **2003**, 4896, 8
- 4 Low/medium density biomass, coastal and ocean carbon: a carbon cycle mission. *Acta Astronautica*, **2005**, 56, 25-34 2.9
- 3 Models of the Venus ionosphere. *Symposium - International Astronomical Union*, **1971**, 40, 23-27
- 2 Bio-Optical Characteristics and Remote Sensing in the Mid Chesapeake Bay Through Integration of Observations and Radiative Transfer Closure. *Lecture Notes in Geoinformation and Cartography*, **2009**, 139-168 0.3
- 1 Models of the Venus Ionosphere **1971**, 23-27