Jay Herman

List of Publications by Year in Descending Order

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	UVB (290-315 nm) inactivation of the SARS CoV-2 virus as a function of the standard UV index. *Air Quality, Atmosphere and Health*, **2021**, 1-6	5.6	1
132	Raw EPIC Data Calibration. *Frontiers in Remote Sensing*, **2021**, 2,	1	1
131	Comprehensive evaluations of diurnal NO₂ measurements during DISCOVER-AQ 2011: effects of resolution-dependent representation of NO_{<i>x</i>} emissions. *Atmospheric Chemistry and Physics*, **2021**, 21, 11133-11160	6.8	1
130	Assessment of NO observations during DISCOVER-AQ and KORUS-AQ field campaigns. *Atmospheric Measurement Techniques*, **2020**, 13,	4	14
129	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	0
128	Changes in the surface broadband shortwave radiation budget during the 2017 eclipse. *Atmospheric Chemistry and Physics*, **2020**, 20, 10477-10491	6.8	1
127	Intercomparison of NO₂, O₄, O₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV□isible spectrometers during CINDI-2. *Atmospheric Measurement Techniques*, **2020**, 13, 2169-2208	4	30
126	Validation of tropospheric NO₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations. *Atmospheric Measurement Techniques*, **2020**, 13, 6141-6174	4	12
125	Global distribution and 14-year changes in erythemal irradiance, UV atmospheric transmission, and total column ozone for2005□2018 estimated from OMI and EPIC observations. *Atmospheric Chemistry and Physics*, **2020**, 20, 8351-8380	6.8	6
124	New Era of Air Quality Monitoring from Space: Geostationary Environment Monitoring Spectrometer (GEMS). *Bulletin of the American Meteorological Society*, **2020**, 101, E1-E22	6.1	81
123	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. *Air Quality, Atmosphere and Health*, **2020**, 14, 1-17	5.6	22
122	TEMPO Green Paper: Chemistry, physics, and meteorology experiments with the Tropospheric Emissions: monitoring of pollution instrument **2019**,		8
121	Comparison of Near-surface NO Pollution with Pandora Total Column NO during the Korea-United States Ocean Color (KORUS OC) Campaign. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 13560-13575	4.4	12
120	Underestimation of column NO₂ amounts from the OMI satellite compared to diurnally varying ground-based retrievals from multiple PANDORA spectrometer instruments. *Atmospheric Measurement Techniques*, **2019**, 12, 5593-5612	4	21
119	First Top-Down Estimates of Anthropogenic NOx Emissions Using High-Resolution Airborne Remote Sensing Observations. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 3269-3284	4.4	15
118	Langley Calibration Analysis of Solar Spectroradiometric Measurements: Spectral Aerosol Optical Thickness Retrievals. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 4221-4238	4.4	4
117	Comparisons of spectral aerosol single scattering albedo in Seoul, South Korea. *Atmospheric Measurement Techniques*, **2018**, 11, 2295-2311	4	27

116	Nitrogen dioxide and formaldehyde measurements from the GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Airborne Simulator over Houston, Texas. *Atmospheric Measurement Techniques*, **2018**, 11, 5941-5964	4	24
115	Earth Observations from DSCOVR/EPIC Instrument. *Bulletin of the American Meteorological Society*, **2018**, 99, 1829-1850	6.1	72
114	Retrieval Accuracy of HCHO Vertical Column Density from Ground-Based Direct-Sun Measurement and First HCHO Column Measurement Using Pandora. *Remote Sensing*, **2018**, 10, 173	5	4
113	Atmospheric Trace Gas (NO2 and O3) Variability in South Korean Coastal Waters, and Implications for Remote Sensing of Coastal Ocean Color Dynamics. *Remote Sensing*, **2018**, 10, 1587	5	17
112	NO₂ 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. *Atmospheric Measurement Techniques*, **2018**, 11, 4583-4603	4	24
111	The first evaluation of formaldehyde column observations by improved Pandora spectrometers during the KORUS-AQ field study. *Atmospheric Measurement Techniques*, **2018**, 11, 4943-4961	4	18
110	Reduction in 317–780 nm radiance reflected from the sunlit Earth during the eclipse of 21 August 2017. *Atmospheric Measurement Techniques*, **2018**, 11, 4373-4388	4	3
109	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. *Atmospheric Measurement Techniques*, **2018**, 11, 177-194	4	33
108	High-resolution NO2 observations from the Airborne Compact Atmospheric Mapper: Retrieval and validation. *Journal of Geophysical Research D: Atmospheres*, **2017**, 122, 1953-1970	4.4	28
107	Validation of Brewer and Pandora measurements using OMI total ozone. *Atmospheric Environment*, **2017**, 160, 165-175	5.3	5
106	Intercomparison of total column ozone data from the Pandora spectrophotometer with Dobson, Brewer, and OMI measurements over Seoul, Korea. *Atmospheric Measurement Techniques*, **2017**, 10, 3661-3676	4	9
105	Tropospheric Emissions: Monitoring of Pollution (TEMPO). *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 186, 17-39	2.1	163
104	Ozone comparison between Pandora #34, Dobson #061, OMI, and OMPS in Boulder, Colorado, for the period December 2013–December 2016. *Atmospheric Measurement Techniques*, **2017**, 10, 3539-3545	4	7
103	Comparison of OMI NO₂ observations and their seasonal and weekly cycles with ground-based measurements in Helsinki. *Atmospheric Measurement Techniques*, **2016**, 9, 5203-5212	4	35
102	Nitrogen dioxide observations from the Geostationary Trace gas and Aerosol Sensor Optimization (GeoTASO) airborne instrument: Retrieval algorithm and measurements during DISCOVER-AQ Texas 2013. *Atmospheric Measurement Techniques*, **2016**, 9, 2647-2668	4	38
101	Spatial and temporal variability of ozone and nitrogen dioxide over a major urban estuarine ecosystem. *Journal of Atmospheric Chemistry*, **2015**, 72, 287-309	3.2	30
100	Effects of local meteorology and aerosols on ozone and nitrogen dioxide retrievals from OMI and pandora spectrometers in Maryland, USA during DISCOVER-AQ 2011. *Journal of Atmospheric Chemistry*, **2015**, 72, 455-482	3.2	23
99	Shortwave TOA Cloud Radiative Forcing Derived from a Long-Term (1980–Present) Record of Satellite UV Reflectivity and CERES Measurements. *Journal of Climate*, **2015**, 28, 9473-9488	4.4	3

98	Ground-based direct-sun DOAS and airborne MAX-DOAS measurements of the collision-induced oxygen complex, O₂O₂, absorption with significant pressure and temperature differences. *Atmospheric Measurement Techniques*, **2015**, 8, 793-809	4	22
97	Comparison of ozone retrievals from the Pandora spectrometer system and Dobson spectrophotometer in Boulder, Colorado. *Atmospheric Measurement Techniques*, **2015**, 8, 3407-3418	4	34
96	Atmospheric NO2 dynamics and impact on ocean color retrievals in urban nearshore regions. *Journal of Geophysical Research: Oceans*, **2014**, 119, 3834-3854	3.3	12
95	Relationship between column-density and surface mixing ratio: Statistical analysis of O3 and NO2 data from the July 2011 Maryland DISCOVER-AQ mission. *Atmospheric Environment*, **2014**, 92, 429-441	5.3	36
94	Evaluation of OMI operational standard NO₂ column retrievals using in situ and surface-based NO₂ observations. *Atmospheric Chemistry and Physics*, **2014**, 14, 11587-11609	6.8	143
93	Spectral derivative analysis of solar spectroradiometric measurements: Theoretical basis. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 8908-8924	4.4	6
92	The use of NO₂ absorption cross section temperature sensitivity to derive NO₂ profile temperature and stratospheric–tropospheric column partitioning from visible direct-sun DOAS measurements. *Atmospheric Measurement Techniques*, **2014**, 7, 4299-4316	4	10
91	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. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2013**, 122, 141-149	2.1	37
90	A net decrease in the Earth's cloud, aerosol, and surface 340 nm reflectivity during the past 33 yr (1979–2011). *Atmospheric Chemistry and Physics*, **2013**, 13, 8505-8524	6.8	23
89	High precision, absolute total column ozone measurements from the Pandora spectrometer system: Comparisons with data from a Brewer double monochromator and Aura OMI. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		36
88	Diurnal variation of 340 nm Lambertian equivalent reflectivity due to clouds and aerosols over land and oceans. *Journal of Geophysical Research*, **2011**, 116,		20
87	Global increase in UV irradiance during the past 30 years (1979–2008) estimated from satellite data. *Journal of Geophysical Research*, **2010**, 115,		102
86	Direct Sun measurements of NO2 column abundances from Table Mountain, California: Intercomparison of low- and high-resolution spectrometers. *Journal of Geophysical Research*, **2010**, 115,		17
85	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. *Journal of Geophysical Research*, **2010**, 115,		17
84	Changes in Ultraviolet and Visible Solar Irradiance 1979 to 2008 **2010**, 106-159		1
83	Changes in cloud and aerosol cover (1980–2006) from reflectivity time series using SeaWiFS, N7-TOMS, EP-TOMS, SBUV-2, and OMI radiance data. *Journal of Geophysical Research*, **2009**, 114,		25
82	NO2 column amounts from ground-based Pandora and MFDOAS spectrometers using the direct-sun DOAS technique: Intercomparisons and application to OMI validation. *Journal of Geophysical Research*, **2009**, 114,		127
81	Global increases in UVB irradiance from changes in ozone and cloud-aerosol amounts 1979 to 2008 **2009**,		1

80	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	
79	Validation of Ozone Monitoring Instrument nitrogen dioxide columns. *Journal of Geophysical Research*, **2008**, 113,		168
78	Validation of OMI tropospheric NO2 column densities using direct-Sun mode Brewer measurements at NASA Goddard Space Flight Center. *Journal of Geophysical Research*, **2008**, 113,		87
77	A new technique for retrieval of tropospheric and stratospheric ozone profiles using sky radiance measurements at multiple view angles: Application to a Brewer spectrometer. *Journal of Geophysical Research*, **2008**, 113,		6
76	Total ozone mapping spectrometer retrievals of noon erythemal-CIE ultraviolet irradiance compared with Brewer ground-based measurements at El Arenosillo (southwestern Spain). *Journal of Geophysical Research*, **2007**, 112,		17
75	Validation of daily erythemal doses from Ozone Monitoring Instrument with ground-based UV measurement data. *Journal of Geophysical Research*, **2007**, 112,		112
74	Remote sensing reflectance and inherent optical properties in the mid Chesapeake Bay. *Estuarine, Coastal and Shelf Science*, **2007**, 72, 16-32	2.9	87
73	Atmospheric correction for NO2 absorption in retrieving water-leaving reflectances from the SeaWiFS and MODIS measurements. *Applied Optics*, **2007**, 46, 6504-12	1.7	35
72	Bio-optics of the Chesapeake Bay from measurements and radiative transfer closure. *Estuarine, Coastal and Shelf Science*, **2006**, 68, 348-362	2.9	85
71	Correction of direct irradiance measurements of Brewer spectrophotometers due to the effect of internal polarization. *Geophysical Research Letters*, **2006**, 33,	4.9	16
70	Measurements of nitrogen dioxide total column amounts using a Brewer double spectrophotometer in direct Sun mode. *Journal of Geophysical Research*, **2006**, 111,		58
69	Comparison of satellite-derived UV irradiances with ground-based measurements at four European stations. *Journal of Geophysical Research*, **2006**, 111,		37
68	Assessment of the ultraviolet radiation field in ocean waters from space-based measurements and full radiative-transfer calculations. *Applied Optics*, **2005**, 44, 2863-9	1.7	28
67	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. *Journal of Geophysical Research*, **2005**, 110,		32
66	Pyro-cumulonimbus injection of smoke to the stratosphere: Observations and impact of a super blowup in northwestern Canada on 3–4 August 1998. *Journal of Geophysical Research*, **2005**, 110,		103
65	Assessment of TOMS UV bias due to absorbing aerosols. *Journal of Geophysical Research*, **2005**, 110,		63
64	Measurements of O 3 , SO 2 , NO 2 and HCHO column amounts using a Brewer spectrometer **2005**, 5886, 9		2
63	Partitioning between aerosol and NO 2 absorption in the UV spectral region **2005**, 5886, 588601		9

62	Low/medium density biomass, coastal and ocean carbon: a carbon cycle mission. *Acta Astronautica*, **2005**, 56, 25-34	2.9	
61	TOMS-derived erythemal irradiance versus measurements at the stations of the Argentine UV Monitoring Network. *Journal of Geophysical Research*, **2004**, 109,		19
60	UV index climatology over the United States and Canada from ground-based and satellite estimates. *Journal of Geophysical Research*, **2004**, 109, n/a-n/a		62
59	Measuring aerosol UV absorption optical thickness by combining use of shadowband and almucantar techniques **2004**,		2
58	Assessment of TOMS UV bias due to absorbing aerosols **2004**,		3
57	The effect of polarization sensitivity of Brewer spectrometers on Direct Sun measurements **2004**, 5545, 131		3
56	Goddard UV aerosol absorption closure experiment (2002-03) **2003**, 5156, 54		1
55	Possible changes in reflectivity of the Earth at 360 nm: 1980-2001 **2003**, 4896, 20		1
54	A model for the assessment of UV penetration into ocean waters from space-based measurements and full radiative transfer calculations **2003**, 5156, 316		
53	Spectrally resolved comparison of TOMS estimates of surface UV irradiances with those of ground-based measurements at time of overpass **2003**, 4896, 70		
52	Effect of aerosol on UV radiation: an overview **2003**, 4896, 8		
51	Radiative impacts from biomass burning in the presence of clouds during boreal spring in southeast Asia. *Geophysical Research Letters*, **2003**, 30, n/a-n/a	4.9	61
50	A new approach to estimating the albedo for snow-covered surfaces in the satellite UV method. *Journal of Geophysical Research*, **2003**, 108,		19
49	Seasonal variation of UV radiation in the ocean under clear and cloudy conditions **2003**,		3
48	Version 2 total ozone mapping spectrometer ultraviolet algorithm: problems and enhancements. *Optical Engineering*, **2002**, 41, 3028	1.1	36
47	Comparisons between ground measurements of UV irradiance 290 to 380nm and TOMS UV estimates over Moscow for 1979-2000 **2002**,		2
46	Problems in assessment of the UV penetration into natural waters from space-based measurements **2002**,		1
45	A Long-Term Record of Aerosol Optical Depth from TOMS Observations and Comparison to AERONET Measurements. *Journals of the Atmospheric Sciences*, **2002**, 59, 398-413	2.1	456

44	Problems in assessment of the ultraviolet penetration into natural waters from space-based measurements. *Optical Engineering*, **2002**, 41, 3019	1.1	19
43	Version 2 TOMS UV algorithm: problems and enhancements **2002**, 4482, 82		4
42	Comparisons of USDA UV shadow-band irradiance measurements with TOMS satellite and DISORT model retrievels under all sky conditions **2002**,		10
41	Comparison of Brewer UV irradiance measurements with TOMS satellite retrievals **2002**,		3
40	Solar ultraviolet irradiance for clear sky days incident at Rosario, Argentina: Measurements and model calculations. *Journal of Geophysical Research*, **2002**, 107, AAC 6-1		9
39	Photochemical Activity and Solar Ultraviolet Radiation (PAUR) Modulation Factors: An overview of the project. *Journal of Geophysical Research*, **2002**, 107, PAU 1-1		69
38	Evaluating Ultraviolet Radiation Exposure with Satellite Data at Sites of Amphibian Declines in Central and South America. *Conservation Biology*, **2001**, 15, 914-929	6	61
37	African desert dust in the Caribbean atmosphere: Microbiology and public health. *Aerobiologia*, **2001**, 17, 203-213	2.4	242
36	Tropical tropospheric ozone and biomass burning. *Science*, **2001**, 291, 2128-32	33.3	180
35	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. *Journal of Geophysical Research*, **2001**, 106, 27205-27219		43
34	Changes in the Earth UV reflectivity from the surface, clouds, and aerosols. *Journal of Geophysical Research*, **2001**, 106, 5353-5368		20
33	UV 380 nm reflectivity of the Earth surface, clouds and aerosols. *Journal of Geophysical Research*, **2001**, 106, 5335-5351		32
32	Satellite estimation of spectral surface UV irradiance: 2. Effects of homogeneous clouds and snow. *Journal of Geophysical Research*, **2001**, 106, 11743-11759		89
31	Interannual variability of ozone and UV-B ultraviolet exposure. *Journal of Geophysical Research*, **2000**, 105, 29189-29193		12
30	The impact of greenhouse gases and halogenated species on future solar UV radiation doses. *Geophysical Research Letters*, **2000**, 27, 1127-1130	4.9	100
29	Comparison of daily UV doses estimated from Nimbus 7/TOMS measurements and ground-based spectroradiometric data. *Journal of Geophysical Research*, **2000**, 105, 5059-5067		66
28	Comparisons of the TOMS aerosol index with Sun-photometer aerosol optical thickness: Results and applications. *Journal of Geophysical Research*, **1999**, 104, 6269-6279		232
27	Distribution of UV radiation at the Earth surface from TOMS-measured UV-backscattered radiances. *Journal of Geophysical Research*, **1999**, 104, 12059-12076		165

26	Total ozone/UVB monitoring and forecasting: Impact of clouds and the horizontal resolution of satellite retrievals. *Journal of Geophysical Research*, **1998**, 103, 3865-3871		7
25	Satellite estimation of spectral surface UV irradiance in the presence of tropospheric aerosols: 1. Cloud-free case. *Journal of Geophysical Research*, **1998**, 103, 8779-8793		152
24	Derivation of aerosol properties from satellite measurements of backscattered ultraviolet radiation: Theoretical basis. *Journal of Geophysical Research*, **1998**, 103, 17099-17110		731
23	The Meteor 3/total ozone mapping spectrometer version 7 data set: Calibration and analysis. *Journal of Geophysical Research*, **1997**, 102, 19247-19256		4
22	Earth surface reflectivity climatology at 340–380 nm from TOMS data. *Journal of Geophysical Research*, **1997**, 102, 28003-28011		256
21	Global distribution of UV-absorbing aerosols from Nimbus 7/TOMS data. *Journal of Geophysical Research*, **1997**, 102, 16911-16922		860
20	UV-B increases (1979–1992) from decreases in total ozone. *Geophysical Research Letters*, **1996**, 23, 2117-2120	4.9	218
19	Long-term ozone trends derived from the 16-year combined Nimbus 7/Meteor 3 TOMS Version 7 record. *Geophysical Research Letters*, **1996**, 23, 3699-3702	4.9	95
18	Meteor 3/total ozone mapping spectrometer observations of the 1993 ozone hole. *Journal of Geophysical Research*, **1995**, 100, 2973		24
17	Meteor-3/TOMS observations of the 1994 ozone hole. *Geophysical Research Letters*, **1995**, 22, 3227-3229	4.9	9
16	Low ozone amounts during 1992–1993 from Nimbus 7 and Meteor 3 total ozone mapping spectrometers. *Journal of Geophysical Research*, **1994**, 99, 3483		65
15	Record low global ozone in 1992. *Science*, **1993**, 260, 523-6	33.3	306
14	Ozone depletion at northern and southern latitudes derived from January 1979 to December 1991 Total Ozone Mapping Spectrometer data. *Journal of Geophysical Research*, **1993**, 98, 12783		45
13	A new self-calibration method applied to TOMS and SBUV backscattered ultraviolet data to determine long-term global ozone change. *Journal of Geophysical Research*, **1991**, 96, 7531		116
12	Total Ozone trends deduced from Nimbus 7 Toms data. *Geophysical Research Letters*, **1991**, 18, 1015-1018	4.9	417
11	Global average ozone change from November 1978 to May 1990. *Journal of Geophysical Research*, **1991**, 96, 17297		32
10	Atmospheric chlorine and stratospheric ozone nonlinearities and trend detection. *Journal of Geophysical Research*, **1985**, 90, 5721		22
9	Models of the Venus ionosphere. *Symposium - International Astronomical Union*, **1971**, 40, 23-27		

8	Models of the Venus Ionosphere **1971**, 23-27		
7	Topside ionosphere of venus and its interaction with the solar wind. *Nature*, **1970**, 225, 533-4	50.4	15
6	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
5	Comparisons of spectral aerosol absorption in Seoul, South Korea		2
4	Intercomparison of NO₂, O₄, O₃ and HCHO slant column measurements by MAX-DOAS and zenith-sky UV-Visible spectrometers during the CINDI-2 campaign		5
3	Assessment of NO₂ observations during DISCOVER-AQ and KORUS-AQ field campaigns		3
2	Validation of tropospheric NO₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations		3
1	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