Antti Arola

List of Publications by Year
in descending order

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126	4,556	94433	133252
papers	citations	37 h-index	59 g-index

206	206	206	5148
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	McClear: a new model estimating downwelling solar radiation at ground level in clear-sky conditions. Atmospheric Measurement Techniques, 2013, 6, 2403-2418.	3.1	272
2	The Ozone Monitoring Instrument: overview of 14 years in space. Atmospheric Chemistry and Physics, 2018, 18, 5699-5745.	4.9	259
3	Tropospheric emissions: Monitoring of pollution (TEMPO). Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 186, 17-39.	2.3	239
4	Inferring absorbing organic carbon content from AERONET data. Atmospheric Chemistry and Physics, 2011, 11, 215-225.	4.9	175
5	Comparison of CALIOP level 2 aerosol subtypes to aerosol types derived from AERONET inversion data. Geophysical Research Letters, 2009, 36, .	4.0	131
6	Fogâ€•and cloudâ€•induced aerosol modification observed by the Aerosol Robotic Network (AERONET). Journal of Geophysical Research, 2012, 117, .	3.3	99
7	Surface ultraviolet irradiance from OMI. IEEE Transactions on Geoscience and Remote Sensing, 2006, 44, 1267-1271.	6.3	98
8	Merging regional and global aerosol optical depth records from major available satellite products. Atmospheric Chemistry and Physics, 2020, 20, 2031-2056.	4.9	98
9	Impacts of brown carbon from biomass burning on surface UV and ozone photochemistry in the Amazon Basin. Scientific Reports, 2016, 6, 36940.	3.3	90
10	Remote sensing of soot carbon â€“ Part 1: Distinguishing different absorbing aerosol species. Atmospheric Chemistry and Physics, 2016, 16, 1565-1585.	4.9	81
11	Assessment of TOMS UV bias due to absorbing aerosols. Journal of Geophysical Research, 2005, 110, .	3.3	73
12	Ozone Monitoring Instrument spectral UV irradiance products: comparison with ground based measurements at an urban environment. Atmospheric Chemistry and Physics, 2009, 9, 585-594.	4.9	73
13	A new approach to correct for absorbing aerosols in OMI UV. Geophysical Research Letters, 2009, 36, .	4.0	71
14	Contribution of Brown Carbon to Direct Radiative Forcing over the Indo-Gangetic Plain. Environmental Science & Technology, 2015, 49, 10474-10481.	10.0	70
15	Comparing ECMWF AOD with AERONET observations at visible and UV wavelengths. Atmospheric Chemistry and Physics, 2014, 14, 593-608.	4.9	65
16	Technical Note: One year of Raman-lidar measurements in Gual Pahari EUCAARI site close to New Delhi in India â€“ Seasonal characteristics of the aerosol vertical structure. Atmospheric Chemistry and Physics, 2012, 12, 4513-4524.	4.9	63
17	Remote sensing of soot carbon â€“ Part 2: Understanding the absorption Ã…ngstrÃ¶m exponent. Atmospheric Chemistry and Physics, 2016, 16, 1587-1602.	4.9	60
18	Evaluation of the sectional aerosol microphysics module SALSA implementation in ECHAM5-HAM aerosol-climate model. Geoscientific Model Development, 2012, 5, 845-868.	3.6	59

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19	Observations of rapid aerosol optical depth enhancements in the vicinity of polluted cumulus clouds. Atmospheric Chemistry and Physics, 2014, 14, 11633-11656.	4.9	58
20	Spectral albedo of seasonal snow during intensive melt period at SodankylÃ, beyond the Arctic Circle. Atmospheric Chemistry and Physics, 2013, 13, 3793-3810.	4.9	54
21	A method for reconstruction of past UV radiation based on radiative transfer modeling: Applied to four stations in northern Europe. Journal of Geophysical Research, 2007, 112, .	3.3	52
22	SALSA2.0: The sectional aerosol module of the aerosolâ€“chemistryâ€“climate model ECHAM6.3.0-HAM2.3-MOZ1.0. Geoscientific Model Development, 2018, 11, 3833-3863.	3.6	52
23	Spatial and temporal UV irradiance and aerosol variability within the area of an OMI satellite pixel. Atmospheric Chemistry and Physics, 2009, 9, 4593-4601.	4.9	51
24	On the wavelengthâ€dependent attenuation of UV radiation by clouds. Geophysical Research Letters, 2008, 35, .	4.0	50
25	Quality assurance of the Brewer spectral UV measurements in Finland. Atmospheric Chemistry and Physics, 2008, 8, 3369-3383.	4.9	50
26	Direct and indirect effects of sea spray geoengineering and the role of injected particle size. Journal of Geophysical Research, 2012, 117, .	3.3	49
27	Validation of reactive gases and aerosols in the MACC global analysis and forecast system. Geoscientific Model Development, 2015, 8, 3523-3543.	3.6	49
28	Observations of the Interaction and Transport of Fine Mode Aerosols With Cloud and/or Fog in Northeast Asia From Aerosol Robotic Network and Satellite Remote Sensing. Journal of Geophysical Research D: Atmospheres, 2018, 123, 5560-5587.	3.3	49
29	Constraining the Twomey effect from satellite observations: issues and perspectives. Atmospheric Chemistry and Physics, 2020, 20, 15079-15099.	4.9	49
30	Biotic stress accelerates formation of climate-relevant aerosols in boreal forests. Atmospheric Chemistry and Physics, 2015, 15, 12139-12157.	4.9	48
31	Joint retrieval of the aerosol fine mode fraction and optical depth using MODIS spectral reflectance over northern and eastern China: Artificial neural network method. Remote Sensing of Environment, 2020, 249, 112006.	11.0	48
32	Improving the McClear model estimating the downwelling solar radiation at ground level in cloud-free conditionsÂâ€“ McClearâ€v3. Meteorologische Zeitschrift, 2019, 28, 147-163.	1.0	47
33	A case study on biomass burning aerosols: effects on aerosol optical properties and surface radiation levels. Atmospheric Chemistry and Physics, 2007, 7, 4257-4266.	4.9	45
34	Short-wave optical properties of precipitating water clouds. Quarterly Journal of the Royal Meteorological Society, 1997, 123, 883-899.	2.7	44
35	On the sources of bias in aerosol optical depth retrieval in the UV range. Journal of Geophysical Research, 2004, 109, .	3.3	43
36	Possibilities to detect trends in spectral UV irradiance. Theoretical and Applied Climatology, 2005, 81, 33-44.	2.8	43

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37	Version 2 total ozone mapping spectrometer ultraviolet algorithm: problems and enhancements. Optical Engineering, 2002, 41, 3028.	1.0	41
38	Biomass burning aerosols observed in Eastern Finland during the Russian wildfires in summer 2010 â€“ Part 2: Remote sensing. Atmospheric Environment, 2012, 47, 279-287.	4.1	41
39	Long-term erythemal UV doses at SodankylÃ estimated using total ozone, sunshine duration, and snow depth. Journal of Geophysical Research, 2003, 108, .	3.3	40
40	Comparison of UV irradiances from Aura/Ozone Monitoring Instrument (OMI) with Brewer measurements at El Arenosillo (Spain) â€“ Part 1: Analysis of parameter influence. Atmospheric Chemistry and Physics, 2010, 10, 5979-5989.	4.9	40
41	Comparison of OMI UV observations with ground-based measurements at high northern latitudes. Atmospheric Chemistry and Physics, 2015, 15, 7391-7412.	4.9	40
42	Assessment of four methods to estimate surface UV radiation using satellite data, by comparison with ground measurements from four stations in Europe. Journal of Geophysical Research, 2002, 107, ACL 11-1.	3.3	39
43	Solar UV Irradiance in a Changing Climate: Trends in Europe and the Significance of Spectral Monitoring in Italy. Environments - MDPI, 2020, 7, 1.	3.3	39
44	Evaluating the assumptions of surface reflectance and aerosol type selection within the MODIS aerosol retrieval over land: the problem of dust type selection. Atmospheric Measurement Techniques, 2011, 4, 201-214.	3.1	38
45	Significance of the organic aerosol driven climate feedback in the boreal area. Nature Communications, 2021, 12, 5637.	12.8	38
46	Geographical and diurnal features of amineâ€enhanced boundary layer nucleation. Journal of Geophysical Research D: Atmospheres, 2015, 120, 9606-9624.	3.3	37
47	Influence of cloud, fog, and high relative humidity during pollution transport events in South Korea: Aerosol properties and PM2.5 variability. Atmospheric Environment, 2020, 232, 117530.	4.1	37
48	Parameterization of Turbulent and Mesoscale Fluxes for Heterogeneous Surfaces. Journals of the Atmospheric Sciences, 1999, 56, 584-598.	1.7	35
49	Brief communication: Light-absorbing impurities can reduce the density of melting snow. Cryosphere, 2014, 8, 991-995.	3.9	35
50	Size-selected black carbon mass distributions and mixing state in polluted and clean environments of northern India. Atmospheric Chemistry and Physics, 2017, 17, 371-383.	4.9	35
51	Influence of observed diurnal cycles of aerosol optical depth on aerosol direct radiative effect. Atmospheric Chemistry and Physics, 2013, 13, 7895-7901.	4.9	32
52	The first estimates of global nucleation mode aerosol concentrations based on satellite measurements. Atmospheric Chemistry and Physics, 2011, 11, 10791-10801.	4.9	31
53	Observational signature of the direct radiative effect by natural boreal forest aerosols and its relation to the corresponding first indirect effect. Journal of Geophysical Research, 2009, 114, .	3.3	30
54	Biomass burning aerosols observed in Eastern Finland during the Russian wildfires in summer 2010 â€“ Part 1: In-situ aerosol characterization. Atmospheric Environment, 2012, 47, 269-278.	4.1	30

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55	Long-term measurements of cloud droplet concentrations and aerosolâ€“cloud interactions in continental boundary layer clouds. Tellus, Series B: Chemical and Physical Meteorology, 2013, 65, 20138.	1.6	30
56	Optical properties of accumulation mode, polluted mineral dust: effects of particle shape, hematite content and semi-external mixing with carbonaceous species. Tellus, Series B: Chemical and Physical Meteorology, 2022, 64, 18536.	1.6	29
57	Comparison of UV irradiances from Aura/Ozone Monitoring Instrument (OMI) with Brewer measurements at El Arenosillo (Spain) â€“ Part 2: Analysis of site aerosol influence. Atmospheric Chemistry and Physics, 2010, 10, 11867-11880.	4.9	28
58	Effects of Subgrid Spatial Heterogeneity on GCM-Scale Land Surface Energy and Moisture Fluxes. Journal of Climate, 1996, 9, 1339-1349.	3.2	26
59	Factors affecting short- and long-term changes of spectral UV irradiance at two European stations. Journal of Geophysical Research, 2003, 108, .	3.3	26
60	A new approach to estimating the albedo for snow-covered surfaces in the satellite UV method. Journal of Geophysical Research, 2003, 108, .	3.3	25
61	Direct radiative effect by brown carbon over the Indo-Gangetic Plain. Atmospheric Chemistry and Physics, 2015, 15, 12731-12740.	4.9	24
62	Artificial bias typically neglected in comparisons of uncertain atmospheric data. Geophysical Research Letters, 2016, 43, 10,003.	4.0	24
63	Making better sense of the mosaic of environmental measurement networks: aÂsystem-of-systems approach and quantitative assessment. Geoscientific Instrumentation, Methods and Data Systems, 2017, 6, 453-472.	1.6	23
64	The TROPOMI surface UV algorithm. Atmospheric Measurement Techniques, 2018, 11, 997-1008.	3.1	23
65	Aerosol absorption retrieval at ultraviolet wavelengths in a complex environment. Atmospheric Measurement Techniques, 2016, 9, 5997-6011.	3.1	22
66	OMI/Aura UV product validation using NILU-UV ground-based measurements in Thessaloniki, Greece. Atmospheric Environment, 2016, 140, 283-297.	4.1	22
67	Bayesian aerosol retrieval algorithm for MODIS AOD retrieval over land. Atmospheric Measurement Techniques, 2018, 11, 1529-1547.	3.1	22
68	Use of satellite erythemal UV products in analysing the global UV changes. Atmospheric Chemistry and Physics, 2011, 11, 9649-9658.	4.9	21
69	Retrieval of aerosol optical depth from surface solar radiation measurements using machine learning algorithms, non-linear regression and a radiative transfer-based look-up table. Atmospheric Chemistry and Physics, 2016, 16, 8181-8191.	4.9	21
70	Seasonal cycle and source analyses of aerosol optical properties in a semi-urban environment at Puijo station in Eastern Finland. Atmospheric Chemistry and Physics, 2012, 12, 5647-5659.	4.9	20
71	On the variation of aerosol properties over Finland based on the optical columnar measurements. Atmospheric Research, 2012, 116, 46-55.	4.1	19
72	Validation of satellite-based noontime UVI with NDACC ground-based instruments: influence of topography, environment and satellite overpass time. Atmospheric Chemistry and Physics, 2016, 16, 15049-15074.	4.9	19

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73	Effective aerosol optical depth from pyranometer measurements of surface solar radiation (global) Tj ETQq1 1 0.784314 rgBT /Overlo	4.9	18
74	Biomass Burning Aerosols Observed in Northern Finland during the 2010 Wildfires in Russia. Atmosphere, 2013, 4, 17-34.	2.3	18
75	On the use of a satellite remote-sensing-based approach for determining aerosol direct radiative effect over land: a case study over China. Atmospheric Chemistry and Physics, 2015, 15, 505-518.	4.9	18
76	Assessment of cloud-related fine-mode AOD enhancements based on AERONET SDA product. Atmospheric Chemistry and Physics, 2017, 17, 5991-6001.	4.9	17
77	Validation of the TROPOspheric Monitoring Instrument (TROPOMI) surface UV radiation product. Atmospheric Measurement Techniques, 2020, 13, 6999-7024.	3.1	17
78	Validation of OMI erythemal doses with multi-sensor ground-based measurements in Thessaloniki, Greece. Atmospheric Environment, 2018, 183, 106-121.	4.1	16
79	Characterization of satellite-based proxies for estimating nucleation mode particles over South Africa. Atmospheric Chemistry and Physics, 2015, 15, 4983-4996.	4.9	15
80	The effect of the global UV irradiance measurement accuracy on the single scattering albedo retrieval. Atmospheric Measurement Techniques, 2010, 3, 1029-1037.	3.1	14
81	Effect of aerosol size distribution changes on AOD, CCN and cloud droplet concentration: Case studies from Erfurt and Melpitz, Germany. Journal of Geophysical Research, 2012, 117, .	3.3	14
82	Technical note: Effects of uncertainties and number of data points on line fitting â€“ a case study on new particle formation. Atmospheric Chemistry and Physics, 2019, 19, 12531-12543.	4.9	14
83	Characterization of the aerosol type using simultaneous measurements of the lidar ratio and estimations of the single scattering albedo. Atmospheric Research, 2011, 101, 46-53.	4.1	13
84	Implementation of state-of-the-art ternary new-particle formation scheme to the regional chemical transport model PMCAMx-UF in Europe. Geoscientific Model Development, 2016, 9, 2741-2754.	3.6	13
85	Data flow of spectral UV measurements at SodankylÃ and Jokioinen. Geoscientific Instrumentation, Methods and Data Systems, 2016, 5, 193-203.	1.6	13
86	Eddy covariance measurements of CO2 exchange from agro-ecosystems located in subtropical (India) and boreal (Finland) climatic conditions. Journal of Earth System Science, 2020, 129, 1.	1.3	13
87	Aerosol Effect on the Cloud Phase of Lowâ€Level Clouds Over the Arctic. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7886-7899.	3.3	12
88	Evaluation of aerosol and cloud properties in three climate models using MODIS observations and its corresponding COSP simulator, as well as their application in aerosolâ€“cloud interactions. Atmospheric Chemistry and Physics, 2020, 20, 1607-1626.	4.9	12
89	Challenges in the atmospheric characterization for the retrieval of spectrally resolved fluorescence and PRI region dynamics from space. Remote Sensing of Environment, 2021, 254, 112226.	11.0	12
90	The PROMOTE UV Record: Toward a Global Satellite-Based Climatology of Surface Ultraviolet Irradiance. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2009, 2, 207-212.	4.9	11

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91	Effect of water vapor on the determination of aerosol direct radiative effect based on the AERONET fluxes. Atmospheric Chemistry and Physics, 2014, 14, 6103-6110.	4.9	11
92	Advanced Ultraviolet Radiation and Ozone Retrieval for Applications (AURORA): A Project Overview. Atmosphere, 2018, 9, 454.	2.3	11
93	Use of the moving time-window technique to determine surface albedo from TOMS reflectivity data. , 2003, , .		10
94	A new method for estimating UV fluxes at ground level in cloud-free conditions. Atmospheric Measurement Techniques, 2017, 10, 4965-4978.	3.1	10
95	Comparison of surface UV irradiance in mountainous regions derived from satellite observations and model calculations with ground-based measurements. Meteorologische Zeitschrift, 2010, 19, 481-490.	1.0	9
96	Influence of desert dust intrusions on groundâ€based and satelliteâ€derived ultraviolet irradiance in southeastern Spain. Journal of Geophysical Research, 2012, 117, .	3.3	9
97	Technical Note: A novel parameterization of the transmissivity due to ozone absorption in the <i>k</i>-distribution method and correlated-<i>k</i> approximation of Kato et al. (1999) over the UV band. Atmospheric Chemistry and Physics, 2015, 15, 7449-7456.	4.9	9
98	Solar UV radiation measurements in Marambio, Antarctica, during years 2017â€“2019. Atmospheric Chemistry and Physics, 2020, 20, 6037-6054.	4.9	9
99	UV-Indien network: ground-based measurements dedicated to the monitoring of UV radiation over the western Indian Ocean. Earth System Science Data, 2021, 13, 4275-4301.	9.9	9
100	New continuous total ozone, UV, VIS and PAR measurements at Marambio, 64Â°â€‰S, Antarctica. Earth System Science Data, 2020, 12, 947-960.	9.9	9
101	‹title›Version 2 TOMS UV algorithm: problems and enhancements‹/title›. , 2002, 4482, 82.		8
102	Black carbon radiative forcing derived from AERONET measurements and models over an urban location in the southeastern Iberian Peninsula. Atmospheric Research, 2017, 191, 44-56.	4.1	8
103	Summertime Aerosol Radiative Effects and Their Dependence on Temperature over the Southeastern USA. Atmosphere, 2018, 9, 180.	2.3	8
104	A New Clear-Sky Method for Assessing Photosynthetically Active Radiation at the Surface Level. Atmosphere, 2019, 10, 219.	2.3	8
105	Performance of the FMI cosine error correction method for the Brewer spectral UV measurements. Atmospheric Measurement Techniques, 2018, 11, 5167-5180.	3.1	7
106	A hybrid method for reconstructing the historical evolution of aerosol optical depth from sunshine duration measurements. Atmospheric Measurement Techniques, 2020, 13, 3061-3079.	3.1	7
107	Application of the Complete Data Fusion algorithm to the ozone profiles measured by geostationary and low-Earth-orbit satellites: a feasibility study. Atmospheric Measurement Techniques, 2021, 14, 2041-2053.	3.1	6
108	Advanced Ultraviolet Radiation and Ozone Retrieval for Applicationsâ€”Surface Ultraviolet Radiation Products. Atmosphere, 2020, 11, 324.	2.3	4

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109	Deep-learning-based post-process correction of the aerosol parameters in the high-resolution Sentinel-3 Level-2 Synergy product. Atmospheric Measurement Techniques, 2022, 15, 895-914.	3.1	4
110	Assessment of TOMS UV bias due to absorbing aerosols. , 2004, , .		3
111	Observations on aerosol optical properties and scavenging during cloud events. Atmospheric Chemistry and Physics, 2021, 21, 1683-1695.	4.9	3
112	Mass concentration estimates of long-range-transported Canadian biomass burning aerosols from a multi-wavelength Raman polarization lidar and a ceilometer in Finland. Atmospheric Measurement Techniques, 2021, 14, 6159-6179.	3.1	3
113	Monitoring Solar Radiation UV Exposure in the Comoros. International Journal of Environmental Research and Public Health, 2021, 18, 10475.	2.6	3
114	Effect of aerosols on the infrared transmission in Lakiala, Finland. Atmospheric Environment, 2008, 42, 2603-2610.	4.1	2
115	Model-enforced post-process correction of satellite aerosol retrievals. Atmospheric Measurement Techniques, 2021, 14, 2981-2992.	3.1	2
116	Rethinking the correction for absorbing aerosols in the OMI- and TROPOMI-like surface UV algorithms. Atmospheric Measurement Techniques, 2021, 14, 4947-4957.	3.1	2
117	Short-wave optical properties of precipitating water clouds. Quarterly Journal of the Royal Meteorological Society, 1997, 123, 883-899.	2.7	2
118	Using Copernicus Atmosphere Monitoring Service (CAMS) Products to Assess Illuminances at Ground Level under Cloudless Conditions. Atmosphere, 2021, 12, 643.	2.3	1
119	On the wavelengthâ€dependent attenuation of radiation in the UVâ€visible range by a homogeneous cloud layer. , 2009, , .		0
120	Ozone monitoring instrument satellite UV irradiance product correction using a global aerosol climatology. , 2009, , .		0
121	Aerosol single scattering albedo retrieval with various techniques in the UV and visible wavelength range. , 2009, , .		0
122	Aerosol optical properties in Finland during Russian forest fires in 2010. , 2013, , .		0
123	About UV albedo of seasonal snow at Sodankyla including Arctic - Antarctic comparison aspects. , 2013, , .		0
124	Two decades of spectral UV measurements at Sodankylaˆ. , 2013, , .		0
125	A Distributed Modular Data Processing Chain Applied to Simulated Satellite Ozone Observations. Remote Sensing, 2021, 13, 210.	4.0	0
126	Assessment of Six Different Methods for the Estimation of Surface Ultra-Violet Fluxes at One Location in Uruguay. , 2019, , .		0