Portable Raman Lidar PollyXT for Automated Profiling and Depolarization

Journal of Atmospheric and Oceanic Technology 26, 2366-2378 DOI: 10.1175/2009jtecha1304.1

Citation Report

#	Article	IF	CITATIONS
1	An overview of the Amazonian Aerosol Characterization Experiment 2008 (AMAZE-08). Atmospheric Chemistry and Physics, 2010, 10, 11415-11438.	1.9	170
2	Aerosol measurements at the Gual Pahari EUCAARI station: preliminary results from in-situ measurements. Atmospheric Chemistry and Physics, 2010, 10, 7241-7252.	1.9	58
3	Radiative effects of the cloudy atmosphere from ground and satellite based observations. EPJ Web of Conferences, 2010, 9, 83-94.	0.1	11
4	Ceilometer lidar comparison: backscatter coefficient retrieval and signal-to-noise ratio determination. Atmospheric Measurement Techniques, 2010, 3, 1763-1770.	1.2	128
5	Contrasting the impact of aerosols at northern and southern midlatitudes on heterogeneous ice formation. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	115
6	Further evidence for significant smoke transport from Africa to Amazonia. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	67
7	General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) – integrating aerosol research from nano to global scales. Atmospheric Chemistry and Physics, 2011, 11, 13061-13143.	1.9	278
8	Multi-instrumental observation of an exceptionally strong Saharan dust outbreak over Portugal. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	53
9	Simultaneous retrieval of aerosol optical properties over the Pearl River Delta, China using multi-angular, multi-spectral, and polarized measurements. Remote Sensing of Environment, 2011, 115, 1643-1652.	4.6	33
10	One year of regular aerosol observations with a multi-wavelength Raman lidar in Portugal. , 2011, , .		2
12	South African EUCAARI measurements: seasonal variation of trace gases and aerosol optical properties. Atmospheric Chemistry and Physics, 2012, 12, 1847-1864.	1.9	62
13	Technical Note: One year of Raman-lidar measurements in Gual Pahari EUCAARI site close to New Delhi in India – Seasonal characteristics of the aerosol vertical structure. Atmospheric Chemistry and Physics, 2012, 12, 4513-4524.	1.9	63
14	Volcanic ash over Scandinavia originating from the GrÃmsvötn eruptions in May 2011. Journal of Geophysical Research, 2012, 117, .	3.3	41
15	Oneâ€year aerosol profiling with EUCAARI Raman lidar at Shangdianzi GAW station: Beijing plume and seasonal variations. Journal of Geophysical Research, 2012, 117, .	3.3	46
16	Aerosol profiling with lidar in the Amazon Basin during the wet and dry season. Journal of Geophysical Research, 2012, 117, .	3.3	95
17	Practical depolarization-ratio-based inversion procedure: lidar measurements of the Eyjafjallajökull ash cloud over the Netherlands. Applied Optics, 2013, 52, 2394.	0.9	18
18	Enhancement of aerosol characterization using synergy of lidar and sun-photometer coincident observations: the GARRLiC algorithm. Atmospheric Measurement Techniques, 2013, 6, 2065-2088.	1.2	153
19	Developing a portable, autonomous aerosol backscatter lidar for network or remote operations. Atmospheric Measurement Techniques, 2013, 6, 801-816.	1.2	27

#	Article	IF	CITATIONS
21	Vertically resolved optical and microphysical properties of Portuguese forest fire smoke observed in February 2012. , 2013, , .		2
22	Radiative effect of aerosols above the northern and southern Atlantic Ocean as determined from shipborne lidar observations. Journal of Geophysical Research D: Atmospheres, 2013, 118, 12,556.	1.2	15
23	Toward a quantitative characterization of heterogeneous ice formation with lidar/radar: Comparison of CALIPSO/CloudSat with groundâ€based observations. Geophysical Research Letters, 2013, 40, 4404-4408.	1.5	64
24	Northâ€south cross sections of the vertical aerosol distribution over the Atlantic Ocean from multiwavelength Raman/polarization lidar during Polarstern cruises. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2643-2655.	1.2	53
25	Two years of freeâ€ŧropospheric aerosol layers observed over Portugal by lidar. Journal of Geophysical Research D: Atmospheres, 2013, 118, 3676-3686.	1.2	41
26	Forest Fire Smoke Layers Observed in the Free Troposphere over Portugal with a Multiwavelength Raman Lidar: Optical and Microphysical Properties. Scientific World Journal, The, 2014, 2014, 1-11.	0.8	21
27	Surface matters: limitations of CALIPSO V3 aerosol typing in coastal regions. Atmospheric Measurement Techniques, 2014, 7, 2061-2072.	1.2	25
28	Observing wind, aerosol particles, cloud and precipitation: Finland's new ground-based remote-sensing network. Atmospheric Measurement Techniques, 2014, 7, 1351-1375.	1.2	64
29	Advances in cloud base height and wind speed measurement through stereophotogrammetry with low cost consumer cameras. Measurement: Journal of the International Measurement Confederation, 2014, 51, 429-440.	2.5	10
30	Atmospheric boundary layer top height in South Africa: measurements with lidar and radiosonde compared to three atmospheric models. Atmospheric Chemistry and Physics, 2014, 14, 4263-4278.	1.9	65
31	A new multispectral cloud retrieval method for shipâ€based solar transmissivity measurements. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,338.	1.2	21
32	Mobile multi-wavelength polarization Raman lidar for water vapor, cloud and aerosol measurement. Optics Express, 2015, 23, 33870.	1.7	28
33	One year of Raman lidar observations of free-tropospheric aerosol layers over South Africa. Atmospheric Chemistry and Physics, 2015, 15, 5429-5442.	1.9	26
34	Water vapour profiles from Raman lidar automatically calibrated by microwave radiometer data during HOPE. Atmospheric Chemistry and Physics, 2015, 15, 7753-7763.	1.9	29
35	Seasonal variability of heterogeneous ice formation in stratiform clouds over the Amazon Basin. Geophysical Research Letters, 2015, 42, 5587-5593.	1.5	19
36	Ice phase in altocumulus clouds over Leipzig: remote sensing observations and detailed modeling. Atmospheric Chemistry and Physics, 2015, 15, 10453-10470.	1.9	18
37	Low hygroscopic scattering enhancement of boreal aerosol and the implications for a columnar optical closure study. Atmospheric Chemistry and Physics, 2015, 15, 7247-7267.	1.9	32
38	A methodology for investigating dust model performance using synergistic EARLINET/AERONET dust concentration retrievals. Atmospheric Measurement Techniques, 2015, 8, 3577-3600.	1.2	76

#	Article	IF	CITATIONS
40	ALADINA – an unmanned research aircraft for observing vertical and horizontal distributions of ultrafine particles within the atmospheric boundary layer. Atmospheric Measurement Techniques, 2015, 8, 1627-1639.	1.2	84
41	Study Case of Air-Mass Modification over Poland and Romania Observed by the Means of Multiwavelength Raman Depolarization Lidars. EPJ Web of Conferences, 2016, 119, 08008.	0.1	0
42	Central Asian Dust Experiment (CADEX): Multiwavelength Polarization Raman Lidar Observations in Tajikistan. EPJ Web of Conferences, 2016, 119, 18006.	0.1	2
44	EARLINET instrument intercomparison campaigns: overview on strategy and results. Atmospheric Measurement Techniques, 2016, 9, 1001-1023.	1.2	58
46	Continuous Time Series of Water Vapor Profiles from a Combination of Raman Lidar and Microwave Radiometer. EPJ Web of Conferences, 2016, 119, 05001.	0.1	1
47	Observation of Arabian and Saharan Dust in Cyprus with a New Generation of the Smart Raman Lidar Polly. EPJ Web of Conferences, 2016, 119, 27003.	0.1	3
48	Mobile Multiwavelength Polarization Raman Lidar for Water Vapor, Cloud and Aerosol Measurement. EPJ Web of Conferences, 2016, 119, 23031.	0.1	0
49	The automated multiwavelength Raman polarization and water-vapor lidar Polly ^{XT} : the neXT generation. Atmospheric Measurement Techniques, 2016, 9, 1767-1784.	1.2	249
50	Lidar Measurements of Canadian Forest Fire Smoke Episode Observed in July 2013 over Warsaw, Poland. EPJ Web of Conferences, 2016, 119, 18005.	0.1	4
51	Aerosol Properties over Southeastern China from Multi-Wavelength Raman and Depolarization Lidar Measurements. EPJ Web of Conferences, 2016, 119, 23018.	0.1	4
52	Comparing Water Vapor Mixing Ratio Profiles and Cloud Vertical Structure from Multiwavelength Raman Lidar Retrievals and Radiosounding Measurements. EPJ Web of Conferences, 2016, 119, 24005.	0.1	0
54	BAECC: A Field Campaign to Elucidate the Impact of Biogenic Aerosols on Clouds and Climate. Bulletin of the American Meteorological Society, 2016, 97, 1909-1928.	1.7	71
55	Optical and microphysical characterization of aerosol layers over South Africa by means of multi-wavelength depolarization and Raman lidar measurements. Atmospheric Chemistry and Physics, 2016, 16, 8109-8123.	1.9	51
56	Measuring ice- and liquid-water properties in mixed-phase cloud layers at the Leipzig Cloudnet station. Atmospheric Chemistry and Physics, 2016, 16, 10609-10620.	1.9	72
57	An overview of the first decade of Polly ^{NET} : an emerging network of automated Raman-polarization lidars for continuous aerosol profiling. Atmospheric Chemistry and Physics, 2016, 16, 5111-5137.	1.9	212
58	Research in Depolarization and Extinction Coefficient of Particles in Tibetan Plateau by Lidar. EPJ Web of Conferences, 2016, 119, 23030.	0.1	0
59	Solar and thermal radiative effects during the 2011 extreme desert dust episode over Portugal. Atmospheric Environment, 2017, 148, 16-29.	1.9	23
60	Retrieving Fall Streaks within Cloud Systems Using Doppler Radar. Journal of Atmospheric and Oceanic Technology, 2017, 34, 905-920	0.5	10

	Сітатіс	on Report	
#	Article	IF	CITATIONS
61	Microphysical characterization of long-range transported biomass burning particles from North America at three EARLINET stations. Atmospheric Chemistry and Physics, 2017, 17, 5931-5946.	1.9	71
62	Evaluation of large-eddy simulations forced with mesoscale model output for a multi-week period during a measurement campaign. Atmospheric Chemistry and Physics, 2017, 17, 7083-7109.	1.9	39
63	Long-term profiling of mineral dust and pollution aerosol with multiwavelength polarization Raman lidar at the Central Asian site of Dushanbe, Tajikistan: case studies. Atmospheric Chemistry and Physics, 2017, 17, 14559-14577.	1.9	93
64	lce nucleating particles over the Eastern Mediterranean measured by unmanned aircraft systems. Atmospheric Chemistry and Physics, 2017, 17, 4817-4835.	1.9	62
65	Continuous vertical aerosol profiling with a multi-wavelength Raman polarization lidar over the Pearl River Delta, China. Atmospheric Chemistry and Physics, 2017, 17, 6679-6691.	1.9	27
66	Target categorization of aerosol and clouds by continuous multiwavelength-polarization lidar measurements. Atmospheric Measurement Techniques, 2017, 10, 3175-3201.	1.2	66
67	15 μm polarization coherent lidar incorporating time-division multiplexing. Optics Express, 2017, 25, 20663.	1.7	45
68	GARRLiC and LIRIC: strengths and limitations for the characterization of dust and marine particles along with their mixtures. Atmospheric Measurement Techniques, 2017, 10, 4995-5016.	1.2	42
69	Profiling water vapor mixing ratios in Finland by means of aÂRaman lidar, aÂsatellite and aÂmodel. Atmospheric Measurement Techniques, 2017, 10, 4303-4316.	1.2	17
70	Optimal estimation of water vapour profiles using aÂcombination of Raman lidar and microwave radiometer. Atmospheric Measurement Techniques, 2017, 10, 3325-3344.	1.2	11
71	Airborne observations of newly formed boundary layer aerosol particles under cloudy conditions. Atmospheric Chemistry and Physics, 2018, 18, 8249-8264.	1.9	21
72	Ship-borne aerosol profiling with lidar over the Atlantic Ocean: from pure marine conditions to complex dust–smoke mixtures. Atmospheric Chemistry and Physics, 2018, 18, 9661-9679.	1.9	40
73	PollyNET - an emerging network of automated raman-polarizarion lidars for continuous aerosolprofiling. EPJ Web of Conferences, 2018, 176, 09013.	0.1	1
74	Calibration of Raman lidar water vapor profiles by means of AERONET photometer observations and GDAS meteorological data. Atmospheric Measurement Techniques, 2018, 11, 2735-2748.	1.2	21
76	100 Years of Progress in Atmospheric Observing Systems. Meteorological Monographs, 2018, 59, 2.1-2.55.	5.0	22
77	Vertical profiles of aerosol mass concentration derived by unmanned airborne in situ and remote sensing instruments during dust events. Atmospheric Measurement Techniques, 2018, 11, 2897-2910.	1.2	50
78	Extreme levels of Canadian wildfire smoke in the stratosphere over central Europe on 21–22 AugustÂ2017. Atmospheric Chemistry and Physics, 2018, 18, 11831-11845.	1.9	86
79	Depolarization and lidar ratios at 355, 532, and 1064 nm and microphysical properties of aged tropospheric and stratospheric Canadian wildfire smoke. Atmospheric Chemistry and Physics, 2018, 18, 11847-11861.	1.9	132

#	Article	IF	CITATIONS
81	First results of cirrus clouds properties by means of a pollyxt raman lidar at two measurement sites. EPJ Web of Conferences, 2018, 176, 05031.	0.1	1
82	Development of an Automatic Polarization Raman LiDAR for Aerosol Monitoring over Complex Terrain. Sensors, 2019, 19, 3186.	2.1	8
83	The Mineral Aerosol Profiling from Infrared Radiances (MAPIR) algorithm: version 4.1 description and evaluation. Atmospheric Measurement Techniques, 2019, 12, 3673-3698.	1.2	12
84	Vertical Profiling of Aerosols With a Combined Ramanâ€Elastic Backscatter Lidar in the Remote Southern Ocean Marine Boundary Layer (43–66°S, 132–150°E). Journal of Geophysical Research D: Atmospheres, 2019, 124, 12107-12125.	1.2	17
85	EARLINET evaluation of the CATS Level 2 aerosol backscatter coefficient product. Atmospheric Chemistry and Physics, 2019, 19, 11743-11764.	1.9	16
86	Vertical profiles of dust and other aerosol types above a coastal site. E3S Web of Conferences, 2019, 99, 02005.	0.2	3
87	CADEX and beyond: Installation of a new PollyXT site in Dushanbe. E3S Web of Conferences, 2019, 99, 02010.	0.2	0
88	Vertical aerosol distribution in the southern hemispheric midlatitudes as observed with lidar in Punta Arenas, Chile (53.2° S and 70.9° W), during ALPACA. Atmospheric Chemistry and Physics, 2019 6217-6233.	,1.9,	16
89	Optical and Geometrical Properties of Cirrus Clouds over the Tibetan Plateau Measured by LiDAR and Radiosonde Sounding during the Summertime in 2014. Remote Sensing, 2019, 11, 302.	1.8	8
90	Planetary boundary layer height by means of lidar and numerical simulations over New Delhi, India. Atmospheric Measurement Techniques, 2019, 12, 2595-2610.	1.2	23
91	Aerosol measurements with a shipborne Sun–sky–lunar photometer and collocated multiwavelength Raman polarization lidar over the Atlantic Ocean. Atmospheric Measurement Techniques, 2019, 12, 5685-5698.	1.2	21
92	The unprecedented 2017–2018 stratospheric smoke event: decay phase and aerosol properties observed with the EARLINET. Atmospheric Chemistry and Physics, 2019, 19, 15183-15198.	1.9	83
93	Detection and characterization of birch pollen in the atmosphere using a multiwavelength Raman polarization lidar and Hirst-type pollen sampler in Finland. Atmospheric Chemistry and Physics, 2019, 19, 14559-14569.	1.9	24
94	Lidar Observations of Birch and Spruce Pollen in Finland. EPJ Web of Conferences, 2020, 237, 02021.	0.1	0
95	Characterisation of Biomass Burning Aerosols in the Southern Hemispheric Midlatitudes by Multiwavelength Raman Lidar. EPJ Web of Conferences, 2020, 237, 03006.	0.1	0
96	Variability in cirrus cloud properties using a Polly ^{XT} Raman lidar over high and tropical latitudes. Atmospheric Chemistry and Physics, 2020, 20, 4427-4444.	1.9	19
97	Long-term profiling of aerosol light extinction, particle mass, cloud condensation nuclei, and ice-nucleating particle concentration over Dushanbe, Tajikistan, in Central Asia. Atmospheric Chemistry and Physics, 2020, 20, 4695-4711.	1.9	27
98	Atmospheric Pollutant Dispersion over Complex Terrain: Challenges and Needs for Improving Air Quality Measurements and Modeling. Atmosphere, 2020, 11, 646.	1.0	41

#	Article	IF	Citations
" 99	The potential of elastic and polarization lidars to retrieve extinction profiles. Atmospheric Measurement Techniques, 2020, 13, 893-905.	1.2	6
100	Aerosol type classification analysis using EARLINET multiwavelength and depolarization lidar observations. Atmospheric Chemistry and Physics, 2021, 21, 2211-2227.	1.9	11
101	Atmospheric boundary layer height estimation from aerosol lidar: a new approach based on morphological image processing techniques. Atmospheric Chemistry and Physics, 2021, 21, 4249-4265.	1.9	26
102	Characterization of forest fire and Saharan desert dust aerosols over south-western Europe using a multi-wavelength Raman lidar and Sun-photometer. Atmospheric Environment, 2021, 252, 118346.	1.9	13
104	Experimental assessment of a micro-pulse lidar system in comparison with reference lidar measurements for aerosol optical properties retrieval. Atmospheric Measurement Techniques, 2021, 14, 5225-5239.	1.2	10
105	Advection of Biomass Burning Aerosols towards the Southern Hemispheric Mid-Latitude Station of Punta Arenas as Observed with Multiwavelength Polarization Raman Lidar. Remote Sensing, 2021, 13, 138.	1.8	14
106	Aerosol Characterization by Means of PollyXT Raman Lidar at South Africa, India and Finland. Springer Atmospheric Sciences, 2017, , 831-836.	0.4	1
114	Relationship between temperature and apparent shape of pristine ice crystals derived from polarimetric cloud radar observations during the ACCEPT campaign. Atmospheric Measurement Techniques, 2016, 9, 3739-3754.	1.2	38
120	Extension of the WRF-Chem volcanic emission preprocessor to integrate complex source terms and evaluation for different emission scenarios of the Grimsvötn 2011 eruption. Natural Hazards and Earth System Sciences, 2020, 20, 3099-3115.	1.5	6
125	Development of lidar detection system for improvement of measurement range (Combined photon) Tj ETQq1 1	0.784314 0.4	rgBT /Overlo
130	PollyNET: an emerging network of automated Raman-polarization lidars for continuous aerosol profiling. , 2016, , .		0
131	Elastic-lidar signal statistics and sensing efficiency depending on the laser radiation wavelength. , 2019, , .		0
132	Aerosol Typing Based on Multiwavelength Lidar Observations and Meteorological Model Data. EPJ Web of Conferences, 2020, 237, 08003.	0.1	0
133	Radiative and temperature effects of experimental cloud-radiation interaction scheme of COSMO model. , 2020, , .		0
134	Measurement report: Comparison of airborne, in situ measured, lidar-based, and modeled aerosol optical properties in the central European background – identifying sources of deviations. Atmospheric Chemistry and Physics, 2021, 21, 16745-16773.	1.9	7
135	Particle emissions from a modern heavy-duty diesel engine as ice nuclei in immersion freezing mode: a laboratory study on fossil and renewable fuels. Atmospheric Chemistry and Physics, 2022, 22, 1615-1631.	1.9	1
136	The vertical aerosol type distribution above Israel – 2Âyears of lidar observations at the coastal city of Haifa. Atmospheric Chemistry and Physics, 2022, 22, 1633-1648.	1.9	9
137	Hemispheric contrasts in ice formation in stratiform mixed-phase clouds: disentangling the role of aerosol and dynamics with ground-based remote sensing. Atmospheric Chemistry and Physics, 2021, 21, 17969-17994.	1.9	18

#	Article	IF	CITATIONS
138	Black carbon aerosol number and mass concentration measurements by picosecond short-range elastic backscatter lidar. Scientific Reports, 2022, 12, 8443.	1.6	7
139	ALiDAn: Spatiotemporal and Multi–Wavelength Atmospheric Lidar Data Augmentation. IEEE Transactions on Geoscience and Remote Sensing, 2022, , 1-1.	2.7	0
140	Hyperfine Observation and Forecasting of the Sandstorm Intrusion Process. IEEE Geoscience and Remote Sensing Letters, 2023, 20, 1-5.	1.4	0
141	Correct(ed) Klett–Fernald algorithm for elastic aerosol backscatter retrievals: a sensitivity analysis. Applied Optics, 2023, 62, 861.	0.9	2