Andreas Behrendt

List of Publications by Year
in descending order

86 papers	3,612 citations	117453 34 h-index	143772 57 g-index
126 all docs	126 docs citations	126 times ranked	2798 citing authors

#	Article	IF	Citations
1	Multi-nested WRF simulations for studying planetary boundary layer processes on the turbulence-permitting scale in a realistic mesoscale environment. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 72, 1761740.	0.8	17
2	Statistical Analysis of Simulated Spaceborne Thermodynamics Lidar Measurements in the Planetary Boundary Layer. Frontiers in Remote Sensing, 2022, 3, .	1.3	1
3	Simultaneous Observations of Surface Layer Profiles of Humidity, Temperature, and Wind Using Scanning Lidar Instruments. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	6
4	EUREC⁴A. Earth System Science Data, 2021, 13, 4067-4119.	3.7	88
5	A network of water vapor Raman lidars for improving heavy precipitation forecasting in southern France: introducing the WaLiNeAs initiative. Bulletin of Atmospheric Science and Technology, 2021, 2, 1.	0.4	5
6	Impact of assimilating lidar water vapour and temperature profiles with a hybrid ensemble transform Kalman filter: Threeâ€dimensional variational analysis on the convectionâ€permitting scale. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 4163-4185.	1.0	4
7	Raman Lidar for Water Vapor and Temperature Profiling. Springer Handbooks, 2021, , 719-739.	0.3	2
8	An inverse dielectric mixing model at 50â€‰MHz that considers soil organic carbon. Hydrology and Earth System Sciences, 2021, 25, 6407-6420.	1.9	3
9	Convection Initiation over the Eastern Arabian Peninsula. Meteorologische Zeitschrift, 2020, 29, 67-77.	0.5	25
10	Minimization of the Rayleigh-Doppler error of differential absorption lidar by frequency tuning: a simulation study. Optics Express, 2020, 28, 30324.	1.7	3
11	Assimilation of Lidar Water Vapour Mixing Ratio and Temperature Profiles into a Convection-Permitting Model. Journal of the Meteorological Society of Japan, 2020, 98, 959-986.	0.7	8
12	Observation of sensible and latent heat flux profiles with lidar. Atmospheric Measurement Techniques, 2020, 13, 3221-3233.	1.2	16
13	CO2 Profiling by Space-Borne Raman Lidar. EPJ Web of Conferences, 2020, 237, 01004.	0.1	0
14	Compact Operational Tropospheric Water Vapor and Temperature Raman Lidar with Turbulence Resolution. Geophysical Research Letters, 2019, 46, 14844-14853.	1.5	26
15	Introducing the atmospheric thermodynamics lidar in Space: ATLAS. , 2019, , .		0
16	Response of the Landâ€Atmosphere System Over Northâ€Central Oklahoma During the 2017 Eclipse. Geophysical Research Letters, 2018, 45, 1668-1675.	1.5	22
17	Space-borne profiling of atmospheric thermodynamic variables with raman lidar. EPJ Web of Conferences, 2018, 176, 02002.	0.1	0
18	A New Research Approach for Observing and Characterizing Landâ€"Atmosphere Feedback. Bulletin of the American Meteorological Society, 2018, 99, 1639-1667.	1.7	75

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19	Space-borne profiling of atmospheric thermodynamic variables with Raman lidar: performance simulations. Optics Express, 2018, 26, 8125.	1.7	19
20	Largeâ€eddy simulations over Germany using ICON: a comprehensive evaluation. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 69-100.	1.0	175
21	Characterization of turbulent processes by the Raman lidar system BASIL during the HD(CP)2 observational prototype experiment â€“ HOPE. AIP Conference Proceedings, 2017, , .	0.3	1
22	The HD(CP)² Observational Prototype Experiment (HOPE) â€“ an overview. Atmospheric Chemistry and Physics, 2017, 17, 4887-4914.	1.9	67
23	Characterisation of boundary layer turbulent processes by the Raman lidar BASIL in the frame of HD(CP)² Observational Prototype Experiment. Atmospheric Chemistry and Physics, 2017, 17, 745-767.	1.9	31
24	Feature issue introduction: Light, Energy and the Environment, 2016. Optics Express, 2017, 25, A444.	1.7	3
25	New Approach for Calculating the Effective Dielectric Constant of the Moist Soil for Microwaves. Remote Sensing, 2017, 9, 732.	1.8	38
26	Development and application of a backscatter lidar forward operator for quantitative validation of aerosol dispersion models and future data assimilation. Atmospheric Measurement Techniques, 2017, 10, 4705-4726.	1.2	12
27	A review of sources of systematic errors and uncertainties in observations and simulations at 183â€¯GHz. Atmospheric Measurement Techniques, 2016, 9, 2207-2221.	1.2	41
28	3-D water vapor field in the atmospheric boundary layer observed with scanning differential absorption lidar. Atmospheric Measurement Techniques, 2016, 9, 1701-1720.	1.2	47
29	First assimilation of temperature lidar data into an NWP model: impact on the simulation of the temperature field, inversion strength and PBL depth. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 2882-2896.	1.0	20
30	Turbulent Humidity Fluctuations in the Convective Boundary Layer: Case Studies Using Water Vapour Differential Absorption Lidar Measurements. Boundary-Layer Meteorology, 2016, 158, 43-66.	1.2	37
31	Investigation of PBL schemes combining the WRF model simulations with scanning water vapor differential absorption lidar measurements. Journal of Geophysical Research D: Atmospheres, 2016, 121, 624-649.	1.2	56
32	Determination of Convective Boundary Layer Entrainment Fluxes, Dissipation Rates, and the Molecular Destruction of Variances: Theoretical Description and a Strategy for Its Confirmation with a Novel Lidar System Synergy. Journals of the Atmospheric Sciences, 2016, 73, 667-692.	0.6	53
33	Characterization of Turbulent Processes by the Raman Lidar System Basil in the Frame of the HD(CP)2Observational Prototype Experiment â€“ Hope. EPJ Web of Conferences, 2016, 119, 10005.	0.1	0
34	A review of the remote sensing of lower tropospheric thermodynamic profiles and its indispensable role for the understanding and the simulation of water and energy cycles. Reviews of Geophysics, 2015, 53, 819-895.	9.0	174
35	Parametrization of optimum filter passbands for rotational Raman temperature measurements. Optics Express, 2015, 23, 30767.	1.7	15
36	Temperature profiling of the atmospheric boundary layer with rotational Raman lidar during the HD(CP)² Observational Prototype Experiment. Atmospheric Chemistry and Physics, 2015, 15, 2867-2881.	1.9	66

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37	Profiles of second- to fourth-order moments of turbulent temperature fluctuations in the convective boundary layer: first measurements with rotational Raman lidar. Atmospheric Chemistry and Physics, 2015, 15, 5485-5500.	1.9	67
38	Online/offline injection seeding system with high frequency-stability and low crosstalk for water vapor DIAL. Optics Communications, 2013, 309, 37-43.	1.0	11
39	High-power Ti:sapphire laser at 820Ânm for scanning ground-based waterâ€"vapor differential absorption lidar. Applied Optics, 2013, 52, 2454.	0.9	41
40	Short-range optical air data measurements for aircraft control using rotational Raman backscatter. Optics Express, 2013, 21, 16398.	1.7	7
41	Dry and moist convection in the boundary layer over the Black Forest - a combined analysis of in situ and remote sensing data. Meteorologische Zeitschrift, 2013, 22, 445-461.	0.5	20
42	Comparison of IASI water vapour products over complex terrain with COPS campaign data. Meteorologische Zeitschrift, 2013, 22, 471-487.	0.5	11
43	Convective Precipitation in complex terrain: Results of the COPS campaign. Meteorologische Zeitschrift, 2013, 22, 367-372.	0.5	3
44	Laser-based air data system for aircraft control using Raman and elastic backscatter for the measurement of temperature, density, pressure, moisture, and particle backscatter coefficient. Applied Optics, 2012, 51, 148.	0.9	10
45	Detailed performance modeling of a pulsed high-power single-frequency Ti:sapphire laser. Applied Optics, 2011, 50, 5921.	2.1	15
46	A novel approach for the characterisation of transport and optical properties of aerosol particles near sources â€" Part II: Microphysicsâ€"chemistry-transport model development and application. Atmospheric Environment, 2011, 45, 2981-2990.	1.9	12
47	A novel approach for the characterization of transport and optical properties of aerosol particles near sources â€" Part I: Measurement of particle backscatter coefficient maps with a scanning UV lidar. Atmospheric Environment, 2011, 45, 2795-2802.	1.9	41
48	The water vapour intercomparison effort in the framework of the Convective and Orographicallyâ€induced Precipitation Study: airborneâ€toâ€groundâ€based and airborneâ€toâ€airborne lidar systems. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 325-348.	1.0	66
49	Longâ€range transport of Saharan dust and its radiative impact on precipitation forecast: a case study during the Convective and Orographicallyâ€induced Precipitation Study (COPS). Quarterly Journal of the Royal Meteorological Society, 2011, 137, 236-251.	1.0	48
50	The Convective and Orographicallyâ€induced Precipitation Study (COPS): the scientific strategy, the field phase, and research highlights. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 3-30.	1.0	181
51	Processes driving deep convection over complex terrain: a multiâ€scale analysis of observations from COPS IOP 9c. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 137-155.	1.0	48
52	Observation of convection initiation processes with a suite of stateâ€ofâ€theâ€art research instruments during COPS IOP 8b. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 81-100.	1.0	94
53	Initiation of convection over the Black Forest mountains during COPS IOP15a. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 176-189.	1.0	37
54	Advances in the understanding of convective processes and precipitation over lowâ€mountain regions through the Convective and Orographicallyâ€induced Precipitation Study (COPS). Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1-2.	1.0	82

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55	Optical air temperature and density measurement system for aircraft using elastic and Raman backscattering of laser light. , 2010, , .		0
56	Elastic-backscatter-lidar-based characterization of the convective boundary layer and investigation of related statistics. Annales Geophysicae, 2010, 28, 825-847.	0.6	84
57	Water vapour intercomparison effort in the frame of the Convective and Orographicallyâ€induced Precipitation Study. , 2009, , .		0
58	Observations of Kinematics and Thermodynamic Structure Surrounding a Convective Storm Cluster over a Low Mountain Range. Monthly Weather Review, 2009, 137, 585-602.	0.5	26
59	Three-dimensional observations of atmospheric humidity with a scanning differential absorption Lidar. Proceedings of SPIE, 2009, , .	0.8	38
60	MAP D-PHASE: Real-Time Demonstration of Weather Forecast Quality in the Alpine Region. Bulletin of the American Meteorological Society, 2009, 90, 1321-1336.	1.7	121
61	Supplement to MAP D-PHASE: Real-Time Demonstration of Weather Forecast Quality in the Alpine Region: Additional Applications of the D-Phase Datasets. Bulletin of the American Meteorological Society, 2009, 90, S28-S32.	1.7	9
62	La campagne Cops : genÃ¨se et cycle de vie de la convection en rÃ©gion montagneuse. La MÃ©tÃ©orologie, 2009, 8, 32.	0.5	6
63	Simulation of satellite water vapour lidar measurements: Performance assessment under real atmospheric conditions. Remote Sensing of Environment, 2008, 112, 1552-1568.	4.6	22
64	RESEARCH CAMPAIGN: The Convective and Orographically Induced Precipitation Study. Bulletin of the American Meteorological Society, 2008, 89, 1477-1486.	1.7	194
65	Mechanisms initiating deep convection over complex terrain during COPS. Meteorologische Zeitschrift, 2008, 17, 931-948.	0.5	86
66	Statistics of convection initiation by use of Meteosat rapid scan data during the Convective and Orographically-induced Precipitation Study (COPS). Meteorologische Zeitschrift, 2008, 17, 921-930.	0.5	34
67	Scanning rotational Raman lidar at 355 nm for the measurement of tropospheric temperature fields. Atmospheric Chemistry and Physics, 2008, 8, 159-169.	1.9	124
68	3-dimensional observations of atmospheric variables during the field campaign COPS. IOP Conference Series: Earth and Environmental Science, 2008, 1, 012031.	0.2	5
69	Intercomparison of Water Vapor Data Measured with Lidar during IHOP_2002. Part I: Airborne to Ground-Based Lidar Systems and Comparisons with Chilled-Mirror Hygrometer Radiosondes. Journal of Atmospheric and Oceanic Technology, 2007, 24, 3-21.	0.5	48
70	Intercomparison of Water Vapor Data Measured with Lidar during IHOP_2002. Part II: Airborne-to-Airborne Systems. Journal of Atmospheric and Oceanic Technology, 2007, 24, 22-39.	0.5	30
71	Spaceborne profiling of atmospheric temperature and particle extinction with pure rotational Raman lidar and of relative humidity in combination with differential absorption lidar: performance simulations. Applied Optics, 2006, 45, 2474.	2.1	55
72	Spaceborne profiling of atmospheric temperature and particle extinction with pure rotational Raman lidar and of relative humidity in combination with differential absorption lidar: performance simulations--erratum. Applied Optics, 2006, 45, 4909.	2.1	0

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73	Four-Dimensional Variational Assimilation of Water Vapor Differential Absorption Lidar Data: The First Case Study within IHOP_2002. Monthly Weather Review, 2006, 134, 209-230.	0.5	57
74	Raman Lidar Measurements during the International H2O Project. Part II: Case Studies. Journal of Atmospheric and Oceanic Technology, 2006, 23, 170-183.	0.5	43
75	Modular lidar systems for high-resolution 4-dimensional measurements of water vapor, temperature, and aerosols. , 2005, 5653, 220.		10
76	Temperature Measurements with Lidar. , 2005, , 273-305.		42
77	Combined temperature lidar for measurements in the troposphere, stratosphere, and mesosphere. Applied Optics, 2004, 43, 2930.	2.1	78
78	Recent upgrades of the rotational vibrational-rotational Raman lidar of RASC, Kyoto University, Japan: first results. , 2003, , .		0
79	Combining water vapor DIAL and rotational Raman lidar for humidity, temperature, and particle measurements with high resolution and accuracy. , 2003, , .		6
80	Rotational vibrational-rotational Raman lidar: design and performance of the RASC Raman lidar at Shigaraki, Japan (34.8 degrees N, 136.1 degrees E). , 2002, , .		4
81	Calculation of the calibration constant of polarization lidar and its dependency on atmospheric temperature. Optics Express, 2002, 10, 805.	1.7	154
82	Combined Raman lidar for the measurement of atmospheric temperature, water vapor, particle extinction coefficient, and particle backscatter coefficient. Applied Optics, 2002, 41, 7657.	2.1	123
83	Correlations among the optical properties of cirrus-cloud particles: Implications for spaceborne remote sensing. Geophysical Research Letters, 2002, 29, 13-1-13-4.	1.5	23
84	High accuracy humidity measurements using the standardized frequency method with a research upper-air sounding system. Meteorologische Zeitschrift, 2001, 10, 395-405.	0.5	19
85	Atmospheric temperature profiling in the presence of clouds with a pure rotational Raman lidar by use of an interference-filter-based polychromator. Applied Optics, 2000, 39, 1372.	2.1	164
86	optical properties of PSC Ia-enhanced at UV and visible wavelengths: Model and observations. Geophysical Research Letters, 2000, 27, 201-204.	1.5	18