

Andreas Behrendt

List of Publications by Year in descending order

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86
papers

3,612
citations

117453

34
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143772

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126
all docs

126
docs citations

126
times ranked

2798
citing authors

#	ARTICLE	IF	CITATIONS
1	RESEARCH CAMPAIGN: The Convective and Orographically Induced Precipitation Study. <i>Bulletin of the American Meteorological Society</i> , 2008, 89, 1477-1486.	1.7	194
2	The Convective and Orographically Induced Precipitation Study (COPS): the scientific strategy, the field phase, and research highlights. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2011, 137, 3-30.	1.0	181
3	Large Eddy simulations over Germany using ICON: a comprehensive evaluation. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2017, 143, 69-100.	1.0	175
4	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. <i>Reviews of Geophysics</i> , 2015, 53, 819-895.	9.0	174
5	Atmospheric temperature profiling in the presence of clouds with a pure rotational Raman lidar by use of an interference-filter-based polychromator. <i>Applied Optics</i> , 2000, 39, 1372.	2.1	164
6	Calculation of the calibration constant of polarization lidar and its dependency on atmospheric temperature. <i>Optics Express</i> , 2002, 10, 805.	1.7	154
7	Scanning rotational Raman lidar at 355 nm for the measurement of tropospheric temperature fields. <i>Atmospheric Chemistry and Physics</i> , 2008, 8, 159-169.	1.9	124
8	Combined Raman lidar for the measurement of atmospheric temperature, water vapor, particle extinction coefficient, and particle backscatter coefficient. <i>Applied Optics</i> , 2002, 41, 7657.	2.1	123
9	MAP D-PHASE: Real-Time Demonstration of Weather Forecast Quality in the Alpine Region. <i>Bulletin of the American Meteorological Society</i> , 2009, 90, 1321-1336.	1.7	121
10	Observation of convection initiation processes with a suite of state-of-the-art research instruments during COPS IOP 8b. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2011, 137, 81-100.	1.0	94
11	EUREC4A. <i>Earth System Science Data</i> , 2021, 13, 4067-4119.	3.7	88
12	Mechanisms initiating deep convection over complex terrain during COPS. <i>Meteorologische Zeitschrift</i> , 2008, 17, 931-948.	0.5	86
13	Elastic-backscatter-lidar-based characterization of the convective boundary layer and investigation of related statistics. <i>Annales Geophysicae</i> , 2010, 28, 825-847.	0.6	84
14	Advances in the understanding of convective processes and precipitation over low mountain regions through the Convective and Orographically Induced Precipitation Study (COPS). <i>Quarterly Journal of the Royal Meteorological Society</i> , 2011, 137, 1-2.	1.0	82
15	Combined temperature lidar for measurements in the troposphere, stratosphere, and mesosphere. <i>Applied Optics</i> , 2004, 43, 2930.	2.1	78
16	A New Research Approach for Observing and Characterizing Land–Atmosphere Feedback. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, 1639-1667.	1.7	75
17	Profiles of second- to fourth-order moments of turbulent temperature fluctuations in the convective boundary layer: first measurements with rotational Raman lidar. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 5485-5500.	1.9	67
18	The HD(CP) ² Observational Prototype Experiment (HOPE) – an overview. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 4887-4914.	1.9	67

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19	The water vapour intercomparison effort in the framework of the Convective and Orographicallyâ€induced Precipitation Study: airborneâ€groundâ€based and airborneâ€airborne lidar systems. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 325-348.	1.0	66
20	Temperature profiling of the atmospheric boundary layer with rotational Raman lidar during the HD(CP)<sup>2</sup>; Observational Prototype Experiment. Atmospheric Chemistry and Physics, 2015, 15, 2867-2881.	1.9	66
21	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
22	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
23	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
24	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
25	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
26	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
27	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
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	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
30	Temperature Measurements with Lidar. , 2005, , 273-305.		42
31	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
32	High-power Ti:sapphire laser at 820Ånm for scanning ground-based waterâ€vapor differential absorption lidar. Applied Optics, 2013, 52, 2454.	0.9	41
33	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
34	Three-dimensional observations of atmospheric humidity with a scanning differential absorption Lidar. Proceedings of SPIE, 2009, , .	0.8	38
35	New Approach for Calculating the Effective Dielectric Constant of the Moist Soil for Microwaves. Remote Sensing, 2017, 9, 732.	1.8	38
36	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

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37	Turbulent Humidity Fluctuations in the Convective Boundary Layer: Case Studies Using Water Vapour Differential Absorption Lidar Measurements. <i>Boundary-Layer Meteorology</i> , 2016, 158, 43-66.	1.2	37
38	Statistics of convection initiation by use of Meteosat rapid scan data during the Convective and Orographically-induced Precipitation Study (COPS). <i>Meteorologische Zeitschrift</i> , 2008, 17, 921-930.	0.5	34
39	Characterisation of boundary layer turbulent processes by the Raman lidar BASIL in the frame of HD(CP)<sup>2</sup>; Observational Prototype Experiment. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 745-767.	1.9	31
40	Intercomparison of Water Vapor Data Measured with Lidar during IHOP_2002. Part II: Airborne-to-Airborne Systems. <i>Journal of Atmospheric and Oceanic Technology</i> , 2007, 24, 22-39.	0.5	30
41	Observations of Kinematics and Thermodynamic Structure Surrounding a Convective Storm Cluster over a Low Mountain Range. <i>Monthly Weather Review</i> , 2009, 137, 585-602.	0.5	26
42	Compact Operational Tropospheric Water Vapor and Temperature Raman Lidar with Turbulence Resolution. <i>Geophysical Research Letters</i> , 2019, 46, 14844-14853.	1.5	26
43	Convection Initiation over the Eastern Arabian Peninsula. <i>Meteorologische Zeitschrift</i> , 2020, 29, 67-77.	0.5	25
44	Correlations among the optical properties of cirrus-cloud particles: Implications for spaceborne remote sensing. <i>Geophysical Research Letters</i> , 2002, 29, 13-1-13-4.	1.5	23
45	Simulation of satellite water vapour lidar measurements: Performance assessment under real atmospheric conditions. <i>Remote Sensing of Environment</i> , 2008, 112, 1552-1568.	4.6	22
46	Response of the Land&AAtmosphere System Over North&ACentral Oklahoma During the 2017 Eclipse. <i>Geophysical Research Letters</i> , 2018, 45, 1668-1675.	1.5	22
47	Dry and moist convection in the boundary layer over the Black Forest - a combined analysis of in situ and remote sensing data. <i>Meteorologische Zeitschrift</i> , 2013, 22, 445-461.	0.5	20
48	First assimilation of temperature lidar data into an NWP model: impact on the simulation of the temperature field, inversion strength and PBL depth. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 2882-2896.	1.0	20
49	High accuracy humidity measurements using the standardized frequency method with a research upper-air sounding system. <i>Meteorologische Zeitschrift</i> , 2001, 10, 395-405.	0.5	19
50	Space-borne profiling of atmospheric thermodynamic variables with Raman lidar: performance simulations. <i>Optics Express</i> , 2018, 26, 8125.	1.7	19
51	optical properties of PSC Ia-enhanced at UV and visible wavelengths: Model and observations. <i>Geophysical Research Letters</i> , 2000, 27, 201-204.	1.5	18
52	Multi-nested WRF simulations for studying planetary boundary layer processes on the turbulence-permitting scale in a realistic mesoscale environment. <i>Tellus, Series A: Dynamic Meteorology and Oceanography</i> , 2022, 72, 1761740.	0.8	17
53	Observation of sensible and latent heat flux profiles with lidar. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 3221-3233.	1.2	16
54	Detailed performance modeling of a pulsed high-power single-frequency Ti:sapphire laser. <i>Applied Optics</i> , 2011, 50, 5921.	2.1	15

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55	Parametrization of optimum filter passbands for rotational Raman temperature measurements. Optics Express, 2015, 23, 30767.	1.7	15
56	A novel approach for the characterisation of transport and optical properties of aerosol particles near sources – Part II: Microphysics – chemistry-transport model development and application. Atmospheric Environment, 2011, 45, 2981-2990.	1.9	12
57	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
58	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
59	Comparison of IASI water vapour products over complex terrain with COPS campaign data. Meteorologische Zeitschrift, 2013, 22, 471-487.	0.5	11
60	Modular lidar systems for high-resolution 4-dimensional measurements of water vapor, temperature, and aerosols. , 2005, 5653, 220.		10
61	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
62	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
63	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
64	Short-range optical air data measurements for aircraft control using rotational Raman backscatter. Optics Express, 2013, 21, 16398.	1.7	7
65	Combining water vapor DIAL and rotational Raman lidar for humidity, temperature, and particle measurements with high resolution and accuracy. , 2003, , .		6
66	La campagne Cops : genèse et cycle de vie de la convection en région montagneuse. La Météorologie, 2009, 8, 32.	0.5	6
67	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
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	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
70	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
71	Impact of assimilating lidar water vapour and temperature profiles with a hybrid ensemble transform Kalman filter: Three-dimensional variational analysis on the convection-permitting scale. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 4163-4185.	1.0	4
72	Convective Precipitation in complex terrain: Results of the COPS campaign. Meteorologische Zeitschrift, 2013, 22, 367-372.	0.5	3

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73	Feature issue introduction: Light, Energy and the Environment, 2016. Optics Express, 2017, 25, A444.	1.7	3
74	Minimization of the Rayleigh-Doppler error of differential absorption lidar by frequency tuning: a simulation study. Optics Express, 2020, 28, 30324.	1.7	3
75	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
76	Raman Lidar for Water Vapor and Temperature Profiling. Springer Handbooks, 2021, , 719-739.	0.3	2
77	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
78	Statistical Analysis of Simulated Spaceborne Thermodynamics Lidar Measurements in the Planetary Boundary Layer. Frontiers in Remote Sensing, 2022, 3, .	1.3	1
79	Recent upgrades of the rotational vibrational-rotational Raman lidar of RASC, Kyoto University, Japan: first results. , 2003, , .		0
80	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
81	Water vapour intercomparison effort in the frame of the Convective and Orographicallyâ€™induced Precipitation Study. , 2009, , .		0
82	Optical air temperature and density measurement system for aircraft using elastic and Raman backscattering of laser light. , 2010, , .		0
83	Space-borne profiling of atmospheric thermodynamic variables with raman lidar. EPJ Web of Conferences, 2018, 176, 02002.	0.1	0
84	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
85	Introducing the atmospheric thermodynamics lidar in Space: ATLAS. , 2019, , .		0
86	CO2 Profiling by Space-Borne Raman Lidar. EPJ Web of Conferences, 2020, 237, 01004.	0.1	0