

# Alexis Berne

## List of Publications by Year in descending order

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Version: 2024-02-01

110  
papers

4,408  
citations

109321

35  
h-index

123424

61  
g-index

141  
all docs

141  
docs citations

141  
times ranked

3679  
citing authors

#	ARTICLE	IF	CITATIONS
1	Temporal and spatial resolution of rainfall measurements required for urban hydrology. <i>Journal of Hydrology</i> , 2004, 299, 166-179.	5.4	347
2	HyMeX-SOP1: The Field Campaign Dedicated to Heavy Precipitation and Flash Flooding in the Northwestern Mediterranean. <i>Bulletin of the American Meteorological Society</i> , 2014, 95, 1083-1100.	3.3	262
3	Radar for hydrology: Unfulfilled promise or unrecognized potential?. <i>Advances in Water Resources</i> , 2013, 51, 357-366.	3.8	207
4	Experimental Quantification of the Sampling Uncertainty Associated with Measurements from PARSIVEL Disdrometers. <i>Journal of Hydrometeorology</i> , 2011, 12, 352-370.	1.9	144
5	Multiregional Satellite Precipitation Products Evaluation over Complex Terrain. <i>Journal of Hydrometeorology</i> , 2016, 17, 1817-1836.	1.9	123
6	The importance of hydraulic groundwater theory in catchment hydrology: The legacy of Wilfried Brutsaert and Jean-Yves Parlange. <i>Water Resources Research</i> , 2013, 49, 5099-5116.	4.2	114
7	Monitoring and prediction in early warning systems for rapid mass movements. <i>Natural Hazards and Earth System Sciences</i> , 2015, 15, 905-917.	3.6	107
8	Improved interpolation of meteorological forcings for hydrologic applications in a Swiss Alpine region. <i>Journal of Hydrology</i> , 2011, 401, 77-89.	5.4	101
9	Identification of Dry and Rainy Periods Using Telecommunication Microwave Links. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2010, 7, 611-615.	3.1	90
10	Quantification and Modeling of Wet-Antenna Attenuation for Commercial Microwave Links. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2013, 10, 1195-1199.	3.1	90
11	Orographic effects on snow deposition patterns in mountainous terrain. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 1419-1439.	3.3	84
12	Correction of raindrop size distributions measured by Parsivel disdrometers, using a two-dimensional video disdrometer as a reference. <i>Atmospheric Measurement Techniques</i> , 2015, 8, 343-365.	3.1	83
13	High-Resolution Vertical Profiles of X-Band Polarimetric Radar Observables during Snowfall in the Swiss Alps. <i>Journal of Applied Meteorology and Climatology</i> , 2013, 52, 378-394.	1.5	82
14	Similarity analysis of subsurface flow response of hillslopes with complex geometry. <i>Water Resources Research</i> , 2005, 41, .	4.2	78
15	Path-averaged rainfall estimation using microwave links: Uncertainty due to spatial rainfall variability. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	76
16	Evaluation of GPM-era Global Satellite Precipitation Products over Multiple Complex Terrain Regions. <i>Remote Sensing</i> , 2019, 11, 2936.	4.0	74
17	Katabatic winds diminish precipitation contribution to the Antarctic ice mass balance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10858-10863.	7.1	72
18	A network of disdrometers to quantify the small-scale variability of the raindrop size distribution. <i>Water Resources Research</i> , 2011, 47, .	4.2	71

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19	Hydrometeor classification through statistical clustering of polarimetric radar measurements: a semi-supervised approach. <i>Atmospheric Measurement Techniques</i> , 2016, 9, 4425-4445.	3.1	65
20	Influence of small scale rainfall variability on standard comparison tools between radar and rain gauge data. <i>Atmospheric Research</i> , 2014, 138, 125-138.	4.1	64
21	A Comparison between the GPM Dual-Frequency Precipitation Radar and Ground-Based Radar Precipitation Rate Estimates in the Swiss Alps and Plateau. <i>Journal of Hydrometeorology</i> , 2017, 18, 1247-1269.	1.9	64
22	Quantification of the Small-Scale Spatial Structure of the Raindrop Size Distribution from a Network of Disdrometers. <i>Journal of Applied Meteorology and Climatology</i> , 2012, 51, 941-953.	1.5	62
23	Solid hydrometeor classification and riming degree estimation from pictures collected with a Multi-Angle Snowflake Camera. <i>Atmospheric Measurement Techniques</i> , 2017, 10, 1335-1357.	3.1	62
24	Measurements of precipitation in Dumont d'Urville, AdÃ©lie Land, East Antarctica. <i>Cryosphere</i> , 2017, 11, 1797-1811.	3.9	60
25	Seasonal small-scale spatial variability in alpine snowfall and snow accumulation. <i>Water Resources Research</i> , 2013, 49, 1446-1457.	4.2	59
26	Stochastic Super-Resolution for Downscaling Time-Evolving Atmospheric Fields With a Generative Adversarial Network. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2021, 59, 7211-7223.	6.3	52
27	Hydrometeor classification from polarimetric radar measurements: a clustering approach. <i>Atmospheric Measurement Techniques</i> , 2015, 8, 149-170.	3.1	51
28	Detection and characterization of the melting layer based on polarimetric radar scans. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 108-124.	2.7	49
29	Using Markov switching models to infer dry and rainy periods from telecommunication microwave link signals. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 1847-1859.	3.1	47
30	Errors and Uncertainties in Microwave Link Rainfall Estimation Explored Using Drop Size Measurements and High-Resolution Radar Data. <i>Journal of Hydrometeorology</i> , 2010, 11, 1330-1344.	1.9	45
31	A Variational Approach to Retrieve Rain Rate by Combining Information from Rain Gauges, Radars, and Microwave Links. <i>Journal of Hydrometeorology</i> , 2013, 14, 1897-1909.	1.9	41
32	Polarimetric radar and in situ observations of riming and snowfall microphysics during CLACE 2014. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 13787-13802.	4.9	41
33	Hydrometeor classification from two-dimensional video disdrometer data. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 2869-2882.	3.1	37
34	A radar-based regional extreme rainfall analysis to derive the thresholds for a novel automatic alert system in Switzerland. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 2317-2332.	4.9	37
35	Evaluation of the CloudSat surface snowfall product over Antarctica using ground-based precipitation radars. <i>Cryosphere</i> , 2018, 12, 3775-3789.	3.9	37
36	On the fine vertical structure of the low troposphere over the coastal margins of East Antarctica. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 4659-4683.	4.9	37

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37	An Extended Kalman Filter Framework for Polarimetric X-Band Weather Radar Data Processing. <i>Journal of Atmospheric and Oceanic Technology</i> , 2012, 29, 711-730.	1.3	36
38	Stochastic simulation experiment to assess radar rainfall retrieval uncertainties associated with attenuation and its correction. <i>Hydrology and Earth System Sciences</i> , 2008, 12, 587-601.	4.9	35
39	Influence of the Subgrid Variability of the Raindrop Size Distribution on Radar Rainfall Estimators. <i>Journal of Applied Meteorology and Climatology</i> , 2012, 51, 780-785.	1.5	33
40	Measurement of Precipitation in the Alps Using Dual-Polarization C-Band Ground-Based Radars, the GPM Spaceborne Ku-Band Radar, and Rain Gauges. <i>Remote Sensing</i> , 2017, 9, 1147.	4.0	33
41	Present and Future of Rainfall in Antarctica. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL092281.	4.0	33
42	Polarimetric Weather Radar Retrieval of Raindrop Size Distribution by Means of a Regularized Artificial Neural Network. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2006, 44, 3262-3275.	6.3	32
43	Quality control of rain gauge measurements using telecommunication microwave links. <i>Journal of Hydrology</i> , 2013, 492, 15-23.	5.4	32
44	Spatial variability in snow precipitation and accumulation in COSMO-WRF simulations and radar estimations over complex terrain. <i>Cryosphere</i> , 2018, 12, 3137-3160.	3.9	32
45	Unraveling hydrometeor mixtures in polarimetric radar measurements. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 4847-4866.	3.1	30
46	Statistical analysis of rainfall intermittency at small spatial and temporal scales. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	29
47	Secondary ice production in summer clouds over the Antarctic coast: an underappreciated process in atmospheric models. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 755-771.	4.9	29
48	A stochastic model of range profiles of raindrop size distributions: Application to radar attenuation correction. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	28
49	Variability of the spatial structure of intense Mediterranean precipitation. <i>Advances in Water Resources</i> , 2009, 32, 1031-1042.	3.8	28
50	Improved Estimation of the Specific Differential Phase Shift Using a Compilation of Kalman Filter Ensembles. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2014, 52, 5137-5149.	6.3	27
51	RainForest: a random forest algorithm for quantitative precipitation estimation over Switzerland. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 3169-3193.	3.1	27
52	Microphysics and dynamics of snowfall associated with a warm conveyor belt over Korea. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 7373-7392.	4.9	26
53	A preliminary investigation of radar rainfall estimation in the Ardennes region and a first hydrological application for the Ourthe catchment. <i>Natural Hazards and Earth System Sciences</i> , 2005, 5, 267-274.	3.6	24
54	Stochastic Simulation of Intermittent DSD Fields in Time. <i>Journal of Hydrometeorology</i> , 2012, 13, 621-637.	1.9	24

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55	Retrieval of the raindrop size distribution from polarimetric radar data using double-moment normalisation. <i>Atmospheric Measurement Techniques</i> , 2017, 10, 2573-2594.	3.1	24
56	Influence of the Vertical Profile of Reflectivity on Radar-Estimated Rain Rates at Short Time Steps. <i>Journal of Hydrometeorology</i> , 2004, 5, 296-310.	1.9	22
57	Stochastic simulation of intermittent rainfall using the concept of "dry drift". <i>Water Resources Research</i> , 2014, 50, 2329-2349.	4.2	22
58	Nonstationarity in Intermittent Rainfall: The "Dry Drift". <i>Journal of Hydrometeorology</i> , 2014, 15, 1189-1204.	1.9	22
59	Multifrequency Radar Observations Collected in Southern France during HyMeX-SOP1. <i>Bulletin of the American Meteorological Society</i> , 2015, 96, 267-282.	3.3	22
60	Microphysics of Snowfall Over Coastal East Antarctica Simulated by Polar WRF and Observed by Radar. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 11452-11476.	3.3	22
61	Reconstructing the Drizzle Mode of the Raindrop Size Distribution Using Double-Moment Normalization. <i>Journal of Applied Meteorology and Climatology</i> , 2019, 58, 145-164.	1.5	22
62	Quantitative analysis of X-band weather radar attenuation correction accuracy. <i>Natural Hazards and Earth System Sciences</i> , 2006, 6, 419-425.	3.6	20
63	The vertical structure of precipitation at two stations in East Antarctica derived from micro rain radars. <i>Cryosphere</i> , 2019, 13, 247-264.	3.9	20
64	Challenging and Improving the Simulation of Mid-Level Mixed-Phase Clouds Over the High-Latitude Southern Ocean. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033490.	3.3	20
65	A high space-time resolution dataset linking meteorological forcing and hydro-sedimentary response in a mesoscale Mediterranean catchment (Auzon) of the Ardèche region, France. <i>Earth System Science Data</i> , 2017, 9, 221-249.	9.9	20
66	Geostatistical simulation of two-dimensional fields of raindrop size distributions at the meso-scale. <i>Water Resources Research</i> , 2009, 45, .	4.2	19
67	Summer Snowfall Workshop: Scattering Properties of Realistic Frozen Hydrometeors from Simulations and Observations, as well as Defining a New Standard for Scattering Databases. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, ES55-ES58.	3.3	19
68	Evaluation of CloudSat snowfall rate profiles by a comparison with in situ micro-rain radar observations in East Antarctica. <i>Cryosphere</i> , 2019, 13, 943-954.	3.9	19
69	Small-Scale Variability of the Raindrop Size Distribution and Its Effect on Areal Rainfall Retrieval. <i>Journal of Hydrometeorology</i> , 2016, 17, 2077-2104.	1.9	18
70	Precipitation at Dumont d'Urville, Adélie Land, East Antarctica: the APRES3 field campaigns dataset. <i>Earth System Science Data</i> , 2018, 10, 1605-1612.	9.9	17
71	Synoptic conditions and atmospheric moisture pathways associated with virga and precipitation over coastal Adélie Land in Antarctica. <i>Cryosphere</i> , 2020, 14, 1685-1702.	3.9	17
72	Estimating the Vertical Structure of Intense Mediterranean Precipitation Using Two X-Band Weather Radar Systems. <i>Journal of Atmospheric and Oceanic Technology</i> , 2005, 22, 1656-1675.	1.3	16

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73	A Versatile Method for Ice Particle Habit Classification Using Airborne Imaging Probe Data. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 13,472.	3.3	16
74	From model to radar variables: a new forward polarimetric radar operator for COSMO. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 3883-3916.	3.1	16
75	A sun-tracking method to improve the pointing accuracy of weather radar. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 547-555.	3.1	15
76	2DVD Data Revisited: Multifractal Insights into Cuts of the Spatiotemporal Rainfall Process. <i>Journal of Hydrometeorology</i> , 2015, 16, 548-562.	1.9	15
77	High-Resolution Simulation Study Exploring the Potential of Radars, Crowdsourced Personal Weather Stations, and Commercial Microwave Links to Monitor Small-scale Urban Rainfall. <i>Water Resources Research</i> , 2018, 54, 10,293.	4.2	15
78	Gravity Wave Excitation during the Coastal Transition of an Extreme Katabatic Flow in Antarctica. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 1295-1312.	1.7	15
79	Invariance of the Double-Moment Normalized Raindrop Size Distribution through 3D Spatial Displacement in Stratiform Rain. <i>Journal of Applied Meteorology and Climatology</i> , 2017, 56, 1663-1680.	1.5	14
80	Orographic Flow Influence on Precipitation During an Atmospheric River Event at Davis, Antarctica. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	3.3	13
81	Rainfall rate retrieval in presence of path attenuation using C-band polarimetric weather radars. <i>Natural Hazards and Earth System Sciences</i> , 2006, 6, 439-450.	3.6	12
82	Accuracy of Phase-Based Algorithms for the Estimation of the Specific Differential Phase Shift Using Simulated Polarimetric Weather Radar Data. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2014, 11, 763-767.	3.1	12
83	Quantification of the radar reflectivity sampling error in non-stationary rain using paired disdrometers. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	4.0	11
84	Spatial interpolation of experimental raindrop size distribution spectra. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2016, 142, 125-137.	2.7	11
85	Unsupervised classification of snowflake images using a generative adversarial network and K-medoids classification. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 2949-2964.	3.1	11
86	Identification of blowing snow particles in images from a Multi-Angle Snowflake Camera. <i>Cryosphere</i> , 2020, 14, 367-384.	3.9	11
87	Secondary ice production processes in wintertime alpine mixed-phase clouds. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 1965-1988.	4.9	11
88	Radar and ground-level measurements of precipitation collected by the École Polytechnique Fédérale de Lausanne during the International Collaborative Experiments for PyeongChang 2018 Olympic and Paralympic winter games. <i>Earth System Science Data</i> , 2021, 13, 417-433.	9.9	10
89	On the drivers of droplet variability in alpine mixed-phase clouds. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 10993-11012.	4.9	10
90	Three-dimensional radiative transfer effects on airborne and ground-based trace gas remote sensing. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 4277-4293.	3.1	10

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91	Variations in Snow Crystal Riming and ZDR: A Case Analysis. <i>Journal of Applied Meteorology and Climatology</i> , 2018, 57, 695-707.	1.5	9
92	Stochastic Space-Time Disaggregation of Rainfall into DSD fields. <i>Journal of Hydrometeorology</i> , 2012, 13, 1954-1969.	1.9	8
93	A year of attenuation data from a commercial dual-polarized duplex microwave link with concurrent disdrometer, rain gauge, and weather observations. <i>Earth System Science Data</i> , 2021, 13, 4219-4240.	9.9	8
94	Reconstruction of the mass and geometry of snowfall particles from multi-angle snowflake camera (MASC) images. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 6851-6866.	3.1	8
95	A characterisation of Alpine mesocyclone occurrence. <i>Weather and Climate Dynamics</i> , 2021, 2, 1225-1244.	3.5	8
96	MASCDB, a database of images, descriptors and microphysical properties of individual snowflakes in free fall. <i>Scientific Data</i> , 2022, 9, 186.	5.3	8
97	Scaling analysis of the variability of the rain drop size distribution at small scale. <i>Advances in Water Resources</i> , 2012, 45, 2-12.	3.8	7
98	Multifractal evaluation of simulated precipitation intensities from the COSMO NWP model. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 14253-14273.	4.9	6
99	Integrated water vapor and liquid water path retrieval using a single-channel radiometer. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 2749-2769.	3.1	6
100	Impact of 3D radiative transfer on airborne NO <sub>2</sub> imaging remote sensing over cities with buildings. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 6469-6482.	3.1	6
101	Dynamic Differential Reflectivity Calibration Using Vertical Profiles in Rain and Snow. <i>Remote Sensing</i> , 2021, 13, 8.	4.0	6
102	ERUO: a spectral processing routine for the Micro Rain Radar PRO (MRR-PRO). <i>Atmospheric Measurement Techniques</i> , 2022, 15, 3569-3592.	3.1	4
103	Multifractal Analysis of Snowfall Recorded Using a 2D Video Disdrometer. <i>Journal of Hydrometeorology</i> , 2017, 18, 2453-2468.	1.9	3
104	Objective Characterization of Rain Microphysics: Validating a Scheme Suitable for Weather and Climate Models. <i>Journal of Hydrometeorology</i> , 2018, 19, 929-946.	1.9	3
105	Identification of snowfall microphysical processes from Eulerian vertical gradients of polarimetric radar variables. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 4543-4564.	3.1	3
106	Learning about the vertical structure of radar reflectivity using hydrometeor classes and neural networks in the Swiss Alps. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 2481-2500.	3.1	3
107	R2D2: A Region-Based Recursive Doppler Dealiasing Algorithm for Operational Weather Radar. <i>Journal of Atmospheric and Oceanic Technology</i> , 2020, 37, 2341-2356.	1.3	3
108	Characterisation of the melting layer variability in an Alpine valley based on polarimetric X-band radar scans. <i>Atmospheric Measurement Techniques</i> , 2018, 11, 5181-5198.	3.1	2

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109	Correction of CCI cloud data over the Swiss Alps using ground-based radiation measurements. Atmospheric Measurement Techniques, 2018, 11, 4153-4170.	3.1	1
110	Simulated microphysical properties of winter storms from bulk-type microphysics schemes and their evaluation in the Weather Research and Forecasting (v4.1.3) model during the ICE-POP 2018 field campaign. Geoscientific Model Development, 2022, 15, 4529-4553.	3.6	1