

# Alexis Berne

## List of Publications by Citations

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114  
papers

3,266  
citations

31  
h-index

53  
g-index

141  
ext. papers

3,785  
ext. citations

4.8  
avg, IF

5.72  
L-index

#	Paper	IF	Citations
114	Temporal and spatial resolution of rainfall measurements required for urban hydrology. <i>Journal of Hydrology</i> , <b>2004</b> , 299, 166-179	6	299
113	HyMeX-SOP1: The Field Campaign Dedicated to Heavy Precipitation and Flash Flooding in the Northwestern Mediterranean. <i>Bulletin of the American Meteorological Society</i> , <b>2014</b> , 95, 1083-1100	6.1	234
112	Radar for hydrology: Unfulfilled promise or unrecognized potential?. <i>Advances in Water Resources</i> , <b>2013</b> , 51, 357-366	4.7	160
111	Experimental Quantification of the Sampling Uncertainty Associated with Measurements from PARSIVEL Disdrometers. <i>Journal of Hydrometeorology</i> , <b>2011</b> , 12, 352-370	3.7	110
110	Multiregional Satellite Precipitation Products Evaluation over Complex Terrain. <i>Journal of Hydrometeorology</i> , <b>2016</b> , 17, 1817-1836	3.7	87
109	The importance of hydraulic groundwater theory in catchment hydrology: The legacy of Wilfried Brutsaert and Jean-Yves Parlange. <i>Water Resources Research</i> , <b>2013</b> , 49, 5099-5116	5.4	84
108	Monitoring and prediction in early warning systems for rapid mass movements. <i>Natural Hazards and Earth System Sciences</i> , <b>2015</b> , 15, 905-917	3.9	83
107	Improved interpolation of meteorological forcings for hydrologic applications in a Swiss Alpine region. <i>Journal of Hydrology</i> , <b>2011</b> , 401, 77-89	6	81
106	Identification of Dry and Rainy Periods Using Telecommunication Microwave Links. <i>IEEE Geoscience and Remote Sensing Letters</i> , <b>2010</b> , 7, 611-615	4.1	68
105	High-Resolution Vertical Profiles of X-Band Polarimetric Radar Observables during Snowfall in the Swiss Alps. <i>Journal of Applied Meteorology and Climatology</i> , <b>2013</b> , 52, 378-394	2.7	66
104	Orographic effects on snow deposition patterns in mountainous terrain. <i>Journal of Geophysical Research D: Atmospheres</i> , <b>2014</b> , 119, 1419-1439	4.4	65
103	. <i>IEEE Geoscience and Remote Sensing Letters</i> , <b>2013</b> , 10, 1195-1199	4.1	65
102	Correction of raindrop size distributions measured by Parsivel disdrometers, using a two-dimensional video disdrometer as a reference. <i>Atmospheric Measurement Techniques</i> , <b>2015</b> , 8, 343-365	4.5	64
101	A network of disdrometers to quantify the small-scale variability of the raindrop size distribution. <i>Water Resources Research</i> , <b>2011</b> , 47,	5.4	63
100	Path-averaged rainfall estimation using microwave links: Uncertainty due to spatial rainfall variability. <i>Geophysical Research Letters</i> , <b>2007</b> , 34,	4.9	61
99	Similarity analysis of subsurface flow response of hillslopes with complex geometry. <i>Water Resources Research</i> , <b>2005</b> , 41,	5.4	61
98	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> , <b>2012</b> , 51, 941-953	2.7	56

97	Seasonal small-scale spatial variability in alpine snowfall and snow accumulation. <i>Water Resources Research</i> , <b>2013</b> , 49, 1446-1457	5.4	52
96	Influence of small scale rainfall variability on standard comparison tools between radar and rain gauge data. <i>Atmospheric Research</i> , <b>2014</b> , 138, 125-138	5.4	51
95	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> , <b>2017</b> , 114, 10858-10863	11.5	50
94	Hydrometeor classification through statistical clustering of polarimetric radar measurements: a semi-supervised approach. <i>Atmospheric Measurement Techniques</i> , <b>2016</b> , 9, 4425-4445	4	47
93	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> , <b>2017</b> , 18, 1247-1269	3.7	45
92	Evaluation of GPM-era Global Satellite Precipitation Products over Multiple Complex Terrain Regions. <i>Remote Sensing</i> , <b>2019</b> , 11, 2936	5	44
91	Measurements of precipitation in Dumont d'Urville, Adlie Land, East Antarctica. <i>Cryosphere</i> , <b>2017</b> , 11, 1797-1811	5.5	42
90	Errors and Uncertainties in Microwave Link Rainfall Estimation Explored Using Drop Size Measurements and High-Resolution Radar Data. <i>Journal of Hydrometeorology</i> , <b>2010</b> , 11, 1330-1344	3.7	39
89	Using Markov switching models to infer dry and rainy periods from telecommunication microwave link signals. <i>Atmospheric Measurement Techniques</i> , <b>2012</b> , 5, 1847-1859	4	38
88	Detection and characterization of the melting layer based on polarimetric radar scans. <i>Quarterly Journal of the Royal Meteorological Society</i> , <b>2016</b> , 142, 108-124	6.4	38
87	Solid hydrometeor classification and riming degree estimation from pictures collected with a Multi-Angle Snowflake Camera. <i>Atmospheric Measurement Techniques</i> , <b>2017</b> , 10, 1335-1357	4	35
86	Hydrometeor classification from polarimetric radar measurements: a clustering approach. <i>Atmospheric Measurement Techniques</i> , <b>2015</b> , 8, 149-170	4	33
85	An Extended Kalman Filter Framework for Polarimetric X-Band Weather Radar Data Processing. <i>Journal of Atmospheric and Oceanic Technology</i> , <b>2012</b> , 29, 711-730	2	33
84	Influence of the Subgrid Variability of the Raindrop Size Distribution on Radar Rainfall Estimators. <i>Journal of Applied Meteorology and Climatology</i> , <b>2012</b> , 51, 780-785	2.7	31
83	A Variational Approach to Retrieve Rain Rate by Combining Information from Rain Gauges, Radars, and Microwave Links. <i>Journal of Hydrometeorology</i> , <b>2013</b> , 14, 1897-1909	3.7	30
82	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> , <b>2016</b> , 20, 2317-2332	5.5	29
81	Polarimetric radar and in situ observations of riming and snowfall microphysics during CLACE 2014. <i>Atmospheric Chemistry and Physics</i> , <b>2015</b> , 15, 13787-13802	6.8	27
80	Stochastic simulation experiment to assess radar rainfall retrieval uncertainties associated with attenuation and its correction. <i>Hydrology and Earth System Sciences</i> , <b>2008</b> , 12, 587-601	5.5	27

79	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> , <b>2017</b> , 9, 1147	5	25
78	On the fine vertical structure of the low troposphere over the coastal margins of East Antarctica. <i>Atmospheric Chemistry and Physics</i> , <b>2019</b> , 19, 4659-4683	6.8	24
77	Hydrometeor classification from two-dimensional video disdrometer data. <i>Atmospheric Measurement Techniques</i> , <b>2014</b> , 7, 2869-2882	4	24
76	Statistical analysis of rainfall intermittency at small spatial and temporal scales. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	24
75	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> , <b>2006</b> , 44, 3262-3275	8.1	24
74	Evaluation of the CloudSat surface snowfall product over Antarctica using ground-based precipitation radars. <i>Cryosphere</i> , <b>2018</b> , 12, 3775-3789	5.5	24
73	Quality control of rain gauge measurements using telecommunication microwave links. <i>Journal of Hydrology</i> , <b>2013</b> , 492, 15-23	6	23
72	A stochastic model of range profiles of raindrop size distributions: Application to radar attenuation correction. <i>Geophysical Research Letters</i> , <b>2005</b> , 32,	4.9	23
71	Variability of the spatial structure of intense Mediterranean precipitation. <i>Advances in Water Resources</i> , <b>2009</b> , 32, 1031-1042	4.7	22
70	Influence of the Vertical Profile of Reflectivity on Radar-Estimated Rain Rates at Short Time Steps. <i>Journal of Hydrometeorology</i> , <b>2004</b> , 5, 296-310	3.7	22
69	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> , <b>2005</b> , 5, 267-274	3.9	22
68	Stochastic simulation of intermittent rainfall using the concept of 'dry drift'. <i>Water Resources Research</i> , <b>2014</b> , 50, 2329-2349	5.4	21
67	Nonstationarity in Intermittent Rainfall: The 'Dry Drift'. <i>Journal of Hydrometeorology</i> , <b>2014</b> , 15, 1189-1204	3.7	21
66	Stochastic Simulation of Intermittent DSD Fields in Time. <i>Journal of Hydrometeorology</i> , <b>2012</b> , 13, 621-637	3.7	21
65	Retrieval of the raindrop size distribution from polarimetric radar data using double-moment normalisation. <i>Atmospheric Measurement Techniques</i> , <b>2017</b> , 10, 2573-2594	4	20
64	Spatial variability in snow precipitation and accumulation in COSMO-MRF simulations and radar estimations over complex terrain. <i>Cryosphere</i> , <b>2018</b> , 12, 3137-3160	5.5	20
63	Multifrequency Radar Observations Collected in Southern France during HyMeX-SOP1. <i>Bulletin of the American Meteorological Society</i> , <b>2015</b> , 96, 267-282	6.1	19
62	Improved Estimation of the Specific Differential Phase Shift Using a Compilation of Kalman Filter Ensembles. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , <b>2014</b> , 52, 5137-5149	8.1	19

61	Geostatistical simulation of two-dimensional fields of raindrop size distributions at the meso-scale. <i>Water Resources Research</i> , <b>2009</b> , 45,	5.4	18
60	Microphysics and dynamics of snowfall associated with a warm conveyor belt over Korea. <i>Atmospheric Chemistry and Physics</i> , <b>2020</b> , 20, 7373-7392	6.8	17
59	Small-Scale Variability of the Raindrop Size Distribution and Its Effect on Areal Rainfall Retrieval. <i>Journal of Hydrometeorology</i> , <b>2016</b> , 17, 2077-2104	3.7	17
58	Quantitative analysis of X-band weather radar attenuation correction accuracy. <i>Natural Hazards and Earth System Sciences</i> , <b>2006</b> , 6, 419-425	3.9	16
57	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> , <b>2017</b> , 9, 221-249	10.5	16
56	Unraveling hydrometeor mixtures in polarimetric radar measurements. <i>Atmospheric Measurement Techniques</i> , <b>2018</b> , 11, 4847-4866	4	16
55	Reconstructing the Drizzle Mode of the Raindrop Size Distribution Using Double-Moment Normalization. <i>Journal of Applied Meteorology and Climatology</i> , <b>2019</b> , 58, 145-164	2.7	15
54	. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , <b>2021</b> , 59, 7211-7223	8.1	15
53	Precipitation at Dumont d'Urville, Adèle Land, East Antarctica: the APRES3 field campaigns dataset. <i>Earth System Science Data</i> , <b>2018</b> , 10, 1605-1612	10.5	14
52	The First International 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> , <b>2018</b> , March 2018,	6.1	14
51	Evaluation of CloudSat snowfall rate profiles by a comparison with in situ micro-rain radar observations in East Antarctica. <i>Cryosphere</i> , <b>2019</b> , 13, 943-954	5.5	13
50	2DVD Data Revisited: Multifractal Insights into Cuts of the Spatiotemporal Rainfall Process. <i>Journal of Hydrometeorology</i> , <b>2015</b> , 16, 548-562	3.7	12
49	Microphysics of Snowfall Over Coastal East Antarctica Simulated by Polar WRF and Observed by Radar. <i>Journal of Geophysical Research D: Atmospheres</i> , <b>2019</b> , 124, 11452-11476	4.4	12
48	Invariance of the Double-Moment Normalized Raindrop Size Distribution through 3D Spatial Displacement in Stratiform Rain. <i>Journal of Applied Meteorology and Climatology</i> , <b>2017</b> , 56, 1663-1680	2.7	12
47	Estimating the Vertical Structure of Intense Mediterranean Precipitation Using Two X-Band Weather Radar Systems. <i>Journal of Atmospheric and Oceanic Technology</i> , <b>2005</b> , 22, 1656-1675	2	12
46	Secondary ice production in summer clouds over the Antarctic coast: an underappreciated process in atmospheric models. <i>Atmospheric Chemistry and Physics</i> , <b>2021</b> , 21, 755-771	6.8	12
45	Quantification of the radar reflectivity sampling error in non-stationary rain using paired disdrometers. <i>Geophysical Research Letters</i> , <b>2005</b> , 32, n/a-n/a	4.9	11
44	The vertical structure of precipitation at two stations in East Antarctica derived from micro rain radars. <i>Cryosphere</i> , <b>2019</b> , 13, 247-264	5.5	10

43	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> , <b>2014</b> , 11, 763-767	4.1	10
42	RainForest: a random forest algorithm for quantitative precipitation estimation over Switzerland. <i>Atmospheric Measurement Techniques</i> , <b>2021</b> , 14, 3169-3193	4	10
41	Spatial interpolation of experimental raindrop size distribution spectra. <i>Quarterly Journal of the Royal Meteorological Society</i> , <b>2016</b> , 142, 125-137	6.4	10
40	A sun-tracking method to improve the pointing accuracy of weather radar. <i>Atmospheric Measurement Techniques</i> , <b>2012</b> , 5, 547-555	4	9
39	A Versatile Method for Ice Particle Habit Classification Using Airborne Imaging Probe Data. <i>Journal of Geophysical Research D: Atmospheres</i> , <b>2018</b> , 123, 13,472	4.4	9
38	Stochastic Space-Time Disaggregation of Rainfall into DSD Fields. <i>Journal of Hydrometeorology</i> , <b>2012</b> , 13, 1954-1969	3.7	8
37	Synoptic conditions and atmospheric moisture pathways associated with virga and precipitation over coastal Adèle Land in Antarctica. <i>Cryosphere</i> , <b>2020</b> , 14, 1685-1702	5.5	8
36	From model to radar variables: a new forward polarimetric radar operator for COSMO. <i>Atmospheric Measurement Techniques</i> , <b>2018</b> , 11, 3883-3916	4	8
35	Gravity Wave Excitation during the Coastal Transition of an Extreme Katabatic Flow in Antarctica. <i>Journals of the Atmospheric Sciences</i> , <b>2020</b> , 77, 1295-1312	2.1	7
34	Identification of blowing snow particles in images from a Multi-Angle Snowflake Camera. <i>Cryosphere</i> , <b>2020</b> , 14, 367-384	5.5	7
33	Variations in Snow Crystal Riming and ZDR: A Case Analysis. <i>Journal of Applied Meteorology and Climatology</i> , <b>2018</b> , 57, 695-707	2.7	7
32	Scaling analysis of the variability of the rain drop size distribution at small scale. <i>Advances in Water Resources</i> , <b>2012</b> , 45, 2-12	4.7	7
31	Rainfall rate retrieval in presence of path attenuation using C-band polarimetric weather radars. <i>Natural Hazards and Earth System Sciences</i> , <b>2006</b> , 6, 439-450	3.9	7
30	Present and Future of Rainfall in Antarctica. <i>Geophysical Research Letters</i> , <b>2021</b> , 48, e2020GL092281	4.9	7
29	Unsupervised classification of snowflake images using a generative adversarial network and K-medoids classification. <i>Atmospheric Measurement Techniques</i> , <b>2020</b> , 13, 2949-2964	4	6
28	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> , <b>2018</b> , 54, 10,293	5.4	6
27	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> , <b>2021</b> , 126, e2020JD033490	4.4	5
26	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> , <b>2021</b> , 13, 417-433	10.5	5

25	Multifractal evaluation of simulated precipitation intensities from the COSMO NWP model. <i>Atmospheric Chemistry and Physics</i> , <b>2017</b> , 17, 14253-14273	6.8	4
24	Using Markov switching models to infer dry and rainy periods from telecommunication microwave link signals <b>2012</b> ,		4
23	Three-dimensional radiative transfer effects on airborne and ground-based trace gas remote sensing. <i>Atmospheric Measurement Techniques</i> , <b>2020</b> , 13, 4277-4293	4	4
22	Objective Characterization of Rain Microphysics: Validating a Scheme Suitable for Weather and Climate Models. <i>Journal of Hydrometeorology</i> , <b>2018</b> , 19, 929-946	3.7	3
21	A characterisation of Alpine mesocyclone occurrence. <i>Weather and Climate Dynamics</i> , <b>2021</b> , 2, 1225-1244	4.3	3
20	On the drivers of droplet variability in Alpine mixed-phase clouds		3
19	Learning about the vertical structure of radar reflectivity using hydrometeor classes and neural networks in the Swiss Alps. <i>Atmospheric Measurement Techniques</i> , <b>2020</b> , 13, 2481-2500	4	3
18	On the drivers of droplet variability in alpine mixed-phase clouds. <i>Atmospheric Chemistry and Physics</i> , <b>2021</b> , 21, 10993-11012	6.8	3
17	Correction of raindrop size distributions measured by Parsivel disdrometers, using a two-dimensional-video-disdrometer as a reference		2
16	Reconstruction of the mass and geometry of snowfall particles from multi-angle snowflake camera (MASC) images. <i>Atmospheric Measurement Techniques</i> , <b>2021</b> , 14, 6851-6866	4	2
15	Impact of 3D radiative transfer on airborne NO <sub>2</sub> imaging remote sensing over cities with buildings. <i>Atmospheric Measurement Techniques</i> , <b>2021</b> , 14, 6469-6482	4	2
14	R2D2: A Region-Based Recursive Doppler Dealiasing Algorithm for Operational Weather Radar. <i>Journal of Atmospheric and Oceanic Technology</i> , <b>2020</b> , 37, 2341-2356	2	2
13	Dynamic Differential Reflectivity Calibration Using Vertical Profiles in Rain and Snow. <i>Remote Sensing</i> , <b>2021</b> , 13, 8	5	2
12	Characterisation of the melting layer variability in an Alpine valley based on polarimetric X-band radar scans. <i>Atmospheric Measurement Techniques</i> , <b>2018</b> , 11, 5181-5198	4	2
11	Measured ice nucleating particle concentrations improve the simulation of mid-level mixed-phase clouds over the high-latitude Southern Ocean		2
10	Hydrometeor classification from polarimetric radar measurements: a clustering approach		1
9	Monitoring and prediction in Early Warning Systems (EWS) for rapid mass movements		1
8	Hydrometeor classification from 2 dimensional videodisdrometer data		1

7	Identification of snowfall microphysical processes from Eulerian vertical gradients of polarimetric radar variables. <i>Atmospheric Measurement Techniques</i> , <b>2021</b> , 14, 4543-4564	4	1
6	Secondary ice production processes in wintertime alpine mixed-phase clouds. <i>Atmospheric Chemistry and Physics</i> , <b>2022</b> , 22, 1965-1988	6.8	0
5	Integrated water vapor and liquid water path retrieval using a single-channel radiometer. <i>Atmospheric Measurement Techniques</i> , <b>2021</b> , 14, 2749-2769	4	0
4	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> , <b>2021</b> , 13, 4219-4240	10.5	0
3	MASCDB, a database of images, descriptors and microphysical properties of individual snowflakes in free fall.. <i>Scientific Data</i> , <b>2022</b> , 9, 186	8.2	0
2	Multifractal Analysis of Snowfall Recorded Using a 2D Video Disdrometer. <i>Journal of Hydrometeorology</i> , <b>2017</b> , 18, 2453-2468	3.7	
1	Correction of CCI cloud data over the Swiss Alps using ground-based radiation measurements. <i>Atmospheric Measurement Techniques</i> , <b>2018</b> , 11, 4153-4170	4	