Alexis Berne

List of Publications by Year in Descending Order

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	Secondary ice production processes in wintertime alpine mixed-phase clouds. *Atmospheric Chemistry and Physics*, **2022**, 22, 1965-1988	6.8	0
113	MASCDB, a database of images, descriptors and microphysical properties of individual snowflakes in free fall.. *Scientific Data*, **2022**, 9, 186	8.2	0
112	A characterisation of Alpine mesocyclone occurrence. *Weather and Climate Dynamics*, **2021**, 2, 1225-1244	3.3	3
111	Reconstruction of the mass and geometry of snowfall particles from multi-angle snowflake camera´(MASC) images. *Atmospheric Measurement Techniques*, **2021**, 14, 6851-6866	4	2
110	Impact of 3D radiative transfer on airborne NO₂ imaging remote sensing over cities with buildings. *Atmospheric Measurement Techniques*, **2021**, 14, 6469-6482	4	2
109	Dynamic Differential Reflectivity Calibration Using Vertical Profiles in Rain and Snow. *Remote Sensing*, **2021**, 13, 8	5	2
108	Integrated water vapor and liquid water path retrieval using a single-channel radiometer. *Atmospheric Measurement Techniques*, **2021**, 14, 2749-2769	4	0
107	Challenging and Improving the Simulation of Mid-Level Mixed-Phase Clouds Over the High-Latitude Southern Ocean. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD033490	4.4	5
106	Present and Future of Rainfall in Antarctica. *Geophysical Research Letters*, **2021**, 48, e2020GL092281	4.9	7
105	RainForest: a random forest algorithm for quantitative precipitation estimation over Switzerland. *Atmospheric Measurement Techniques*, **2021**, 14, 3169-3193	4	10
104	Identification of snowfall microphysical processes from Eulerian vertical gradients of polarimetric radar variables. *Atmospheric Measurement Techniques*, **2021**, 14, 4543-4564	4	1
103	. *IEEE Transactions on Geoscience and Remote Sensing*, **2021**, 59, 7211-7223	8.1	15
102	Secondary ice production in summer clouds over the Antarctic coast: an underappreciated process in atmospheric models. *Atmospheric Chemistry and Physics*, **2021**, 21, 755-771	6.8	12
101	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. *Earth System Science Data*, **2021**, 13, 417-433	10.5	5
100	On the drivers of droplet variability in alpine mixed-phase clouds. *Atmospheric Chemistry and Physics*, **2021**, 21, 10993-11012	6.8	3
99	A year of attenuation data from a commercial dual-polarized duplex microwave link with concurrent disdrometer, rain gauge, and weather observations. *Earth System Science Data*, **2021**, 13, 4219-4240	10.5	0
98	Unsupervised classification of snowflake images using a generative adversarial network and <i>K</i>-medoids classification. *Atmospheric Measurement Techniques*, **2020**, 13, 2949-2964	4	6

97	Gravity Wave Excitation during the Coastal Transition of an Extreme Katabatic Flow in Antarctica. *Journals of the Atmospheric Sciences*, **2020**, 77, 1295-1312	2.1	7
96	Identification of blowing snow particles in images from a Multi-Angle Snowflake Camera. *Cryosphere*, **2020**, 14, 367-384	5.5	7
95	Learning about the vertical structure of radar reflectivity using hydrometeor classes and neural networks in the Swiss Alps. *Atmospheric Measurement Techniques*, **2020**, 13, 2481-2500	4	3
94	Three-dimensional radiative transfer effects on airborne and ground-based trace gas remote sensing. *Atmospheric Measurement Techniques*, **2020**, 13, 4277-4293	4	4
93	Synoptic conditions and atmospheric moisture pathways associated with virga and precipitation over coastal Adlie Land in Antarctica. *Cryosphere*, **2020**, 14, 1685-1702	5.5	8
92	R2D2: A Region-Based Recursive Doppler Dealiasing Algorithm for Operational Weather Radar. *Journal of Atmospheric and Oceanic Technology*, **2020**, 37, 2341-2356	2	2
91	Microphysics and dynamics of snowfall associated with a warm conveyor belt over Korea. *Atmospheric Chemistry and Physics*, **2020**, 20, 7373-7392	6.8	17
90	On the fine vertical structure of the low troposphere over the coastal margins of East Antarctica. *Atmospheric Chemistry and Physics*, **2019**, 19, 4659-4683	6.8	24
89	The vertical structure of precipitation at two stations in East Antarctica derived from micro rain radars. *Cryosphere*, **2019**, 13, 247-264	5.5	10
88	Reconstructing the Drizzle Mode of the Raindrop Size Distribution Using Double-Moment Normalization. *Journal of Applied Meteorology and Climatology*, **2019**, 58, 145-164	2.7	15
87	Evaluation of CloudSat snowfall rate profiles by a comparison with in situ micro-rain radar observations in East Antarctica. *Cryosphere*, **2019**, 13, 943-954	5.5	13
86	Microphysics of Snowfall Over Coastal East Antarctica Simulated by Polar WRF and Observed by Radar. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 11452-11476	4.4	12
85	Evaluation of GPM-era Global Satellite Precipitation Products over Multiple Complex Terrain Regions. *Remote Sensing*, **2019**, 11, 2936	5	44
84	Variations in Snow Crystal Riming and ZDR: A Case Analysis. *Journal of Applied Meteorology and Climatology*, **2018**, 57, 695-707	2.7	7
83	Objective Characterization of Rain Microphysics: Validating a Scheme Suitable for Weather and Climate Models. *Journal of Hydrometeorology*, **2018**, 19, 929-946	3.7	3
82	Precipitation at Dumont d'Urville, Adlie Land, East Antarctica: the APRES3 field campaigns dataset. *Earth System Science Data*, **2018**, 10, 1605-1612	10.5	14
81	A Versatile Method for Ice Particle Habit Classification Using Airborne Imaging Probe Data. *Journal of Geophysical Research D: Atmospheres*, **2018**, 123, 13,472	4.4	9
80	From model to radar variables: a new forward polarimetric radar operator for COSMO. *Atmospheric Measurement Techniques*, **2018**, 11, 3883-3916	4	8

79	Evaluation of the CloudSat surface snowfall product over Antarctica using ground-based precipitation radars. *Cryosphere*, **2018**, 12, 3775-3789	5.5	24
78	Correction of CCI cloud data over the Swiss Alps using ground-based radiation measurements. *Atmospheric Measurement Techniques*, **2018**, 11, 4153-4170	4	
77	Spatial variability in snow precipitation and accumulation in COSMO-WRF simulations and radar estimations over complex terrain. *Cryosphere*, **2018**, 12, 3137-3160	5.5	20
76	High-Resolution Simulation Study Exploring the Potential of Radars, Crowdsourced Personal Weather Stations, and Commercial Microwave Links to Monitor Small-Scale Urban Rainfall. *Water Resources Research*, **2018**, 54, 10,293	5.4	6
75	Characterisation of the melting layer variability in an Alpine valley based on polarimetric X-band radar scans. *Atmospheric Measurement Techniques*, **2018**, 11, 5181-5198	4	2
74	Unraveling hydrometeor mixtures in polarimetric radar measurements. *Atmospheric Measurement Techniques*, **2018**, 11, 4847-4866	4	16
73	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. *Bulletin of the American Meteorological Society*, **2018**, March 2018,	6.1	14
72	A Comparison between the GPM Dual-Frequency Precipitation Radar and Ground-Based Radar Precipitation Rate Estimates in the Swiss Alps and Plateau. *Journal of Hydrometeorology*, **2017**, 18, 1247-1269	3.7	45
71	Katabatic winds diminish precipitation contribution to the Antarctic ice mass balance. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 10858-10863	11.5	50
70	Measurement of Precipitation in the Alps Using Dual-Polarization C-Band Ground-Based Radars, the GPM Spaceborne Ku-Band Radar, and Rain Gauges. *Remote Sensing*, **2017**, 9, 1147	5	25
69	Solid hydrometeor classification and riming degree estimation from pictures collected with a Multi-Angle Snowflake Camera. *Atmospheric Measurement Techniques*, **2017**, 10, 1335-1357	4	35
68	Multifractal Analysis of Snowfall Recorded Using a 2D Video Disdrometer. *Journal of Hydrometeorology*, **2017**, 18, 2453-2468	3.7	
67	Invariance of the Double-Moment Normalized Raindrop Size Distribution through 3D Spatial Displacement in Stratiform Rain. *Journal of Applied Meteorology and Climatology*, **2017**, 56, 1663-1680	2.7	12
66	Multifractal evaluation of simulated precipitation intensities from the COSMO NWP model. *Atmospheric Chemistry and Physics*, **2017**, 17, 14253-14273	6.8	4
65	Retrieval of the raindrop size distribution from polarimetric radar data using double-moment normalisation. *Atmospheric Measurement Techniques*, **2017**, 10, 2573-2594	4	20
64	Measurements of precipitation in Dumont d'Urville, Adélie Land, East Antarctica. *Cryosphere*, **2017**, 11, 1797-1811	5.5	42
63	A high space-time resolution dataset linking meteorological forcing and hydro-sedimentary response in a mesoscale Mediterranean catchment (Auzon) of the Ardèche region, France. *Earth System Science Data*, **2017**, 9, 221-249	10.5	16
62	Multiregional Satellite Precipitation Products Evaluation over Complex Terrain. *Journal of Hydrometeorology*, **2016**, 17, 1817-1836	3.7	87

61	Hydrometeor classification through statistical clustering of polarimetric radar measurements: a semi-supervised approach. *Atmospheric Measurement Techniques*, **2016**, 9, 4425-4445	4	47
60	A radar-based regional extreme rainfall analysis to derive the thresholds for a novel automatic alert system in Switzerland. *Hydrology and Earth System Sciences*, **2016**, 20, 2317-2332	5.5	29
59	Detection and characterization of the melting layer based on polarimetric radar scans. *Quarterly Journal of the Royal Meteorological Society*, **2016**, 142, 108-124	6.4	38
58	Spatial interpolation of experimental raindrop size distribution spectra. *Quarterly Journal of the Royal Meteorological Society*, **2016**, 142, 125-137	6.4	10
57	Small-Scale Variability of the Raindrop Size Distribution and Its Effect on Areal Rainfall Retrieval. *Journal of Hydrometeorology*, **2016**, 17, 2077-2104	3.7	17
56	Hydrometeor classification from polarimetric radar measurements: a clustering approach. *Atmospheric Measurement Techniques*, **2015**, 8, 149-170	4	33
55	Correction of raindrop size distributions measured by Parsivel disdrometers, using a two-dimensional video disdrometer as a reference. *Atmospheric Measurement Techniques*, **2015**, 8, 343-365	4	64
54	2DVD Data Revisited: Multifractal Insights into Cuts of the Spatiotemporal Rainfall Process. *Journal of Hydrometeorology*, **2015**, 16, 548-562	3.7	12
53	Multifrequency Radar Observations Collected in Southern France during HyMeX-SOP1. *Bulletin of the American Meteorological Society*, **2015**, 96, 267-282	6.1	19
52	Polarimetric radar and in situ observations of riming and snowfall microphysics during CLACE 2014. *Atmospheric Chemistry and Physics*, **2015**, 15, 13787-13802	6.8	27
51	Monitoring and prediction in early warning systems for rapid mass movements. *Natural Hazards and Earth System Sciences*, **2015**, 15, 905-917	3.9	83
50	Accuracy of Phase-Based Algorithms for the Estimation of the Specific Differential Phase Shift Using Simulated Polarimetric Weather Radar Data. *IEEE Geoscience and Remote Sensing Letters*, **2014**, 11, 763-767	4.1	10
49	Influence of small scale rainfall variability on standard comparison tools between radar and rain gauge data. *Atmospheric Research*, **2014**, 138, 125-138	5.4	51
48	Orographic effects on snow deposition patterns in mountainous terrain. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 1419-1439	4.4	65
47	Stochastic simulation of intermittent rainfall using the concept of Dry drift. *Water Resources Research*, **2014**, 50, 2329-2349	5.4	21
46	HyMeX-SOP1: The Field Campaign Dedicated to Heavy Precipitation and Flash Flooding in the Northwestern Mediterranean. *Bulletin of the American Meteorological Society*, **2014**, 95, 1083-1100	6.1	234
45	Nonstationarity in Intermittent Rainfall: The Dry Drift. *Journal of Hydrometeorology*, **2014**, 15, 1189-1204	3.7	21
44	Hydrometeor classification from two-dimensional video disdrometer data. *Atmospheric Measurement Techniques*, **2014**, 7, 2869-2882	4	24

43	Improved Estimation of the Specific Differential Phase Shift Using a Compilation of Kalman Filter Ensembles. *IEEE Transactions on Geoscience and Remote Sensing*, **2014**, 52, 5137-5149	8.1	19
42	Radar for hydrology: Unfulfilled promise or unrecognized potential?. *Advances in Water Resources*, **2013**, 51, 357-366	4.7	160
41	. *IEEE Geoscience and Remote Sensing Letters*, **2013**, 10, 1195-1199	4.1	65
40	Quality control of rain gauge measurements using telecommunication microwave links. *Journal of Hydrology*, **2013**, 492, 15-23	6	23
39	A Variational Approach to Retrieve Rain Rate by Combining Information from Rain Gauges, Radars, and Microwave Links. *Journal of Hydrometeorology*, **2013**, 14, 1897-1909	3.7	30
38	High-Resolution Vertical Profiles of X-Band Polarimetric Radar Observables during Snowfall in the Swiss Alps. *Journal of Applied Meteorology and Climatology*, **2013**, 52, 378-394	2.7	66
37	The importance of hydraulic groundwater theory in catchment hydrology: The legacy of Wilfried Brutsaert and Jean-Yves Parlange. *Water Resources Research*, **2013**, 49, 5099-5116	5.4	84
36	Seasonal small-scale spatial variability in alpine snowfall and snow accumulation. *Water Resources Research*, **2013**, 49, 1446-1457	5.4	52
35	Stochastic Space Time Disaggregation of Rainfall into DSD fields. *Journal of Hydrometeorology*, **2012**, 13, 1954-1969	3.7	8
34	Scaling analysis of the variability of the rain drop size distribution at small scale. *Advances in Water Resources*, **2012**, 45, 2-12	4.7	7
33	Quantification of the Small-Scale Spatial Structure of the Raindrop Size Distribution from a Network of Disdrometers. *Journal of Applied Meteorology and Climatology*, **2012**, 51, 941-953	2.7	56
32	A sun-tracking method to improve the pointing accuracy of weather radar. *Atmospheric Measurement Techniques*, **2012**, 5, 547-555	4	9
31	Stochastic Simulation of Intermittent DSD Fields in Time. *Journal of Hydrometeorology*, **2012**, 13, 621-637	3.7	21
30	An Extended Kalman Filter Framework for Polarimetric X-Band Weather Radar Data Processing. *Journal of Atmospheric and Oceanic Technology*, **2012**, 29, 711-730	2	33
29	Using Markov switching models to infer dry and rainy periods from telecommunication microwave link signals. *Atmospheric Measurement Techniques*, **2012**, 5, 1847-1859	4	38
28	Influence of the Subgrid Variability of the Raindrop Size Distribution on Radar Rainfall Estimators. *Journal of Applied Meteorology and Climatology*, **2012**, 51, 780-785	2.7	31
27	Using Markov switching models to infer dry and rainy periods from telecommunication microwave link signals **2012**,		4
26	A network of disdrometers to quantify the small-scale variability of the raindrop size distribution. *Water Resources Research*, **2011**, 47,	5.4	63

25	Statistical analysis of rainfall intermittency at small spatial and temporal scales. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	24
24	Improved interpolation of meteorological forcings for hydrologic applications in a Swiss Alpine region. *Journal of Hydrology*, **2011**, 401, 77-89	6	81
23	Experimental Quantification of the Sampling Uncertainty Associated with Measurements from PARSIVEL Disdrometers. *Journal of Hydrometeorology*, **2011**, 12, 352-370	3.7	110
22	Errors and Uncertainties in Microwave Link Rainfall Estimation Explored Using Drop Size Measurements and High-Resolution Radar Data. *Journal of Hydrometeorology*, **2010**, 11, 1330-1344	3.7	39
21	Identification of Dry and Rainy Periods Using Telecommunication Microwave Links. *IEEE Geoscience and Remote Sensing Letters*, **2010**, 7, 611-615	4.1	68
20	Variability of the spatial structure of intense Mediterranean precipitation. *Advances in Water Resources*, **2009**, 32, 1031-1042	4.7	22
19	Geostatistical simulation of two-dimensional fields of raindrop size distributions at the meso- scale. *Water Resources Research*, **2009**, 45,	5.4	18
18	Stochastic simulation experiment to assess radar rainfall retrieval uncertainties associated with attenuation and its correction. *Hydrology and Earth System Sciences*, **2008**, 12, 587-601	5.5	27
17	Path-averaged rainfall estimation using microwave links: Uncertainty due to spatial rainfall variability. *Geophysical Research Letters*, **2007**, 34,	4.9	61
16	Polarimetric Weather Radar Retrieval of Raindrop Size Distribution by Means of a Regularized Artificial Neural Network. *IEEE Transactions on Geoscience and Remote Sensing*, **2006**, 44, 3262-3275	8.1	24
15	Quantitative analysis of X-band weather radar attenuation correction accuracy. *Natural Hazards and Earth System Sciences*, **2006**, 6, 419-425	3.9	16
14	Rainfall rate retrieval in presence of path attenuation using C-band polarimetric weather radars. *Natural Hazards and Earth System Sciences*, **2006**, 6, 439-450	3.9	7
13	A stochastic model of range profiles of raindrop size distributions: Application to radar attenuation correction. *Geophysical Research Letters*, **2005**, 32,	4.9	23
12	Similarity analysis of subsurface flow response of hillslopes with complex geometry. *Water Resources Research*, **2005**, 41,	5.4	61
11	Quantification of the radar reflectivity sampling error in non-stationary rain using paired disdrometers. *Geophysical Research Letters*, **2005**, 32, n/a-n/a	4.9	11
10	Estimating the Vertical Structure of Intense Mediterranean Precipitation Using Two X-Band Weather Radar Systems. *Journal of Atmospheric and Oceanic Technology*, **2005**, 22, 1656-1675	2	12
9	A preliminary investigation of radar rainfall estimation in the Ardennes region and a first hydrological application for the Ourthe catchment. *Natural Hazards and Earth System Sciences*, **2005** , 5, 267-274	3.9	22
8	Temporal and spatial resolution of rainfall measurements required for urban hydrology. *Journal of Hydrology*, **2004**, 299, 166-179	6	299

7	Influence of the Vertical Profile of Reflectivity on Radar-Estimated Rain Rates at Short Time Steps. *Journal of Hydrometeorology*, **2004**, 5, 296-310	3.7	22
6	On the drivers of droplet variability in Alpine mixed-phase clouds		3
5	Hydrometeor classification from polarimetric radar measurements: a clustering approach		1
4	Correction of raindrop size distributions measured by Parsivel disdrometers, using a two-dimensional-video-disdrometer as a reference		2
3	Monitoring and prediction in Early Warning Systems (EWS) for rapid mass movements		1
2	Hydrometor classification from 2 dimensional videodisdrometer data		1
1	Measured ice nucleating particle concentrations improve the simulation of mid-level mixed-phase clouds over the high-latitude Southern Ocean		2