

Alexis Berne

List of Publications by Year in descending order

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110
papers

4,408
citations

109311

35
h-index

123420

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 École 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 ₂ 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 |