

Lead Author Conference Proceedings

- [C1] **Chen, H.**, and V. Chandrasekar, 2012: High resolution rainfall mapping in the Dallas-Fort Worth urban demonstration network", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Munich, Germany, 22-27 July 2012.
- [C2] **Chen, H.**, and V. Chandrasekar, 2013: Potential role of dual-polarization X-band radar in hydrological application. *USNC-URSI National Radio Science Meeting*, Boulder, CO, 9-12 January 2013.
- [C3] **Chen, H.**, and V. Chandrasekar, 2014: Quantitative precipitation estimation using dual-polarization radar network over the Dallas-Fort Worth (DFW) Metroplex. *USNC-URSI National Radio Science Meeting*, Boulder, CO, 8-11 Jan 2014.
- [C4] **Chen, H.**, and V. Chandrasekar, 2014: Estimation of rainfall drop size distribution from dual-polarization measurements at S-band, X-band, and Ku-band radar frequencies. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Quebec City, Canada, 13-18 July 2014.
- [C5] **Chen, H.**, and V. Chandrasekar, 2014: High resolution rainfall mapping with a regional network of polarimetric radars at S- and X-band frequencies. *The XXXI General Assembly of the International Union of Radio Science (31st URSI GASS)*, Beijing, China, 16-23 August 2014. **(invited)**
- [C6] **Chen, H.**, and V. Chandrasekar, 2015: Characterization and estimation of light rainfall using NASA D3R observations during GPM IFloodS and IPHEX Field Campaigns, *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Milan, Italy, 26-31 July 2015.
- [C7] **Chen, H.**, and V. Chandrasekar, 2015: Evaluation of a polarimetric attenuation correction algorithm for NASA D3R observations during the IFloodS Field Campaign. *IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, Vancouver, Canada, 19-25 July 2015.
- [C8] **Chen, H.**, and V. Chandrasekar, 2016: Attenuation correction for polarimetric radar observations at X-, Ku-, and Ka-band frequencies. *USNC-URSI National Radio Science Meeting*, Boulder, CO, 6-9 January 2016.
- [C9] **Chen, H.**, V. Chandrasekar, and S. Joshil, 2016: High-resolution wind retrieval in the lower troposphere with CASA DFW urban radar network. *USNC-URSI National Radio Science Meeting*, Boulder, CO, 6-9 January 2016.
- [C10] **Chen, H.**, V. Chandrasekar, S. Lim, R. M. Beauchamp, 2016: Attenuation correction and raindrop size distribution with dual-polarization radar measurements at Ku-band. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Beijing, China, 10-15 July 2016.
- [C11] **Chen, H.**, and V. Chandrasekar, 2016: Real-time tornado detection and wind retrieval with high-resolution X-band Doppler radar network. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Beijing, China, 10-15 July 2016.
- [C12] **Chen, H.**, and V. Chandrasekar, 2016: Validation of NASA's Global Precipitation Measurement Mission with a high-resolution ground radar network. *URSI Asia-Pacific Radio Science Conference*, Seoul, Korea, 21-25 August 2016. **(invited)**
- [C13] **Chen, H.**, and V. Chandrasekar, 2017: Evaluation of the rainfall nowcasting system for a dense radar network over Dallas-Fort Worth (DFW). *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 23-28 July 2017. **(invited)**
- [C14] **Chen, H.**, and V. Chandrasekar, 2017: Characterization and estimation of precipitation over the OLYMPEX regime. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Fort Worth, TX, 23-28 July 2017.
- [C15] **Chen, H.**, V. Chandrasekar, R. Cifelli, P. Xie, and H. Tan, 2017: A data fusion system for accurate precipitation estimation using satellite and ground radar observations: Urban scale application in Dallas-Fort Worth Metroplex. *XXXInd URSI General Assembly & Scientific Symposium*, Montreal, Canada, 19-26 August 2017. **(invited)**
- [C16] **Chen, H.**, and V. Chandrasekar, 2018: Evaluation of a Ku-band radar hydrometeor classifier by comparison with S-band radar and aircraft data. *USNC-URSI National Radio Science Meeting*, Boulder, CO, 4-7 January 2018.
- [C17] **Chen, H.**, and V. Chandrasekar, 2018: A machine learning-based approach to pseudo-radar rainfall estimation using disdrometer data. *2nd URSI Atlantic Radio Science Conference (URSI AT-RASC)*, Gran Canaria, Spain, May 28-June 1, 2018. **(invited)**
- [C18] **Chen, H.**, V. Chandrasekar, and R. Cifelli, 2019: A deep learning approach to dual-polarization radar rainfall estimation. *URSI Asia-Pacific Radio Science Conference (AP-RASC)*, New Delhi, India, 09-15 March 2019. **(Invited)**

Lead Author Conference Presentations and Abstracts

- [P1] **Chen, H.**, V. Chandrasekar, and E. Yoshikawa, 2013: A rain drop size distribution (DSD) retrieval algorithm for CASA DFW urban radar network. *36th Conference on Radar Meteorology*, Breckenridge, CO, 16-20 September 2013.
- [P2] **Chen, H.**, and V. Chandrasekar, 2013: Ground validation of satellite measurements of precipitation using upgraded dual polarization WSR-88D radar network. *American Geophysical Union Fall Meeting*, San Francisco, CA, 9-13 Dec 2013.
- [P3] **Chen, H.**, R. Cifelli, Y. Zhang, and V. Chandrasekar, 2014: Comparisons of a suite of gauge, radar, and gauge-radar blended quantitative precipitation estimates over a mountainous region. *The 94th AMS Annual Meeting: 28th Conference on Hydrology*, Atlanta, GA, 2-6 February 2014.
- [P4] **Chen, H.**, V. Chandrasekar, D.-J. Seo, and A. Rafieeiniasab, 2014: High-resolution radar-based QPE and flash flood forecasting for Dallas-Fort Worth Metroplex. *34th Annual American Geophysical Union Hydrology Days*, Fort Collins, CO, 24-26 March 2014.

- [P5] **Chen, H.**, and V. Chandrasekar, 2014: High-resolution QPE products for WSR-88DP and validation. *International Weather Radar and Hydrology Symposium*, Washington, DC, 7-10 April 2014.
- [P6] **Chen, H.**, R. Bechini, and V. Chandrasekar, 2014: Operational hail detection in the Dallas-Fort Worth urban radar network. *1st European Hail Workshop*, Bern, Switzerland, 25-27 June 2014.
- [P7] **Chen, H.**, and V. Chandrasekar, 2014: Rainfall estimation and drop size distribution retrieval from dual-polarization radars at Ku- and S-band: Application in NASA IFloodS Field Campaign. *The 8th European Conference on Radar in Meteorology and Hydrology (ERAD)*, Garmisch-Partenkirchen, Germany, 1-5 September 2014.
- [P8] **Chen, H.**, and V. Chandrasekar, 2015: Real-time, high-resolution QPE system for CASA DFW urban radar network. *37th Conference on Radar Meteorology*, Norman, OK, 14-18 September 2015.
- [P9] **Chen, H.**, V. Chandrasekar, D. Willie, S. Lim, R. Cifelli, W. A. Petersen, D. B. Wolff, 2015: Application and evaluation of a dual-polarization radar rainfall algorithm in complex terrain during NASA IPHEX Field Campaign. *37th Conference on Radar Meteorology*, Norman, OK, 14-18 September 2015.
- [P10] **Chen, H.**, and V. Chandrasekar, 2015: Cross-validation methodology between ground and gpm satellite-based radar rainfall product over Dallas-Fort Worth (DFW) Metroplex. *American Geophysical Union Fall Meeting*, San Francisco, CA, 14-18 December 2015.
- [P11] **Chen, H.**, and V. Chandrasekar, 2016: Real-time high resolution precipitation estimation with the CASA DFW urban demonstration network. *The 96th AMS Annual Meeting: 32nd Conference on Environmental Information Processing Technologies*, New Orleans, LA, 10-14 January 2016. **(invited)**
- [P12] **Chen, H.**, V. Chandrasekar, S. Joshil, and R. Bechini, 2016: Real-time multi-doppler radar analysis for retrieving wind field over Dallas-Fort Worth (DFW) Metroplex. *The 96th AMS Annual Meeting: 32nd Conference on Environmental Information Processing Technologies*, New Orleans, LA, 10-14 January 2016.
- [P13] **Chen, H.**, V. Chandrasekar, H. Tan, R. Cifelli, and P. Xie, 2016: Development of deep learning based data fusion approach for accurate rainfall estimation using ground radar and satellite precipitation products. *American Geophysical Union Fall Meeting*, San Francisco, CA, 12-16 December 2016.
- [P14] **Chen, H.**, and V. Chandrasekar, 2017: Hail detection and verification using high-resolution urban radar network over Dallas-Fort Worth. *the 97th AMS Annual Meeting: 33rd Conference on Environmental Information Processing Technologies*, Seattle, WA, 22-26 January 2017.
- [P15] **Chen, H.**, and V. Chandrasekar, 2017: Development and validation of a real-time hail system using high-resolution polarimetric radar network observations. *38th Conference on Radar Meteorology*, Chicago, IL, Aug 28-Sept 1, 2017.
- [P16] **Chen, H.**, and V. Chandrasekar, 2017: *In Situ* verification of the NASA D3R's hydrometeor classification and rainfall products during the OLYMPEX Field Campaign. *American Geophysical Union Fall Meeting*, New Orleans, LA, 11-15 December 2017.
- [P17] **Chen, H.**, V. Chandrasekar, R. Cifelli, and P. Xie, 2018: Improving satellite-based rainfall retrievals by incorporating high-resolution ground radar network observations. *The 98th AMS Annual Meeting: 32nd Conference on Hydrology*, Austin, TX, 7-11 January 2018. **(invited)**
- [P18] **Chen, H.**, E. Zedler, V. Chandrasekar, R. Cifelli, 2018: X-banding the Bay Area's real time rainfall monitoring and storm forecasting capabilities. *The Floodplain Management Association Annual Conference*, Reno, NV, 4-7 Sept 2018.
- [P19] **Chen, H.**, R. Cifelli, V. Chandrasekar, J. Jasperse, L. Xu, E. Zedler, J. Spaulding, and J. Kim, 2018: AQPI: Radar-derived quantitative precipitation estimation in complex terrain over the San Francisco Bay Area. *10th Biennial Bay-Delta Science Conference*, Sacramento, CA, 10-12 September 2018.
- [P20] **Chen, H.**, R. Cifelli, and V. Chandrasekar, 2018: A Bayesian framework for characterization and quantification of uncertainties in operational radar-derived precipitation products. *American Geophysical Union Fall Meeting*, Washington, D.C., 10-14 December 2018.
- [P21] **Chen, H.**, R. Cifelli, Y. Ma, and V. Chandrasekar, 2019: Representing radar rainfall uncertainties in complex terrain using a Bayesian modelling approach. *The 99th AMS Annual Meeting: 33rd Conference on Hydrology*, Phoenix, AZ, 6-10 January 2019.
- [P22] **Chen, H.**, R. Cifelli, and V. Chandrasekar, 2019: Improving quantitative precipitation estimation in complex terrain over the San Francisco Bay Area using gap-filling radar network. *The 99th AMS Annual Meeting: 35th Conference on Environmental Information Processing Technologies*, Phoenix, AZ, 6-10 January 2019.
- [P23] **Chen, H.**, and R. Cifelli, 2019: Investigating the precipitation microphysical variability induced by orographic enhancement in Northern California. *12th International Precipitation Conference*, Irvine, CA, 19 – 21 June 2019.
- [P24] **Chen, H.**, R. Cifelli, and V. Chandrasekar, 2019: Integrating multi-scale data for seamless QPE in the AQPI system. *American Geophysical Union Fall Meeting*, San Francisco, CA, 9-13 December 2019.
- [P25] **H. Chen**, Q. Xia, and W. Zhang, 2020: Probabilistic precipitation nowcast using dual-polarization radar measurements. *The 100th AMS Annual Meeting: 34th Conference on Hydrology*, Boston, MA, USA, 12–16 January 2020.
- [P26] **Chen, H.**, R. Cifelli, and V. Chandrasekar, 2020: Gradient-based optimization to reduce uncertainty in radar rainfall estimates using deep learning techniques and in situ measurements from disdrometers. *The 100th AMS Annual Meeting: 19th Conference on Artificial Intelligence for Environmental Science*, Boston, MA, 12–16 January 2020.