Curriculum Vitae

DAVID JOSEPH BODINE

Research Scientist

Advanced Radar Research Center
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EDUCATION

Ph.D.	2014	Meteorology, University of Oklahoma, Norman, Oklahoma
		Title: Polarimetric radar observations and numerical simulations of tornadic debris
M.S.	2012	Electrical and Computer Engineering, University of Oklahoma, Norman, Oklahoma
M.S.	2009	Meteorology, University of Oklahoma, Norman, Oklahoma
B.S.	2007	Meteorology, University of Oklahoma, Norman, Oklahoma

PROFESSIONAL EXPERIENCE

2021 –	*Adjunct Assistant Professor*, School of Meteorology University of Oklahoma, Norman, Oklahoma
2016 –	*Research Scientist* Advanced Radar Research Center, Norman, Oklahoma
2014 – 2016	*Advanced Study Program Postdoctoral Fellow* National Center for Atmospheric Research, Boulder, Colorado
2014	*Postdoctoral Research Associate*, School of Meteorology University of Oklahoma, Norman, Oklahoma
2013	*Graduate Teaching Assistant*, School of Meteorology University of Oklahoma, Norman, Oklahoma
2012	*Summer Program Fellow, Japan Society for Promotion of Science* Disaster Prevention Research Institute, Kyoto University, Kyoto, Japan
2012	*Graduate Teaching Assistant*, School of Meteorology University of Oklahoma, Norman, Oklahoma
2007 – 2014	*Graduate Research Assistant*, School of Meteorology University of Oklahoma, Norman, Oklahoma
2006 – 2007	*Undergraduate Research Assistant*, School of Meteorology University of Oklahoma, Norman, Oklahoma

SCIENTIFIC GRANTS (PI)

1. D. Bodine (OU), L. Orf, L. Frank, and V. Galinsky, **National Science Foundation**, $403,045 ($1,546,757 total), *Collaborative Research: Detection and Estimation of Multi-Scale Complex Spatiotemporal Processes in Tornadic Supercells from High-Resolution Simulations and Multiparameter Radar*, 07/15/21 – 07/14/24.

2. D. Bodine, and T.-Y. Yu, **Helios Remote Sensing Systems**, $56,038, *Radar-Based Wake Optimization of Off-Shore Wind Farms*, 07/01/21 – 12/31/21.

3. D. Bodine, and A. Reinhart, **NOAA**, $123,909, *VORTEX-SE: Evaluation of Structural Vulnerability in the Southeast United States using High-Resolution Tornado Simulations with Buildings and Terrain*, 09/01/19 – 08/31/22.

4. D. Bodine, B. L. Cheong, T. Y. Yu, R. D. Palmer, and A. Reinhart, **Weathernews, Inc.**, $249,170, *Using Observations, Simulations, and Artificial Intelligence to Develop a Lake-Effect Snow Prediction System*, 11/01/19 – 10/31/20.

5. D. Bodine, B. L. Cheong, T. Y. Yu, R. D. Palmer, and A. Reinhart, **Weathernews, Inc.**, $124,829, *Observation-Based Microphysics Classification and Cloud Activity for Lake-Effect Snow*, 06/01/19 – 09/30/19.

6. D. Bodine, B. L. Cheong, C. Fulton, R. D. Palmer, and S. M. Torres, **National Science Foundation**, $787,353, *Understanding the Relationship Between Tornadoes and Debris Through Observed and Simulated Radar Data*, 07/01/18 – 06/30/22.

7. D. Bodine, and A. Reinhart, **NOAA**, $192,612, *VORTEX-SE: Exploration of Terrain Effects on Tornado and Supercell Dynamics in the Southeast United States*, 09/01/17 – 08/31/19.

8. D. Bodine, **Nanowave, Inc.**, $204,217, *PX-10000 and a Local Radar Network for High-Impact Weather Studies and Radar System Evaluation*, 01/01/17 – 08/31/19.

9. D. Bodine, T. Yu, and N. Goodman, **Air Force**, $44,866, *SBIR: Bistatic Weather Radar*, 07/01/18 – 12/31/18.

SCIENTIFIC GRANTS (CO-PI)

1. G. McFarquhar, T.-Y. Yu, D. Bodine, D. Schvartzman Cohenca, **NASA**, $31,693, *Mobile RaXPol Radar for IMPACTS Field Campaign*, 02/01/22 – 03/31/22.

2. R. Palmer, D. Bodine, B. Cheong, C. Fulton, P. Kirstetter, J. Salazar, H. Sigmarsson, M. Yeary, T.-Y. Yu, G. Zhang, D. Schvartzman, **NOAA**, $2,001,553, *Single-Faced, Rotating, Digital Phased Array Radar: Innovation and Applications*, 10/01/21 – 09/30/22.

3. J. Kelly, D. Bodine, and B. L. Cheong, **USGS**, $23,311, *Radar Analysis of Bird Migration and Stopover in the Atchafalaya River Basin*, 08/19/21 – 08/18/26.

4. T. Y. Yu, R. D. Palmer, H. B. Bluestein, D. J. Bodine, and P.-E. Kirstetter, **National Science Foundation**, $601,235, *CIF: Mobile Rapid Scanning Radar for Enhancing Weather Radar Research and Education*, 08/15/21 – 08/14/24.

5. D. Schvartzman, R. Palmer, D. Bodine, P.-E. Kirstetter, T. Y. Yu, and B. L. Cheong, **Weathernews, Inc.** $45,034, *Lake Effect Snow II: Graupel and Hail Detection with C- and X- band radar measurements*, 07/01/21 – 06/30/22.

6. P. E. Kirstetter, J. Gourley, H. Vergara Arrieta, D. Bodine, B. L. Cheong, J. Vogel, J. Basara, Y. Derin, and K. Dee, **National Science Foundation**, $41,287, *Enhancing Communities Preparedness and Resilience to Post-Wildfire Hydrology in Mountainous Areas*, 01/15/21 – 06/30/21.

7. R. Palmer, C. Fulton, J. Salazar Cerrano, H. Sigmarsson, M. Yeary, T.-Y. Yu, B. L. Cheong, D. Bodine, and G. Zhang, **NOAA**, $2,000,911, *Exploitation of the Horus All-digital Polarimetric Phased Array Radar*, 07/01/20 – 06/30/21.

8. H. Bluestein, B. L. Cheong, and D. Bodine, **National Science Foundation**, $575,731, *Enhanced Radar Studies of Severe Convective Storms and Tornadoes*, 01/01/20 – 12/31/21.

9. P. Kirstetter, B. L. Cheong, D. Bodine, and T. Y. Yu, **Colorado Water Conservation Board**, $162,825, *Deployment of X-band Polarimetric Weather Radar for Hydrology*, 06/01/19 – 09/30/19.

10. P. Kirstetter, B. L. Cheong, D. Bodine, and T. Y. Yu, **Colorado Water Conservation Board**, $95,886, *Deployment of X-band Polarimetric Weather Radar for Hydrology*, 07/01/18 – 09/30/18.

11. M. Biggerstaff and D. Bodine, **NOAA**, $128,054, *Mobile Radar Operations to Support VORTEX-SE*, 03/01/17 – 02/28/18.

12. R. Palmer, D. Bodine, S. Torres, B. Cheong, and C. Fulton, **National Science Foundation**, $887,818, *Understanding Polarimetric Radar Tornadic Debris Signatures Using Modeling, Simulations, and Field Measurements*, 09/15/13 – 02/28/18.

CURRENT RESEARCH INTERESTS

High-temporal resolution radar studies of severe thunderstorms and tornadoes using phased array and dual-polarization radars

Understanding the impact of terrain and manmade structures on supercell and tornado dynamics

Assessment of the design tradeoffs and benefits of a future operational phased array radar network

Radar simulation using advanced electromagnetic scattering calculations and atmospheric models

Development of transformative phased array radar technology for atmospheric science research

Creating hands-on educational field experiences with mobile radars for diverse groups of undergraduate and graduate students

Machine learning applications to forecasting severe weather and winter precipitation using radar and satellite observations

FIELD EXPERIMENTS

NSF Experiment of Sea breeze Convection, Aerosols, Precipitation, and Environment (ESCAPE), Science Team, 2022

Radar coordinator for OU PX-1000 and RaXPol

ARRC Spring Field Experiment, 2017 – Present

Coordinate radar experiments for the Atmospheric Imaging Radar, PX-1000, PX-10k, EAGLE radar, and passive radars

VORTEX-SE, 2017

Radar operator for the Rapid X-band polarimetric radar (RaXpol)

Plains Elevated Convection At Night (PECAN), 2015

Coordinated disdrometer data collection

Designed dual-frequency, collocated mobile radar experiments

Served as an NCAR S-Pol radar scientist

Atmospheric Imaging Radar, 2011 – 2014

Served as field coordinator and driver during severe storm and tornado deployments

Helped assemble and test radar hardware

Hurricane Irene Field Project, 2011

Lead radar operator of the RaXpol

RaXPol Research Experiences for Undergraduates (REU) Field Project, 2011

Coordinated a 4-day experiment to collect tornado and supercell data

OU-PRIME, 2010 – 2011

Provided nowcast support for radar operations

Verification of the Origin of Rotation in Tornadoes EXperiment 2 (VORTEX2) Project, 2009 – 2010

Forecaster in the VORTEX2 Operations Center

Radar operator and scout vehicle driver for SMART-R

TEACHING ACTIVITIES

Undergraduate Courses Taught:

METR 2013 Introduction to Meteorology I - Spring 2012, Spring 2013
Introductory core course for sophomore meteorology majors with 11 – 20 students

METR 2013 Introduction to Meteorology I - Fall 2013
Developed and led problem-solving sessions for 60 students

Graduate Courses Taught:

METR/ECE 5673 Weather Radar Theory and Practice - 2016, 2021

Guest Lectures:

METR 5673 Weather Radar Theory - 2012, 2013, 2018, 2019, 2020

METR 5683 Weather Radar Applications - 2011, 2012, 2013, 2017

REU Talk on Radar Observations of Tornadoes - 2017

METR 5004 Fundamentals of Meteorology Principles of Radar - 2019, 2020, 2021

CEES/GIS 5903 Remote Sensing/Hydrometeorology - 2019

GRADUATE STUDENTS SUPERVISED

Nathan Kuhr, M.S.

Omitusa Oluwafemi, M.S.

Dominic Candela, Ph.D.

Brandon Cohen, Ph.D.

Rachael Cross, Ph.D.

Laura Shedd, Ph.D.

Min-Duan Tzeng, Ph.D.

Brandon Cohen, M.S. (completed 2022)

Connor Pearson, M.S. (completed 2022)

Laura Shedd, M.S. (completed 2022)

Sam Emmerson, M.S. (completed 2022)

Rachael Cross, M.S. (completed 2021)

Morgan Schneider, M.S. (completed 2021)

Clarice Dyson, M.S. (completed 2019)

Martin Satrio, M.S. (completed 2019)

Casey Griffin, Ph.D. (completed 2019)

Andrew Mahre, Ph.D. (completed 2020)

GRADUATE COMMITTEES SERVED

Angela Mose, M.S.

Maci Gibson, M.S.

UNDERGRADUATE STUDENTS SUPERVISED

Kyndra Buglione, NWC REU Program, 2022

Savannah Southward, Undergraduate Research Assistant, 2021 – Present

Nicholas Price, NWC REU Program, 2021

Juan Mangual, NWC REU Program, 2021

Melanie Zambron, NWC REU Program, 2020

Emily McCutchan, Honors Thesis and Capstone, 2020

Brendan Borroughs, Capstone, 2020

Kyle Pittman, NWC REU Program, 2019

Rachael Cross, Capstone, 2018 – 2019

Sam Emmerson, Capstone, 2018 – 2019

Cody Johnston, Capstone, 2018 – 2019

Alexandra Borunda, NWC REU Program, 2017

Erin Dougherty, UCAR SOARS Program, 2015

Anthony Torres, UCAR SOARS Program, 2015

David Hill, 2013

Alex Lyakhov, NWC REU Program, 2011

PROFESSIONAL AWARDS AND HONORS

AMS Scientific and Technological Activities Commission Outstanding Early Career Award, 2022

Awarded by the AMS Committee on Radar Meteorology

Annual Award for Excellence in Research Grants, 2022

Annual Award for Excellence in Research Grants, 2021

NSF/JSPS East Asia Pacific Summer Institute Fellowship, 2012

Tommy Craighead Award, University of Oklahoma, 2010

Best student paper in radar meteorology

Geotis Award for Best Student Presentation, 34th AMS Radar Conference, 2009

Alumni Fellowship, University of Oklahoma, 2009 – 2014

Outstanding Performance as a Graduate Student, University of Oklahoma, 2008

American Meteorological Society Graduate Fellowship, 2007 – 2008

Undergraduate Academic Achievement Award, 2007

Award for highest GPA in senior class

George S. Benton Scholarship, American Meteorological Society, 2006

Undergraduate Academic Achievement Award, 2006

Award for highest GPA in junior class

Study abroad at the University of Reading, 2006

PROFESSIONAL MEMBERSHIPS

Member of the American Meteorological Society

Member of the Institute of Electrical and Electronics Engineers

Member of the Japan Society for Promotion of Science Alumni Association

Member of the National Weather Association

PROFESSIONAL DEVELOPMENT

University of Oklahoma Teaching Scholar's Initiative: Digital Learning Regional Conference

UCAR/University of Colorado Teaching Methods Workshops Levels 1 and 2

UCAR Solicitation Analysis and Proposal Writing Session

PROFESSIONAL SERVICE

Chair, 40th Conference on Radar Meteorology, 2023

Program Committee, 11th European Conference on Radar Meteorology and Hydrology, 2022

Co-Chair Symposium on Radar Science in the Service of Earth System Predictability, 102nd AMS Annual Meeting, 2022

Co-Chair, Phased Array Radar Symposium, 99th AMS Annual Meeting, 2019

Chair, OU Local Organizing Committee, 5th International Symposium on Earth-Science Challenges, 2017

Associate Editor, Journal of Applied Meteorology and Climatology, 2017 – Present

Associate Editor, Monthly Weather Review, 2017 – Present

Member, AMS Committee on Radar Meteorology, 2017 – 2020

Session Chair, 37th Conference on Radar Meteorology, Norman, OK 14 – 18 September 2015

Panelist, Verification of the Origins of Rotation in Tornadoes Experiment 2 (VORTEX2) update session, 10th Annual AMS Student Conference, Seattle, WA, 22 – 23 Jan 2011

Reviewer for *Atmospheric Science Letters, Bulletin of the American Meteorological Society, Journal of Applied Meteorology and Climatology, Journal of Atmospheric and Oceanic Technology, Journal of Atmospheric Sciences, Journal of the Meteorological Society of Japan, Meteorology and Atmospheric Physics, Monthly Weather Review, and Quarterly Journal of the Royal Meteorological Society*

Proposal reviewer for National Science Foundation, NOAA

UNIVERSITY/DEPARTMENTAL SERVICE

Search Committee, NWC Librarian, College of Atmospheric and Geographic Sciences, 2021

Member, Library Advisory Committee, College of Atmospheric and Geographic Sciences, 2019 – Present

Manager of the Mobile Radar Facility, ARRC, 2018 – Present

Member, Distinguished Radar Lecture Series Committee, ARRC, 2017 – Present

REFEREED JOURNAL ARTICLES (* denotes first-author papers of students (co-)advised)

1. Alford, A. A., J. A. Zhang, M. I. Biggerstaff, P. Dodge, F. D. Marks, and D. J. Bodine, 2020: Transition of the hurricane boundary layer during the landfall of Hurricane Irene (2011). *J. Atmos. Sci.*, **77**, 3509 – 3531.

2. Anderson, M., J. Buckles, D. Schneider, D. Bodine, A. Reinhart, M. Satrio, and T. Maruyama, 2022: Terrain effects on the Mountainburg, AR EF-2 tornado: 13 April 2018. *J. Oper. Meteor.*, **10**, 18 – 29.

3. Bodine, D., P. M. Klein, S. C. Arms, and A. Shapiro, 2009: Variability of surface air temperature over gently sloped terrain. *J. Appl. Meteor. Climatol.*, **48**, 1117 – 1141.

4. Bodine, D., P. L. Heinselman, B. L. Cheong, R. D. Palmer, and D. Michaud, 2010: A case study on the impact of moisture variability on convection initiation using radar refractivity retrievals. *J. Appl. Meteor. Climatol.*, **49**, 1766 – 1778.

5. Bodine, D., D. Michaud, R. D. Palmer, P. L. Heinselman, J. Brotzge, N. Gasperoni, B. L. Cheong, M. Xue, and J. Gadong, 2011: Understanding radar refractivity: Sources of uncertainty. *J. Appl. Meteor. Climatol.*, **50**, 2543 – 2560.

6. Bodine, D., M. R. Kumjian, R. D. Palmer, P. L. Heinselman, and A. Ryzhkov, 2013: Tornado damage estimation using polarimetric radar. *Wea. Forecasting*, **28**, 139 – 158.

7. Bodine, D., R. D. Palmer, and G. Zhang, 2014: Dual-wavelength polarimetric radar analyses of tornadic debris signatures. *J. Appl. Meteor. Climatol.*, **53**, 242 – 261.

8. Bodine, D., T. Maruyama, R. D. Palmer, C. J. Fulton, H. B. Bluestein, and D. C. Lewellen, 2016: Sensitivity of tornado dynamics to soil debris loading. *J. Atmos. Sci.*, **73**, 2783 – 2801.

9. Bodine, D., R. D. Palmer, T. Maruyama, C. J. Fulton, Y. Zhu, and B. L. Cheong, 2016: Simulated frequency dependence of radar observations of tornadoes. *J. Atmos. Oceanic Technol.*, **33**, 1825 – 1842.

10. Bodine, D. J., and K. R. Rasmussen, 2017: Evolution of mesoscale convective system organizational structure and convective line propagation. *Mon. Wea. Rev.*, **145**, 3419 – 3440.

11. Cheong, B. L., D. J. Bodine, C. J. Fulton, S. M. Torres, T. Maruyama, and R. D. Palmer, 2017: SimRadar: A polarimetric radar time-series simulator for tornadic debris studies. *IEEE Trans. on Geosci.*, **55**, 2858 – 2870.

12. Griffin, C. B.*, D. J. Bodine, and R. D. Palmer, 2017: Kinematic and polarimetric radar observations of the 10 May 2010, OK tornadic debris signature.*Mon. Wea. Rev.*, **145**, 2723 – 2741.

13. Griffin, C. B.*, D. J. Bodine, J. M. Kurdzo, A. Mahre, and R. D. Palmer, 2019: High-temporal resolution observations of the 27 May 2015 Canadian, Texas, tornado using the Atmospheric Imaging Radar. *Mon. Wea. Rev.*, **147**, 873 – 891.

14. Griffin, C. B.*, D. J. Bodine, and R. D. Palmer, 2020: Polarimetric radar observations of simultaneous tornadoes on 10 May 2010 near Norman, Oklahoma. *Mon. Wea. Rev.*, **148**, 477 – 497.

15. Heinselman, P. L., B. L. Cheong, R. D. Palmer, D. Bodine, and K. D. Hondl, 2009: Radar refractivity retrievals from KTLX: Insights into operational benefits and limitations. *Wea. Forecasting*, **24**, 1345 – 1361.

16. Huang, Y., X. Wang, C. Kerr, A. Mahre, T.-Y. Yu, and D. Bodine, 2020: Impact of assimilating future clear-air radial velocity observations from phased array radar on supercell thunderstorm forecast: An observing system simulation experiment study. *Mon. Wea. Rev.*, **148**, 3825 – 3845.

17. Huang, Y., X. Wang, A. Mahre, T. Yu, and D. Bodine, 2022: Impacts of assimilating future phased array radar clear-air radial velocity observations on convection initiation forecasts. *Mon. Wea. Rev.*, **150**, 1563 – 1583.

18. Isom, B., R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu, and M. I. Biggerstaff, 2013: The Atmospheric Imaging Radar: Simultaneous volumetric observations using a Phased Array Weather Radar. *J. Atmos. Oceanic Technol.*, **30**, 655 – 675.

19. Kollias, P., R. Palmer, D. Bodine, T. Adachi, H. Bluestein, J. Y. N. Cho, C. Griffin, J. Houser, P. E. Kirstetter, M. R. Kumjian, J. M. Kurdzo, W. C. Lee, E. P. Luke, S. Nesbitt, M. Oue, A. Shapiro, A. Rowe, J. Salazar, R. Tanamachi, K. Tuftedal, X. Wang, and D. Zrnic, 2022: Science applications of phased array radars. *Bull. Amer. Meteor. Soc.*, in press.

20. Kurdzo, J. M., D. J. Bodine, B. L. Cheong, and R. D. Palmer, 2015: High-temporal resolution polarimetric X-band Doppler radar observations of the 20 May 2013 Moore, Oklahoma tornado. *Mon. Wea. Rev.*, **143**, 2711 – 2735.

21. Kurdzo, J. M., F. Nai, D. J. Bodine, T. A. Bonin, R. D. Palmer, B. L. Cheong, J. Lujan, A. Mahre, and A. D. Byrd, 2017: Observations of severe local storms and tornadoes with the Atmospheric Imaging Radar. *Bull. Amer. Meteor. Soc.*, **98**, 915 – 935.

22. Mahre, W. A.*, J. M. Kurdzo, D. Bodine, C. Griffin, R. D. Palmer, and T.-Y. Yu, 2018. Analysis of the 16 May 2015 Tipton, Oklahoma, EF-3 tornado at high spatiotemporal resolution using the Atmospheric Imaging Radar. *Mon. Wea. Rev.*, **146**, 2103 – 2124.

23. Mahre, W. A.*, T.-Y. Yu, and D. J. Bodine, 2020. A comparison of scan speedup strategies and their effect on rapid-scan weather radar data quality. *J. Atmos. Oceanic Technol.*, **37**, 1955 – 1972.

24. Palmer, R. D., D. Bodine, M. Kumjian, B. Cheong, G. Zhang, Q. Cao, H. B. Bluestein, A. Ryzhkov, T.-Y. Yu, and Y. Wang, 2011: The 10 May 2010 tornado outbreak in central Oklahoma: Potential for new science with high-resolution polarimetric radar. *Bull. Amer. Meteor. Soc.*, **92**, 871 – 891.

25. Palmer, R., D. Bodine, P. Kollias, D. Schvartzman, D. Zrnic, P. Kirstetter, G. Zhang, T.-Y. Yu, M. Kumjian, B. Cheong, S. Collis, S. Frasier, C. Fulton, K. Hondl, J. Kurdzo, T. Ushio, A. Rowe, J. Salazar-Cerreno, S. Torres, M. Weber, and M. Yeary, 2022: A primer on phased array radar technology for the atmospheric sciences. *Bull. Amer. Meteor. Soc.*, in press.

26. Satrio, C. N.*, D. J. Bodine, R. D. Palmer, and C. Kuster, 2021: Multi-radar analysis of the 20 May 2013 Moore, OK supercell through tornadogenesis and intensification. *Atmos.*, **12**, 313.

27. Satrio, M.*, D. J. Bodine, A. E. Reinhart, T. Maruyama, and F. T. Lombardo, 2020: Understanding how complex terrain impacts tornado dynamics using a suite of high-resolution numerical simulations. *J. Atmos. Sci.*, **77**, 3277 – 3300.

28. Shapiro, A., P. K. Klein, S. C. Arms, D. Bodine, and M. Carney, 2009: The Lake Thunderbird Micronet Project. *Bull. Amer. Meteor. Soc.*, **90**, 811 – 823.

29. Shapiro, A., J. G. Gebauer, N. A. Dahl, D. J. Bodine, A. M. Mahre, and C. K. Potvin, 2021: Spatially variable advection correction of Doppler radial velocity data. *J. Atmos. Sci.*, **78**, 167 – 188.

30. Shimose, K., M. Xue, R. D. Palmer, J. Gao, B. L. Cheong, and D. Bodine, 2013: Two-dimensional variational analysis of near-surface moisture from simulated radar refractivity-related phase change observations. *Adv. Atmos. Sci.*, **30**, 291 – 305.

31. Umeyama, A., B. L. Cheong, S. Torres, and D. Bodine, 2018. Orientation analysis of simulated tornadic debris. *J. Atmos. Oceanic Technol.*, **35**, 993 – 1010.

32. Wakimoto, R. M., Z. Wienhoff, H. B. Bluestein, D. Bodine, and J. M. Kurdzo, 2020: Mobile radar observation of the evolving debris field compared with a damage survey of the Shawnee, Oklahoma tornado of 19 May 2013. *Mon. Wea. Rev.*, **148**, 1779 – 1803.

JOURNAL ARTICLES (in review)

1. Wienhoff, Z. B., F. T. Lombardo, D. M. Rhee, M. A. Satrio, D. J. Bodine, A. E. Reinhart, and T. Maruyama, 2022: Understanding the influences of terrain on the near-surface wind field in tornadoes. *Mon. Wea. Rev.*, accepted pending revision.

JOURNAL ARTICLES (in preparation)

1. Bodine, D. J., and C. B. Griffin, 2022: Review of science enabled by rapid-scan weather radar. *To be submitted to Mon. Wea. Rev.*

2. Cross, R. N.*, D. J. Bodine, R. D. Palmer, C. B. Griffin, B. Cheong, S. Torres, C. Fulton, J. Lujan, and T. Maruyama, 2021: Exploring tornado debris signature hypotheses using radar simulations and Large-Eddy Simulations. *To be submitted to Mon. Wea. Rev.*

3. Mahre, A.*, T.-Y. Yu, D. J. Bodine, and L. Orf, Assessing scan update times for tornado observations using a simulated rapid-scan polarimetric weather radar. *To be submitted to J. Atmos. Oceanic Technol.*

4. Schneider, M.*, D. J. Bodine, S. Torres, R. D. Palmer, B. Cheong, C. Fulton, C. B. Griffin, T. Maruyama, R. Cross, H. Bluestein, and J. Lujan, 2021: A novel technique to correct debris-related bias in velocity measurements from tornadoes. *To be submitted to Mon. Wea. Rev.*

BOOK CHAPTERS

1. Bodine, D., and J. Kurdzo, 2018: Ground-based radar technologies for tornado observations. *Remote Sensing of Clouds and Precipitation*, C. Andronache, Ed., Springer Intl. Pub., 65 – 112.

2. Bodine, D., B. L. Cheong, and R. D. Palmer, 2022: End-to-end simulations of dual-polarization tornado debris signatures. *Advances in Weather Radar, Vol. II*, V. Bringi, K. Mishra, and M. Thurai, Ed., IET, accepted.

REFEREED CONFERENCE PAPERS

1. Bodine, D. J., J. M. Kurdzo, C. B. Griffin, R. D. Palmer, B. Isom, F. Nai, A. Mahre, M. Yeary, and T.-Y. Yu, 2022: Overview of a decade of field experiments with the Atmospheric Imaging Radar. *2022 IEEE Radar Conf.*, New York, NY.

2. Cheong, B. L., D. Bodine, Y. Zhu, C. Fulton, S. Torres, T. Maruyama, and R. Palmer, 2015: Understanding tornadic debris echoes using a radar time-series emulator, *2015 IEEE International Radar Conf.*, Arlington, VA.

3. Isom, B., R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu, and M. Biggerstaff, 2011: The Atmospheric Imaging Radar (AIR) for high-resolution observations of severe weather, *2011 IEEE Radar Conf.*, Kansas City, MO.

4. Isom, B., R. Palmer, R. Kelley, J. Meier, and D. Bodine, 2012: The Atmospheric Imaging Radar: System validation and observations of severe weather, *IEEE Radar Conf.*, Atlanta, GA.

5. Kurdzo, J. M., R. D. Palmer, F. Nai, D. J. Bodine, and B. L. Cheong, 2015: Meteorological data results from the atmospheric imaging radar. *2015 IEEE International Radar Conf.*, Arlington, VA.

6. Salazar-Cerreno, J. L., D. Schvartzman, D. Bodine, R. Palmer, J. McDaniel, M. Yeary, N. Aboserwal, B. L. Cheong, T.-Y. Yu, 2022: A dual-Doppler Ka-band mobile radar architecture with rapid-scanning volumetric imaging for earth systems science. *2022 IEEE Radar Conf.*, New York, NY.

CONFERENCE PRESENTATIONS[1]

1. Alford, A., J. A. Zhang, M. I. Biggerstaff, P. P. Dodge, F. D. Marks, D. J. Bodine, and G. D. Carrie, Examining the coastal transition of the hurricane boundary layer during Hurricane Irene (2011), *34th Conf. on Hurricanes and Tropical Meteorology*, New Orleans, LA, May 10 – 13, 2021.

2. Bodine, D., P. Klein, S. Arms, E. Fedorovich, and A. Shapiro, Variability of surface air temperature over gently-sloped terrain, *7th Annual AMS Student Conf.*, AMS Annual Meeting, New Orleans, LA, January 20 – 24, 2008.

3. Bodine, D., P. L. Heinselman, B. L. Cheong, R. D. Palmer, and D. Michaud, Convective initiation and storm evolution forecasting applications using radar refractivity retrievals, *24th Conf. on Severe Local Storms*, Savannah, GA, October 27 – 31, 2008.

4. Bodine, D., B. L. Cheong, P. L. Heinselman, R. D. Palmer, and D. Michaud, Radar refractivity applications for convective initiation forecasting and observations of the convective boundary layer, *25th Conf. on IIPS*, AMS Annual Meeting, Phoenix, AZ, January 11 – 15, 2009.

5. Bodine, D., R. D. Palmer, B. M. Isom, and B. L. Cheong, A new frontier for mobile weather radar – The Atmospheric Imaging Radar: Meteorological implications and requirements, *34th Conf. on Radar Meteorology*, Williamsburg, VA, October 5 – 9, 2009.

6. Bodine, D., R. D. Palmer, B. L. Cheong, P. L. Heinselman, D. S. Michaud, and G. Zhang, Can high-resolution surface moisture fields be retrieved in supercells?, *34th Conf. on Radar Meteorology*, Williamsburg, VA, October 5 – 9, 2009.

7. Bodine, D., P. L. Heinselman, R. D. Palmer, B. L. Cheong, and D. S. Michaud, Survey of applications of radar refractivity retrievals, *34th Conf. on Radar Meteorology*, Williamsburg, VA, October 5 – 9, 2009.

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