

## Publications for Keith A. Brewster, Ph.D.

### **Refereed Publications:**

- Brewster, K.A., D.B. Weber, S. Marru, K.W. Thomas, D. Gannon, K. Droegemeier, J. Alameda, S. J. Weiss, 2008: On-Demand Severe Weather Forecasts Using TeraGrid via the LEAD Portal. Proceedings, TeraGrid08, Las Vegas, NV.
- Hu, M., M. Xue, and K. Brewster, 2006: 3DVAR and cloud analysis with WSR-88D Level-II Data for the Prediction of Fort Worth Tornadoic Thunderstorms Part I: Cloud analysis and its impact. *Mon. Wea. Rev.*, **134**, 675-698.
- Hu, M., M. Xue, J. Gao and K. Brewster: 2006: 3DVAR and Cloud Analysis with WSR-88D Level-II Data for the Prediction of Fort Worth Tornadoic Thunderstorms Part II: Impact of radial velocity analysis via 3DVAR, *Mon Wea Rev.*, **134**, 699-721.
- Gao, J., K. Brewster, and M. Xue, 2006: A comparison of the radar ray path equations and approximations for use in radar data assimilation. *Adv. Atmos. Sci.*, **32**, 190-198.
- Droegemeier, K.K., D. Gannon, D.A. Reed, B. Plale, J. Alameda, T. Baltzer, K Brewster, R.D. Clark, B. Domenico, S.J. Graves, E. Joseph, D. Murray, R. Ramachandran, M. Ramamurthy, L. Ramakrishnan, J.A. Rushing, D. Weber, R. Wilhelmson, A. Wilsom, M. Xue and S. Yalda, 2005: Service-oriented environments for dynamically interacting with mesoscale weather. *Computing in Science and Engineering*, **7**(6), 12-29.
- Gao, J., M. Xue, K. Brewster, and K. K. Droegemeier 2004: A three-dimensional variational data assimilation method with recursive filter for single-Doppler radar, *J. Atmos. Oceanic Technol.* 457-469.
- Brewster, K.A., 2003: Phase-correction data assimilation and application to storm-scale numerical weather prediction. Part I: Method description and simulation testing. *Mon. Wea. Rev.*, **131**, 480-492.
- Brewster, K.A., 2003: Phase-correction data assimilation and application to storm-scale numerical weather prediction. Part II: Application to a severe storm outbreak. *Mon. Wea. Rev.*, **131**, 493-507.
- Souto, M. J., C. F. Balseiro, V. Pérez-Muñuzuri, M. Xue, and K. Brewster, 2003: Impact of cloud analysis on numerical weather prediction in the Galician region of Spain, *J. App. Meteor.*, **42**, 129-140.
- Xue, M., D.-H. Wang, J. Gao, K. Brewster, and K.K. Droegemeier, 2003: The Advanced Regional Prediction System (ARPS) – storm-scale numerical weather prediction and data assimilation. *Meteor. Atmos. Physics*, **82**, 139-170.
- Lazarus, S.M., C.M. Ciliberti, J.D. Horel and K.A. Brewster, 2002: Near-real time applications of a mesoscale analysis system to complex terrain. *Wea. and Forecasting*, **17**, 971-1000.
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- Sathye, A., G. Bassett, K. Droegemeier, M. Xue, and K. Brewster, 1996: Experiences using high performance computing for operational stormscale weather prediction, In: *Concurrency: Practice and Experience, special issue on Commercial and industrial Applications on High Performance Computing*. John Wiley & Sons, Ltd., 731-740.

- Miller, P.A., M.F. Barth, D.W. van de Kamp, T.W. Schlatter, B.L. Weber, D.B. Wuertz and K.A. Brewster, 1994: An evaluation of two automated quality control methods designed for use with hourly wind profiler data. *Ann. Geophysicae*, **12**, 711-724.
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- Brewster, K.A., 1989: Profiler Training Manual #2 : Quality Control of Wind Profiler Data. NOAA/ERL/FSL, Boulder, CO, and NOAA/NWS/OM, Silver Spring, MD., 109 pp.
- Brady, R.H. and Brewster, K.A., 1989: Profiler Training manual #3 : Subjective Uses of Wind Profiler Data in Warm Season Analysis and Forecasting. NOAA/ERL/FSL, Boulder, CO, and NOAA/NWS/OM, Silver Spring, MD., 109 pp. NTIS: PB89-223333INZ
- Brewster, K.A., 1986: Photo of the month: Photographs of a funnel-producing cloudbase swirl., *Mon. Wea. Rev.*, **114**, 1771-1774.
- Brewster, K.A. and D.S. Zrnic', 1986: Comparison of eddy dissipation rates computed from spatial spectra of Doppler velocities and Doppler spectrum widths. *J. Atmos. and Oceanic Tech.*, **3**, 440-452.

**Conference Papers -- First Author (since 1996)**

- Brewster, K. A., J. Brotzge, K. W. Thomas, Y. Wang, M. Xue, J. Gao, D. Weber, and K. Howe, 2008: High resolution assimilation of CASA and NEXRAD radar data in near-real time: Results from Spring 2007 and plans for Spring of 2008. 12th Conf. IOAS-AOLS, New Orleans, LA, Amer. Meteor. Soc
- Brewster, K.A., D. Weber, K.W. Thomas, K. Droegemeier, Y. Wang, M. Xue, S. Marru, D. Gannon, J. Alameda, B. F. Jewett, J. S. Kain, S. J. Weiss, and M. Christie, 2008: Use of the LEAD Portal for On-Demand Severe Weather Prediction. 6th Conf. Artificial Intelligence App. Env. Sci., Amer. Meteor. Soc., J2.2.
- Brewster, K.A., K. W. Thomas, J. Brotzge, Y. Wang, D. Weber, and M. Xue, 2007: High resolution assimilation of CASA X-band and NEXRAD radar data for thunderstorm forecasting. 22nd Conf. Wea. Anal. Forecasting/18th Conf. Num. Wea. Pred., Salt Lake City, Utah, Amer. Meteor. Soc., Paper 1B.1
- Brewster, K., 2006: Merging AMSR-E hydrometeor data with coastal radar data for short term high-resolution forecasts of Hurricane Ivan, 14th Conference on Satellite Meteorology and Oceanography, Atlanta, GA, AMS, Boston. Conference CD, Paper P5.7.
- Brewster, K., E. Fay and F. Junyent, 2005: How will X-band attenuation affect tornado detection in the CASA IP1 radar network?, 32<sup>nd</sup> Conference on Radar Meteorology, Albuquerque, NM, AMS, Boston. Conference CD, Paper 14R.4.
- Brewster, K., M. Hu, M. Xue, and J. Gao, 2005: Efficient assimilation of radar data at high resolution for short range numerical weather prediction. World Weather Research Program Symposium and Nowcasting and Very Short-Range Forecasting WSN05, Toulouse, France. WMO World Weather Research Program, Geneva, Switzerland. Symposium CD, Paper 3.06.

- Brewster, K., L. White, B. Johnson, and J. Brotzge, 2005: Selecting the sites for CASA NetRad, a collaborative radar network. Ninth Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans and Land Surface (IOAS-AOLS), 85th Amer. Meteor. Soc. Annual Meeting CD, Paper: P3.4.
- Brewster, K., A. Shapiro, J. Gao, E. M. Kemp, P. Robinson, and K.W. Thomas, 2003: Assimilation of radar data for the detection of aviation weather hazards. *Preprints, 31<sup>st</sup> Conf. on Radar Meteorology*, Seattle, WA, Amer. Meteor. Soc., Boston, 118-121.
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**Conference Papers -- Co-Author (since 1996)**

- Brotzge, J., K. Brewster, J. Gao, and M. Xue, 2008: Interaction of gravity waves and horizontal convective rolls: Observations from CASA collected 24 April 2007. 24th Conf. IIPS, New Orleans, LA, Amer. Meteor. Soc., 9A.10.
- Gao, J., K. Brewster, Y. Wang, K. W. Thomas, J. Brotzge, and M. Xue, 2008: High-resolution three-dimensional wind analysis of CASA IP-1 and WSR-88D radar data using the ARPS 3DVAR. 12th Conference on IOAS-AOLS, New Orleans, LA, Amer. Meteor. Soc., 16.5.
- Xue, M., F. Kong, D. Weber, K. W. Thomas, Y. Wang, K. Brewster, K. K. Droegemeier, J. S. K. S. J. Weiss, D. R. Bright, M. S. Wandishin, M. C. Coniglio, and J. Du, 2007: CAPS realtime storm-scale ensemble and high-resolution forecasts as part of the NOAA hazardous weather testbed 2007 spring experiment. 22nd Conf. Wea. Anal. Forecasting/18th Conf. Num. Wea. Pred., Salt Lake City, Utah, Amer. Meteor. Soc., Paper 3B.1.
- Brotzge, J., K. Brewster, V. Chandrasekar, B. Philips, S. Hill, K. Hondl, B. Johnson, E. Lyons, D. McLaughlin and D. Westbrook, 2007: CASA IP1 Network operations and initial data. *23<sup>rd</sup> Conf. on IIPS*, San Antonio, TX, Conference CD Paper IIPS-8A.6.
- Droegemeier, K., J. Alameda, K. Brewster, M. Christie, R. D. Clark, B. Domenico, D. Gannon, S. Graves, E. Joseph, S. Marru, B. Plale, R. Ramachandran, M. K. Ramamurthy, D. Reed, J. Rushing, A. Rossi, S. Tanner, K. W. Thomas, D. Weber, R. B. Wilhelmson, A. Wilson, M. Xue, and S. Yalda, 2008: Linked Environments for Atmospheric Discovery (LEAD): Web services for meteorological research and education., *24th Conference on IIPS*, Amer. Meteor. Soc., 5B.1.
- Sampson, S., K. Brewster, G. Jedlovec and W. Lapenta, 2006: Use of AIRS/AMSU retrieved soundings to improve prediction of Gulf moisture return. *14th Conference on Satellite Meteorology and Oceanography*, Atlanta, GA, AMS, Boston. Conference CD, Paper P5.4.

- Lyons, E. J., V. Lakamraju, K. Brewster, M. Xue, and K. D. Hondl, 2005: An end-to-end emulation of the CASA radar network 32<sup>nd</sup> Conf. Radar Meteor., Albuquerque, NM, Amer. Meteor. Soc., CDROM 14R.3.
- Brotzge, J., K. Brewster, B. Johnson, B. Philips, M. Preston, D. Westbrook and M. Zink, 2005: CASA'S first test-bed: Integrative project #1. 32<sup>nd</sup> Conference on Radar Meteorology, Albuquerque, NM, AMS, Boston. Conference CD, Paper 14R.2.
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- Gao, J., K. Brewster, and M. Xue, 2005: Differences between explicit and approximated radar ray paths due to the vertical gradient of refractivity. 11<sup>th</sup> Conference on Mesoscale Meteorology and 32<sup>nd</sup> Conference on Radar Meteorology, Albuquerque, NM, AMS, Boston. Conference CD, Paper JP1J.14.
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- Hu, M., M. Xue, J. Gao, and K. Brewster, 2004: Prediction of Fort Worth tornadic thunderstorms using 3DVAR and cloud analysis with WSR-88D Level-II data. *11th Conf. Aviation, Range, Aerospace and 22nd Conf. Severe Local Storms*, Amer. Meteor. Soc., CDROM, J1.2.
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